The 14th International Conference on Public Health among Greater Mekong Sub-Regional Countries 2024

Abstract Book

"Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation"

Luangprabang, Lao PDR
27-29 June 2024

Contents

Welcome Address

Welcome Message From President

Dear Esteemed Colleagues and Participants,

On behalf of the oganizing committee, it is our great pleasure to extend a warm welcome to the 14th International Conference on Public Health among Greater Mekong Sub-Regional countries. The conference, themed "Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation," will be held in the picturesque city of Luangprabang from 27-29 June 2024.

We are excited to bring together experts, practitioners, researchers, and policymakers from across the Greater Mekong Sub-Region to exchange knowledge, share best practices, and collaborate on addressing the pressing public health challenges facing our communities. With a focus on improving nutrition, promoting health equity, and adapting to climate change, we aim to advance the collective efforts towards achieving the Sustainable Development Goals in the region.

The conference will feature engaging scientific sessions, interactive poster discussions, and insightful oral presentations, providing a platform for meaningful dialogue and knowledge dissemination. We are confident that the conference will foster productive discussions and lead to innovative solutions that will contribute to the advancement of public health in our region.

We look forward to welcoming you to Luangprabang City and to the vibrant exchange of ideas and experiences that will take place during the conference. Together, let us work towards building a healthier, more equitable, and sustainable future for all.

With warm regards,

Assoc. Prof. Dr. Bounthom Samountry
President of the University of Health Sciences,
The Organizing Committee
14th International Conference on Public Health among Greater Mekong Sub-Regional Countries

WELCOME MESSAGE FROM DEAN OF THE FACULTY OF PUBLIC HEALTH, UNIVERSITY OF HEALTH SCIENCES, LAO PDR

Dear Rectors, Deans, Vice Deans of the Faculty of Public Health from GMS Countries, Distinguished Guests, Ladies and Gentlemen

It is my great pleasure and privilege to host the 14th International Conference on Public Health among the Greater Mekong Sub-Regional Countries in Luangprabang City, July 27-29, 2024 at the Pullman Hotel, Lao PDR. As you know, the GMS Public Health Academic Network aims to achieve a shared vision of achieving the highest possible level of health among our people in the Greater Mekong Sub-region. The Network's member institutions worked together to enhance regional capacity for addressing major public health challenges through the delivery of education, research, and policy advocacy for health in the region.

The theme of the 14th GMS Public Health Conference, "**Meeting the Sustainable Development Goal (SDG) through Climate Change Adaptation, Improving Nutrition Promotion, and Health Equity**", marks a strong foundation now in place for public health cooperation among GMS countries during the last 14 years, and with active development partners, progress will accelerate. The aim of this conference was to share research results in the field of public health as well as in existing health problems among greater Mekong Sub-Regional countries and to search for feasible solutions to enhance international collaboration among public health faculties in the Mekong Sub-Region and a wider area of Southeast Asian countries on training and research in public health.
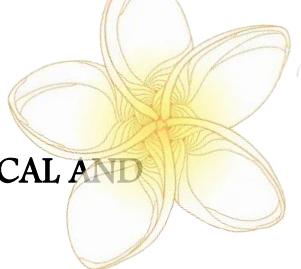
I would like to thank the Dean/Vice Deans for the fine arrangements and warm hospitality of the participants of the 14th GMS Conference, especially Prof. Wongsa Laohasiriwong, Dean of the Faculty of Public Health, Khon Kaen University.

I would like to express my deep appreciation for all the Deans' long-standing support for the GMS Conference and invite participation by all interested participants. I hope this conference will be successful and productive and will encourage ongoing cooperation between the Deans of the Faculty of Public Health among GMS countries.

Assoc. Prof. Dr. Vanphanom Sychareun
Dean of the Faculty of Public Health, University of Health Sciences, Lao PDR

ICPH-GMS14: "Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation"

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WELCOME MESSAGE FROM DIRECTOR GENERAL OF THE LAO TROPICAL AND PUBLIC HEJALTH INSTITUTE, LAO PDR

Dear Distinguished Guests, Ladies and Gentlemen
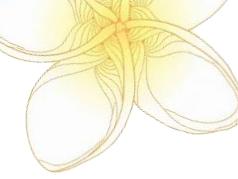
It is my pleasured and honoured to be a co-host the 14th International Conference on Public Health among Greater Mekong Sub-Regional countries in Luangprabang City, 27-29 June 2024, Lao PDR. I would like to warmly welcome deans, delegates, students, ladies, and gentlemen. Moreover, I would like to welcome all guests who attend this international conference with the main theme "**Meeting the Sustainable Development Goal (SDG) through Climate Change Adaptation, Improving Nutrition Promotion, and Health Equity**".

As we know this conference serves as a platform for researchers, policymakers, and development partners to share research evidence and collaborate on generating new evidence in the field of public health. The aim of this conference was to create an inclusive and dynamic environment for knowledge exchange, sharing best practices, and collective learning.

On behalf of Lao Tropical and Public Health (Lao TPHI), I would like to express my sincere appreciation to all the Deans and colleagues for their great support for the annual GMS Conference. Hopefully this great support and collaboration will be continued. May I wish this conference a great success and a wonderful day to all!

Dr. Latsamy Siengsounthone
Director General of the Lao Tropical and Public Health Institute

ICPH-GMS14: "Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation"

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WELCOME MESSAGE FROM DEAN OF THE FACULTY OF PUBLIC HEALTH, KHONE KAEN UNIVERSITY, THAILAND

Speech for 14th GMS Conference 2024
Professor Dr. Wongsa Laohasiriwong,
Dean, Faculty of Public Health, Khon Kaen University, Thailand
Chairperson of the GMS Public Health Academic Network

Rectors, deans, administrators, lecturers, delegates, students, and all participants, ladies and gentlemen,
I stand before you today with a profound sense of purpose and urgency as we convene at this significant gathering focused on the public health challenges facing the Greater Mekong Subregion (GMS) countries. As the chairperson of the GMS Public Health Academic Network I am deeply honored to address such a distinguished audience comprising scholars, practitioners, policymakers, and advocates dedicated to advancing the health and well-being of our region in the 14th International Public Health Conference among GMS Countries with the theme "Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation." The Greater Mekong Subregion has a diverse culture, abundant natural resources, and significant economic potential. However, it is also a region dealing with complicated health concerns that necessitate coordinated efforts and novel solutions.
The Greater Mekong Subregion (GMS) Public Health Academic Network began in 2008. The Network is dedicated to improving the quality and relevance of educational and training programs in public health in the GMS. The Network is in charge of enhancing collaboration and partnership across the GMS's public health institutions, as well as facilitating collaborative actions among existing networks, policymakers, and researchers interested in health policy and research. The Network also provides a venue for health personnel, academics, and researchers, particularly graduate students and young academic staff from the GMS region, to communicate and exchange scientific and professional expertise in public health from their respective nations.
Beyond the immediate threat of COVID-19, we must also address the broader health determinants that disseminate health inequities and hinder sustainable development in our region which have been stated in SDGs. In this regard, I urge all stakeholders gathered here today to prioritize investments in healthcare infrastructure, workforce development, and health promotion initiatives that empower individuals and communities to lead healthier lives. We must adopt a 'health in all policies' approach that integrates health considerations into decision-making across sectors, including education, agriculture, transportation, and urban planning.
Furthermore, we must use the power of research, innovation, and technology to drive evidence-based solutions and increase health-care system resilience in the face of new challenges. Collaboration across academics, government agencies, civil society organizations, and the commercial sector is critical for realizing the full potential of scientific advances and turning research discoveries into actual benefits for our communities.
As we map the future of public health in the Greater Mekong Subregion, let us remain guided by the principles of equity, solidarity, and sustainability. Together, we have the collective capacity to overcome the most pressing health challenges of our time and build a healthier, more prosperous future for all.
Thank you !!

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WELCOME MESSAGE FROM DEAN OF THE FACULTY OF PUBLIC, UNIVERSITY OF MEDICINE AND PHARMACY, HUE UNIVERSITY, VIETNAM

Dear Esteemed Guests, Esteemed Colleagues, and Distinguished Participants,
On behalf of the Faculty of Public Health, University of Medicine and Pharmacy, Hue University, I extend a warm welcome to the 14th International Conference on Public Health in the Greater Mekong Sub-Region Countries (ICPH-GMS14) with the main theme, "**Meeting the Sustainable Development Goal (SDG) through Climate Change Adaptation, Improving Nutrition Promotion, and Health Equity**".
We are honored to participate in this significant event and are delighted to visit the charming city - Luang Prabang, Lao PDR.
As a founding member of the Greater Mekong Sub-region Public Health Academic Network, our faculty has been actively contributing to the advancement of public health education, research, and collaboration in the region. This annual conference serves as a crucial platform for our network members to work together towards our shared vision.
The conference theme is particularly relevant in the current global context, as we face pressing challenges related to Climate Change, Nutrition, and Health Equity.
By bringing together experts, researchers, policymakers, practitioners, and young scholars from the Greater Mekong Sub-region and beyond, it is aimed to create an inclusive and dynamic environment for knowledge exchange, sharing best practices, and collective learning. In addition to the engaging scientific program, there will be vibrant social activities that foster networking, nurture new collaborations, and strengthen partnerships. These interactions will help us collectively drive positive change in public health.
I would like to express my deep gratitude to the organizing committee, dedicated staff, and countless individuals and organizations who have worked tirelessly to make this conference a reality. I also extend my sincere appreciation to all members of the Network, Distinguished Guests, and Participants for your presence in this endeavor. I wish you all enjoy a pleasant stay and create many memorable experiences in this beautiful and peaceful city.

Dr. Dang Thi Anh Thu, MD, MPH, PhD
Dean of Public Health Faculty
Director of Institute for Community Health Research
University of Medicine and Pharmacy, Hue University, Vietnam

ICPH-GMS14: "Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation"

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WELCOME MESSAGE FROM DEAN OF THE SCHOOL OF PUBLIC HEALTH, KUNMING MEDICAL UNIVERSITY, KUNMING, CHINA

Dear Esteemed Friends,
It is my great pleasure to participate in the GMS14 conference. This is a prestigious gathering of brilliant minds in the field of Public Health. I would like to deliver my warm greetings to all my colleagues and friends.
The theme of this year is "supporting sustainable development goal (SDG), through climate change adaptation, improving nutrition promotion and health equity". We live in an era of thriving technologies accompanied by growing challenges. Public health researchers are responsible for finding the balance among human health, environmental protection and economic growth. To address this issue, we will be engaging in thought-provoking discussions, exchanging ideas and exploring collaborations. I believe this conference will foster a global cross-disciplinary dialogue that can shed light on the challenges we are facing together. At the meantime, I hope that you find inspiration and establish valuable connections during your stay.
I am honored for being a part of this incredible community. I wish you a productive and memorable experience!
Sincerely,

Prof. Dr. Cai Le
Acting Dean
School of Public Health,
Kunming Medical University
Kunming, China

WELCOME MESSAGE FROM THE DEAN SCHOOL OF PUBLIC HEALTH, NATIONAL INSTITUTE OF PUBLIC HEALTH, CAMBODIA

Dear Distinguished Guests
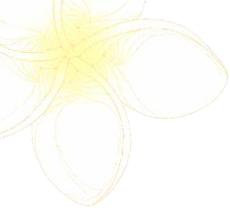
I would like to warmly welcome deans, delegates, students, ladies, and gentlemen to the 14th International Conference in Public Health among GMS countries in Laos. This 14th conference reflects the strong commitment of the School of Public Health network in GMS in the last 14 years and continues to provide a platform for students and young scientists to share their work, to exchange ideas and to establish networks in the field of public health.

As one of the members in the network, the National Institute of Public Health, Cambodia commits to support this event in the future to enrich the exchange of Public Health knowledge among students in the region and around the globe.

I would like to take this opportunity to thank the organizing committee and all members of the networks, and I would like to wish you all a pleasant stay in Laos.

Chhea, Chhorvann, MD., MPH, PhD
Dean School of Public Health,
National Institute of Public Health, Cambodia

WELCOME MESSAGE FROM DEAN OF UNIVERSITY OF PUBLIC HEALTH, YANGON, MYANMAR

Dear Distinguished Guests

It is with great pleasure that I extend a warm welcome to each and every one of you to the 14th International Conference in Public Health among the Greater Mekong Subregion (GMS) countries, hosted in Laos. This 14th conference provides professionals and scholars in the field of public health with the opportunity to share knowledge, exchange ideas, and strengthen our collaborative efforts towards better health outcomes for our region. Moreover, it offers a forum for meaningful partnerships and collaborations that extend beyond borders, disciplines, and sectors.

As the University of Public Health, Myanmar, one of the members of the School of Public Health network in GMS, our university dedicates itself to not only actively participating in this conference but also actively supporting and contributing to the ongoing efforts of this network.

Once again, welcome to the 14th International Public Health Conference among GMS countries in Laos. Together, let us pave the way towards a brighter tomorrow.

Prof. Hla Hla Win
MBBS, M.Med.Sc(P&TM), PhD(Public health) Dip Med.Ed
Rector, University of Public Health, Yangon, Myanmar

14th International Conference on Public Health among Greater Mekong Sub-Regional Countries 2024

Theme: "Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation"

Venue: Pullman Hotel, Luangprabang, Lao PDR

Conference Program

Pre conference:

Day 0 ⇨ 27th June, 2024		
ROOM 1		**Namkhong Hall 1**
08:00~08:45	Registration	
08:45~12:00	Workshop I: Tools and methods for assessing food safety	Ms. Patricia Sipes, Project Manager, International Programs in Agriculture, Purdue University Ms. Leah Thompson, PhD Candidate, Department of Animal Sciences, Purdue University
12:30~13:30	Lunch break	
13:30~16:00	Workshop II: Understanding and studying food environments	Dr. Ramya Ambikapathi, Senior Research Associate, Cornell University
ROOM 2		**Namkhong Hall 2**
08:00~08:45	Registration	
8:45~12:00	Workshop III: Survey Design	Dr. Kate Eddens, Assoc. Research Scientist, Indiana University School of Public Health - Bloomington Ms. Susmita Ghosh, PhD Candidate, Department of Public Health, Purdue University
12:30~13:30	Lunch break	
13:30~16:00	Workshop IV: Applying for Graduate Study in the U.S.A	Prof. Dr. Gerald E. Shively Associate Dean and Director of International Programs in Agriculture, Purdue University
ROOM 3		**Library**
8:45~12:00	Workshop V: Learning Health Public Systems: an example from immunization program	Prof. Fiona Russell, Melbourne University Prof Nigel Crawford, Head of the Immunisation service at the Royal Children's Hospital; Chair of ATAGI
13:00~13:30	Registration	
13:30~16:00	Workshop VI: Learning Health Public Systems: an example from immunization program	Prof. Fiona Russell, Melbourne University Prof Nigel Crawford, Head of the Immunisation service at the Royal Children's Hospital; Chair of ATAGI
ROOM 4		**Namkhan Hall**
08:00~08:45	Registration	

Day 0 ⇨ 27th June, 2024		
08:45~12:00	Workshop VII: Introduction to statistical methods for nutrition and health research	Assoc.Prof.Dr. Nilupa Gunaratna, Department of Public Health, Purdue University.
12:30~13:30	Lunch break	
13:30~16:00	Workshop VIII: Pitfalls in regression analysis Measurement Error in Nutrition and Public Health Research	Assoc.Prof. Dr. Roger S. Zoh, Assoc.Prof. Dr. Dwele Carmen Tekwe Department of Epidemiology and Biostatistics / School of Public Health, Indiana University Bloomington
16.30~17.30	Dean's Meeting	Namkhan Hall
Day 1 ⇨ 28th June, 2024		
07:30~08:30	Registration	Room
08.30~08:40	Opening and Welcome	
08.30~08:40	Welcome Speech~ Assoc. Prof. Dr. Vanphanom Sychareun	
	Remark Speech from the Vice Rector of UHS~ Dr. Phasouk Vongvichit	
08:40~08:50	Speech from the Chair of GMS Network~ Professor Dr. Wongsa Laohasiriwong	
08:50~09:00	Opening Speech~ H.E. Dr. Bounfeng Phommalaysith	
08.50~09:00	Handle over Outstanding Awards to the Founders, Faculty, Dean, Individuals	
9:00~09.10	Invited All Deans of the Faculty of Public Health, GMS countries and Delegates ~ Group Photo	
9:10~10:40	Plenary session I • Chair: Prof. Kazuhiko Moji • Co-chair: Prof. Fiona Russell - Speaker 1: Nutrition Needs and a Changing Climate: Pathways, Evidence and Action ~ Prof. Dr. Gerald E. Shively - Speaker 2: Chances and Challenges of large scale food fortification (LSFF) ~Prof. Florian Schweigert	Namkhong Hall
10:40~10:50	Coffee break & Poster View	
10:50~12:35	Plenary session II - Chair: Prof Nigel Crawford, Australia - Co-chair: Dr. Chansaly Phommavong, Deputy Director of Department of Planning and Finance, Ministry of Health - Speaker 3: Lao PDR case study: Health Adaptation Plan (HNAP) developed, based on the WHO Operational Framework for Building Climate Resilient Health Systems Dr. Lkhasuren Oyuntogos, Team leader of Environmental health program, WHO, Lao PDR	Namkhong Hall

Day 1 ⇨ 28th June, 2024		
	- **Speaker 4:** SDGs linked to Health, Nutrition and Climate Change- Dr. Park Yu Lee, Coordinator Health System Development, WHO, Lao PDR	
12:35-13:30	Lunch and Poster View	
13:30-15:10	**Parallel session I-Maternal and Child Health, Sexual Reproductive Health (SDG 3) (Group 1)** • **Chair:** Assoc. Prof. Dr. Nithra Kitreerawutiwong, Naresuan University • **Co-Chair:** Assoc. Prof. Dr. Tanida Phatisena, NRU • Assist. Prof. Dr. Junjira Mahaboon, Walailak University • Assoc. Prof. Dr. Nilupa Gunaratna, Department of Public Health, Purdue University	Namkhong Hall 1
	Parallel session II-Nutrition Promotion and Food safety SDG 2) • **Chair:** Assist. Prof. Dr. Supabhorn Yimthiang, Walailak University • **Co-chair:** Dr. Rattiphone Oula, CRS • Assist.Prof. Dr.Naowarat Maneenin, KKU • Dr. Kate Eddens, Assoc. Research Scientist, Indiana University School of Public Health - Bloomington	Namkhong Hall 2
	Parallel session III- Environmental and Occupational Health - One Health – Eco Health. & Global warming and Climate change adaptation (SDG 13), Health Equity to UHC (Group 1) • **Chair:** Dr. Ramya Ambikapathi, Senior Research Associate, Cornell University • **Co-chair:** Assoc. Prof. Dr. Sunisa Chaiklieng • Asst.Prof. Thiwakorn Rachutorn, Nakhon Ratchasima Rajabhat University • Dr. Te Vannnarath, NIOPH	Namkhan Hall
	Parallel session IV- Epidemiology of Communicable and Non-communicable Diseases (Group 1) • **Chair:** Prof. Vo Van Thang, HUMP • **Co-chair:** Assoc.Prof. Dr. Roger Sai Zoh. Indiana University • Prof. Dr. Waraporn Boochieng, CMU • Dr. Romnalin Keanjoom, Naresuan University	Library
14:30-16:00	**Online Session: Health Literacy and Health Promotion** • **Chair:** Hon.Prof.Dr. Sengchanh Kounnavong, LaoTPHI • **Co-chair:** Dr. Visanou Hansana, Vice Director of IRED, UHS • Dr. Phonethipsavanh Nouanthong, Lao NITAG	Secretary Room
15:10-15:20	Coffee Break	
15:20-17:20	**Parallel session V- Health Service and Healthcare Management (Group 1)** • **Chair:** Dr. Dang Thi Anh Thu, HUMP • **Co-chair:** Assoc. Prof. Kulthida Bunjongsiri, Sukhothai Thammathirat Open University	Namkhong Hall 1
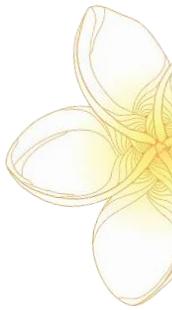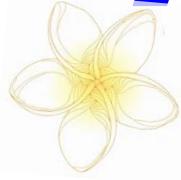
Day 1 ⇨ 28th June, 2024		
	• Asst. Prof. Dr. Mahato Roshan Kumar, KKU • Ms. Susmita Ghosh, PhD Candidate, Department of Public Health, Purdue University	
	Parallel session VI- Health Literacy and Health Promotion (Group 1) • **Chair:** Asst.Prof. Soisuda Kesornthong, Thammasath University • **Co-chair:** Dr. Visanou Hansana, UHS • Assoc.Prof. Dr. Vorapoj Promsatayaprot, MHSU • Dr. Nguyen Hoang Thuy Linh, HUMP	Namkhong Hall 2
	Parallel session VII- Maternal and Child Health, Sexual Reproductive Health (SDG 3) (Group 2) • Chair: Assoc. Prof. Dr. Chanthanom Mainthip, Vice President Lao Red Cross, Lao PDR • Co-chair: Dr. Sabrina Locatelli, IRD representative, Lao PDR • Assoc. Prof. Dr. Taweewun Srisookkum, Phayao University • Ms. Kelley Khamphouxay, CRS	Namkhan Hall
	Parallel session VIII- HIV/AIDS, TB and Malaria (SDG 3) • **Chair:** Assoc. Prof. Katiya Ivanovitch, Thammasath University • **Co-chair:** Dr. Khampheng Phonglusa, DG LaoTPHI • Asst. Prof. Dr. Anukool Manoton, University of Phayao • Dr. Dirk Rombot Essink, VU, Netherland	Library
18:30~21:00	**Welcome dinner at Vonethabing Hall, Thongsi Princess.**	Luang Prabang

| Day 2 ⇨ 29th June, 2024		
8:30~9:45	Plenary session II • **Chair:** Prof. Sathirakone Pongpanich, Chulalongkone University - **Co-chair:** Hon.Prof. Sengchanh Kounnavong - **Speaker 5:** Climate and Nutrition- Professor Dr. Wongsa Laohasiriwong, Dean of the Faculty of Public Health, Khon Kaen University - **Speaker 6:** Health Equity to Health and UHC- Prof. Natasha Howard- from NUS	Namkhong Hall
9:45~10:45	Panel discussion I Climate Change and Impact on Human Health in GMS: How to work together? 6 Deans of FPH among GMS countries **Moderator: Mrs. Kelly Khamphoxay** **Panelists:** Dean from Faculty of Public Health, Lao PDR, KKU Thailand, Hue University Pharmacy and Medicine, NIOPH, Cambodia, Kumming Medical University, Myannmar University of Public Health	Namkhong Hall
10:45~11:00	Coffee break & Poster View	
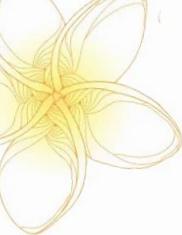
11:00-12:30	**Parallel Session IX- Epidemiology of Communicable and Non-communicable Diseases (Group 2)** **Chair:** Prof. Chea Chhorvann, NIOPH, Cambodia • **Co-chair:** Assoc. Prof. Wallapa Choeibuakaew, Thaksin University • Assoc. Prof. Kowit Suwannahong, Burapha University • Asst. Prof. Dr. Roshan Mahato Kumar, KKU	Namkhong Hall 1
	Parallel session X- Maternal and Child Health, Sexual Reproductive Health (SDG 3) (Group 3) • **Chair:** Prof. Dr. Chitlada Areesantichai, Chulalongkone University • **Co-chair:** Assoc.Prof. Sumattana Glangkarn, Mahasarakham University • Dr. Latsamy Siengsounthone, LaoTPHI • Asst. Prof. Thanakrit Neamhom, Mahidol University	Namkhong Hall 2
	Parallel session XI- Environmental and Occupational Health - One Health – Eco Health; Global warming and Climate change adaptation; Health Equity to UHC (Group 2) • **Chair:** Asst. Prof. Somkid Juawa, Phayao University • **Co-chair:** Asst. Prof. Montakarn Chuemchit, Chulalongkone University • Dr. Boonruang Kanoukhan, Thaksin University • Dr. Phetsamone Matouchanh, UHS	Namkhan Hall
	Parallel session XII- Mental Health • **Chair:** Assoc. Prof. Yuvadee Rodjarkpai, Burapha University • **Co-chair:** Prof. Hla Hla Win, University of Public Health, Yangon, Myanmar • Dr. Tiwakron Prachaiboon, KKU • Assoc.Prof. Kongmany Chaleunvong, UHS	Library
12:30-13:30	Lunch and Poster View	
13:30-15:10	**Parallel session XIII- Health Literacy and Health Promotion (Group 2)+ Health Service and Healthcare Management** • **Chair:** Assoc. Prof. Dr. Nitikorn Phoosuwan, Kassetsart University • **Co-chair:** Asst. Prof. Dr. Aree Butsorn, Ubon Rachathani University • Assist. Prof. Dr. Chaiwut Bourneow, MHS University • Dr. Kate Eddens, Assoc. Research Scientist, Indiana University School of Public Health - Bloomington	Namkhong Hall 1
	Parallel session XIV- Health Service and Healthcare Management (Group 2) • **Chair:** Asst. Prof. Dr. Kitti Laosupap, Ubon Rachathani University • **Co-chair:** Dr. Saroj Nakju, Rhamkhamheang University • Asst. Prof. Kittipong Sornlorm, KKU	Namkhong Hall 2

	• Dr. Nilar Aye Tun, University of Public Health, Yangon, Myanmar	
	Parallel session XV- Environmental and Occupational Health - One Health – Eco Health; Global warming and Climate change adaptation; Health Equity to UHC (Group 3) • **Chair:** Prof. Dr. Suwat Chariyalertsak • **Co-chair:** Assoc. Prof. Dr. Warangkana Chankong. Sukkhothai University • Prof. Tran Thi Tuyet Hanh, HUPH • Dr. Dirk Rombot Essink, VU, Netherland	Namkhan Hall
	Parallel session XVI- Epidemiology of Communicable and Non-communicable Diseases (Group 3) • **Chair:** Prof. Dr. Le Thi Thanh Huong, HUPH • **Co-chair:** Assoc. Prof. Dr. Orawan Kaewboonchoo, Mahidol • Assist.Prof. Kavin Thinkhamrop, KKU • Assoc.Prof. Alongkone Phengsavanh, UHS	Library
15:10-15:20	Coffee Break	
15:20-16:00	Closing and Awards the best oral and poster presenters Handover 15 ICPH among GMS Countries to the next host	Namkhong Hall

KEYNOTE SPEAKERS & ABSTRACTS

Keynote Speaker 1
Nutrition Needs and a Changing Climate: Pathways, Evidence and Action

Short Biography
Professor and Associate Dean Shively, International Programs in Agriculture, Purdue University, USA

Name: Professor Dr. Gerald Shively
Position: Associate Dean and Director of International Programs in Agriculture; Professor of Agricultural Economics
University: Purdue University, USA
City, State, Country: 615 Mitch Daniels Blvd., West Lafayette, Indiana, 47907 USA
Email: shivelyg@purdue.edu
Dr. Gerald Shively currently serves as Associate Dean and Director of International Programs in the College of Agriculture at Purdue University. A Professor of Agricultural Economics and a Faculty Fellow for Global Affairs, he has served on the Purdue faculty since 1996 and has more than 25 years of research experience working in the areas of agricultural development, food and nutrition security and natural resource management worldwide. He has published more than 200 scholarly works and has received numerous teaching and research awards. He is a Fellow of both the International Association of Agricultural Economists and the African Association of Agricultural Economists. He serves as Principal Investigator for the USAID-funded project Applied Nutrition Research Capacity Building (ANRCB) in Lao PDR.
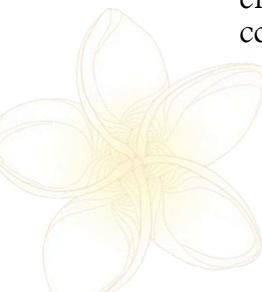
Abstract
Through its effects on temperature and precipitation patterns, climate change is widely expected to impact crop yields and food supplies. Negative impacts on food security and the nutritional status of low-income and vulnerable individuals are likely to be especially acute. This presentation highlights some of the conceptual and empirical links between climate and nutrition insecurity, presents empirical evidence regarding these connections, and outlines several action items for further research and policy attention

Keynote Speaker 2
Opportunities and challenges of large-scale food fortification
Prof. Dr. Florian J. Schweigert

Short Bio
Prof. Dr. Florian J. Schweigert is an internationally recognized scientist in the field of human and animal nutrition, academic administrator and entrepreneur. His research focuses on nutritional biomarkers in the context of metabolic syndrome and micronutrient deficiencies, particularly in developing countries. The results of his work have been published in more than 250 scientific publications (6300 citations, HF=41) in international journals. He completed his veterinary studies at the University of Munich and was an academic fellow at Harvard Medical School, Boston, US. After working as a Full Professor at the University of Leipzig, he held the Chair of Physiology and Pathophysiology of Nutrition and was Vice-President for International Affairs and Fundraising at the University of Potsdam. At the European level, he has served as Chair of the European Digital UniverCity (EDUC) Alliance, is Vice President of the Turkish-German University Consortium, and is a member of a number of international academic boards. Innovative research ideas and concepts have led to the creation of several spin-off companies. As CEO, he leads BioAnalyt and QuImpact, which are dedicated to developing innovative testing systems for the food and feed industry, personalised diagnostics, and strategic implementation of nutrition improvement programmes in close cooperation with the Bill & Melinda Gates Foundation.

Abstract
Large-scale food fortification (LSFF), is a critical intervention that addresses global micronutrient deficiencies through the strategic fortification of commonly consumed foods such as rice, flour, salt or edible oil with vitamins and minerals. It is a key public health strategy with the dual potential to significantly improve nutritional status and drive economic progress by improving health outcomes and labour productivity. Despite the obvious benefits, the implementation of food fortification on a mass scale faces several technical, logistical, cultural and regulatory challenges. These challenges require quality control, effective supply chain management, cultural and consumer acceptance, and the establishment of robust policy and regulatory frameworks. Examples for both successful implementations and the obstacles faced, will be presented providing a balanced perspective on the practicalities of food fortification at scale. The discourse extends to the critical role of cross-sector partnerships, technological innovation in fortification processes, and the indispensable need for comprehensive public education to ensure consumer acceptance. Finally, the presentation advocates for a unified approach among governments, industry players, NGOs and communities to navigate the complexities of food fortification and underscores its potential as a game-changer in the global fight against malnutrition. The future of food fortification is considered in the context of emerging trends and potential advances, calling for concerted efforts to realise its full public health potential.

Keynote Speaker 3

Lao PDR case study: Health Adaptation Plan (HNAP) developed, based on the WHO Operational Framework for Building Climate Resilient Health Systems

Oyuntogos Lkhasuren[1], Dilip Hensman, Souvanaly Thammavong, Bounthanom Phimmasoni, Sengphet Keomany, Snong Thongsna

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Bio: Oyuntogos Lkhasuren, technical officer in environmental health, and team leader of environmental health unit, of the WHO LAO PDR office.

Experiences: Lecturer and chair of department of environmental health, Health Sciences University, Mongolia, from 1997-2010, technical officer in environmental health, WHO Mongolia office, 2011-2013, working in WHO Lao office from 2014.

Qualification: Bachelor in Hygiene (1990-1995, graduated in 1995), Master of Public health (1995 – 1997), PhD in Occupational Health (2002-2005) from the National Health Sciences University of Mongolia. Studied at Korean Occupational Safety and Health Research Institute (1999-2000), research fellow at University of Medicine, Innsbruck University, Austria (2006), Emory University (2008). Managing programmes in assessing vulnerability of climate change, developing health adaptation plan, stre ngthening capacity to assess and manage climate risks and integrating climate risks with disease surveillance for early warning and response.

Abstract

Background: Increases in the severity and frequency of extreme weather events such as flooding, droughts, and heatwaves, as well as changing rainfall patterns and higher temperatures are already being experienced in Lao PDR. the Government of the Lao PDR has also taken steps to make the country more resilient to the impacts of climate change, especially in vulnerable sectors such as public health, agriculture, forestry and land use, water resources, transport, and energy *(1,2)*. For public health, the country developed its Strategy on Climate Change and Health Adaptation 2018–2025 and Action Plan 2018–2020, defining the strategic direction for building a climate-resilient health system. A priority area of the strategy is to build climate-resilient water sanitation hygiene and health care waste management services and health care facilities in flood-prone areas *(2,4)*.

WHO operational Framework for building climate resilient health systems were used, successfully in the country for developing the health adaptation plan. The operational framework includes systematic stepwise approach. Priority health outcomes and risks to climate change defined for adaptation measures defined, as it is estimated at least 40,000 extra people in Lao PDR will be exposed to flooding due to climate change by 2030, heat-related death in the elderly (65+ years) are projected to increase from 3 to 72 deaths per 100,000 by 2080.

- *Vector-borne diseases will increase because t*he mean relative vectorial capacity for dengue fever transmission is projected to increase from the baseline of 0.55 to about 0.62 towards 2070.
- *Water-borne diseases* such as diarrhoea are correlated with drier seasons in Lao PDR when water quality and security is threatened.

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- *Heat-related medical conditions* are projected to increase due to heatwaves. Under a high emissions scenario in Lao PDR, heat-related deaths among elderly people are expected to increase to approximately 72 per 100,000 by 2080, compared with 3 per 100,000 worldwide from 1961 to 1990 (3).

The HNAP is key to addressing health equity issues and supports the improvement of adaptation capacity building activities in most vulnerable health care facilities and rural poor districts. Adaptation menu options are targeting women and children living in poor, rural, hard to reach villages, and outdoor workers, farmers and the elderly during heat waves identified as vulnerable groups.

Over 160 adaptation actions developed based on six Building Blocks of the WHO Operational Framework for Building Climate-Resilient Health Care Systems (6). Safe, Clean, Green, and Climate-resilient hospital - integrated interventions prioritized and included in the 2024 - annual workplan of the national and sub-national health departments.

Adaptation capacity of water sanitation and health service in health care facilities survey results reveal that while most facilities (70%) have basic water services, 16% functional hand hygiene facilities at both points of care and toilets and 19% have basic waste management services (3). Evidence-based suggestions for actions to strengthen and improve WASH services and climate resiliency in HCFs and a monitoring framework providing a consistent approach to capturing data and a baseline for monitoring progress on WASH services and climate resilience until 2025, and beyond to 2030 designed (4). The survey also reveals that very few health care facilities are climate resilient, even though a large majority of facilities have reportedly been impacted by extreme weather events in the last 20 years. Over half of HCFs that experienced extreme weather events attributable to climate change have been severely damaged in the last two decades, yet only 1% of HCFs have any measures in place to reduce their vulnerability to extreme weather events (5).

The HNAP is targeting underserved health care facilities that have been identified by the National WASH Survey and give them priority for further adaptation capacity building (7).

Keynote Speaker 4

Accelerating the progress of achieving the Sustainable Development Goals on health, nutrition and climate change: data-informed planning and innovation

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Dr YU LEE PARK graduated Medical Doctor from WONKWANG UNIVERSITY, South Korea in 1998, Master of Public Health from **JOHNS HOPKINS UNIVERSITY, Baltimore, USA in 2008 and PhD in Medicine at WONKWANG UNIVERSITY, Iksan, Korea in 2011. Now, She is working as** WHO Representative Office in Lao People's Democratic Republic. She has an intensive working experience in WHO such as she was **Technical Officer (Traditional Medicine),** Integrated Service Delivery Unit, Divisions of Health Systems, WHO Regional Office for the Western Pacific from 2016-2019. She also was **Senior Researcher and Research Professor**, College of Korean Medicine, Kyung Hee University, Gachon University, Seongnam, Wonkwang University, Seoul, Korea.

Abstract
Global and regional context
While every Member State in the world has made enormous efforts in advancing the SDGs since 2015, the 2023 Sustainable Development Goals Report revealed alarming results *(1)*. At the midpoint to the deadline of the 2030 agenda, half of 140 targets which have data available for the evaluation are off track, and 30% of these targets, specifically targets on poverty, hunger and climate, show no progress or regression. The report also underscored inequities, how the COVID-19 pandemic, the triple planetary crisis and the complex geopolitical situation have had disproportionate impacts across the globe and within a country. The result is aligned with the Asia and the Pacific SDG Progress Report 2024 *(2)*. The Asia and the Pacific SDG Progress Report 2024 also alerted the Region with extremely slow progress across all 17 SDGs in the Asia and Pacific Region and urges immediate action for climate change which showed regression below the 2015 baseline. Its sub-analysis for South-East Asia suggests that moderate progress on the SDG 3 Good health and well-being; low progress in the SDG 2 Zero hunger; regression in the SDG 13 Climate action and the SDG 12 Responsible consumption and production; and little progress in other SDGs related to climate change.

Six Transitions: Investment Pathways to Deliver the SDGs
In this context, the United Nations proposed six key transitions to accelerate the progress *(3)*: food systems; energy access and affordability; digital connectivity; education; jobs and social protection; and climate change, biodiversity loss and pollution. The SDGs are intertwined, which requires an integrated approach to accelerate the progress across the 17 SDGs. All the key transitions are also interconnected in accelerating the progress of multiple SDGs. The significant impact of climate change on health and nutrition now urges our collective actions to address these challenges in more strategic, innovative and integrated ways *(4,5)*. In the health sector, there are various efforts to build the resilient and sustainable health system to achieve the universal health coverage and other health-

related SDGs. Here, a couple of selected innovative approaches in the health sector in Lao PDR will be introduced, using one of the key six transitions, digital transformation.
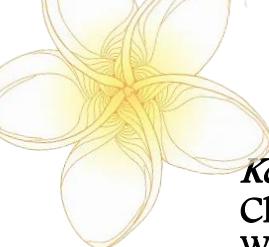
Actions in the health sector, Lao PDR: Data-informed planning and digital transformation to accelerate the progress in achieving the SDGs on health, nutrition and climate change In alignment with priorities of the Health Sector Reform Strategy 2021-2030 *(6)* and the 9th Health Sector Development Plan *(7)*, the Ministry of Health (MOH), Lao PDR has made great efforts to enhance data-informed planning for strategic resource allocation with strong emphasis on vulnerable populations, using the geographic information system. The MOH has mapped all the socio-demographic data of the catchment areas, road access, geographical locations of health facilities, human resources for health, and utilization of healthcare services using the District Health Information Software version 2 into the map of Lao PDR to support the subnational planning for strengthening primary health care. Furthermore, since malnutrition has been identified as a significant public health and development issue in Lao PDR, MOH *(8)*, with support from various development partners, has invested in improving nutrition surveillance system to better understand nutritional trends, identify at-risk populations, and tailor interventions accordingly.

As part of innovative approaches which the MOH introduced in the health sector, the MOH has also initiated the integration of climate data, such as temperature and rainfall data received from weather stations around the country, into the national Health Management Information System to forecast climate-sensitive diseases using statistical models through an early warning, alert, and response/ system *(9)*. Early warning systems can predict and alert authorities of potential health and nutrition risks, such as waterborne diseases, vector-borne diseases, and malnutrition. It also contributes to building the national health system's and the society's resilience for future climate-related challenges.

Way forward

The SDG progress reports at the global and regional levels *(1,2)* call for urgent actions by the government, development partners, academics, and our communities to address the off-track targets of the SDGs collectively. Regression in achieving the SDG 13, specifically, draws a strong attention of all, considering its significant impact on the SDGs related to health and nutrition and equity issues *(10)*. To address the challenges effectively, we will need to enhance close coordination across relevant sectors beyond health; incorporate innovate tools and solutions; strengthen the health system and the entire society to be more sustainable and resilient in the future; and empower and work with our communities closely to improve our joint ownership and responsibility to achieve the SDGs across the globe.

Climate Change and Nutrition

Wongsa Laohasiriwong, Dean, Faculty of Public Health, Khon Kaen University, Thailand
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Professor Dr. Wongsa Laohasiriwong is currently serving as the Dean of the Faculty of Public Health at Khon Kaen University in Thailand. Professor Wongsa Laohasiriwong is an expert in various fields related to public health, including Health Impact Assessment (HIA), Health Policy Development, Health Service Systems, Evaluation Research, Health Security, Mental Health, Non-communicable diseases, and HIV/AIDS/Tuberculosis. Her extensive knowledge and experience in these areas make her a valuable asset to the field of public health. She has not only contributed to research dissemination but has also driven and inspired faculty members within the department to produce research and academic services that bring continuous benefits and value to themselves, students, communities, and society. With over 70 research publications indexed in SCOPUS and ISI, more than 20 of which are related to knowledge in health literacy and health promotion, his body of work significantly contributes to advancing knowledge in this field.

Abstract

Climate change appears to be not only an environmental health problem, but also a nutritional and health issue. Many studies have been conducted to determine the effect of climate change on environmental health, but research on the impact of climate change on nutrition and health is still rare. Therefore, it is important to describe the impact of climate change on weather disasters, food systems, biodiversity loss, nutrient loss, and health.

Climate change has resulted in weather disasters because of heatwaves, wildfires, drought, floods, and storms. After that, it affected soil fertility and rain patterns, so crop yields and food production dropped. Then the stability of the global food system was attempted and mass food production focused on conventional cereal and crops by using fertilizer and deforestation. As a result, biodiversity and gene diversity of species and ecosystems are lost. Moreover, nutrient content changed or lost, so human health was impacted. The impacts started from increasing insect populations as vectors of disease because of increasing global temperature. Also, the air pollution that comes from wildfire, human activity, and natural disasters could produce many more oxidants which result in lower immune systems and emerging of noncommunicable diseases.

Hence, Climate change resulted in weather disasters that affected the food system because of decreasing food production, then had an impact on biodiversity loss and nutrition loss. Finally, human health has been attacked by infectious disease and degenerative diseases, so we should maximize one health approach that considers animal health, human health, and the environment.

Keywords: biodiversity loss, food systems, vector-borne disease, degenerative disease, weather disasters

Keynote Speaker 6
Health Equity to Health and UHC
"Considering public health equity in the Greater Mekong Sub-Region"
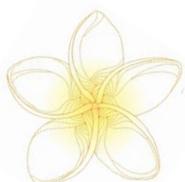
Associate Professor Natasha Howard
National University of Singapore
Saw Swee Hock School of Public Health

Biography:
Associate Professor Natasha Howard is an interdisciplinary public health policy and systems researcher at NUS Saw Swee Hock School of Public Health, where she leads a programme of health equity-related research. Specialised in qualitative and mixed methods and low/middle-income countries, she draws primarily from sociology, anthropology, and political sciences/IR to engage in policy-relevant research in infectious disease control in Asia and strengthening health system responses during protracted adversity (eg, marginalisation, displacement/complex emergencies). Her teaching includes developing and managing doctoral and master's degree courses, editing and writing textbooks, supervising doctoral and masters-level student research, and mentoring early career researchers.
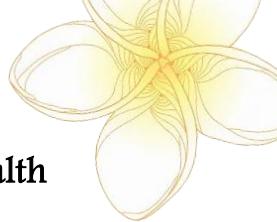
Abstract

This talk explores equity considerations within public health initiatives in the Greater Mekong Sub-Region, an area characterised by both rapid economic and public health development and persistent health disparities. Challenges include global and regional politics, geographic and cultural diversity, socioeconomic differences, climate/ environmental change, and resource and infrastructural limitations. Comparative analysis of existing policies and interventions can identify areas for potential improvement based on principles of social justice, community engagement, and intersectoral collaboration. Highlighting examples and best practices within and beyond the Greater Mekong Sub-Region, we can identify lessons and recommendations for policymakers, practitioners, and other stakeholders on strengthening equity within public health policies and initiatives in the region. The talk advocates for public health equity through considering structural and social health determinants, encouraging public sector engagement with diverse communities, and ensuring equitable health services access in the pursuit of health and wellbeing in the Greater Mekong Sub-Region.

Oral Presentation
DAY 1: 28 June, 2024

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Parallel session I-Maternal and Child Health, Sexual Reproductive Health (SDG 3) (Group 1)- Namkhong Hall 1

- **Chair:** Assoc. Prof. Dr. Nithra Kitreerawutiwong, Naresuan University
- **Co-Chair:** Assoc. Prof. Dr.Tanida Phatisena, NRU
- Assist. Prof. Dr. Junjira Mahaboon, Walailak University
- Assoc. Prof. Dr. Nilupa Gunaratna, Department of Public Health, Purdue University

13:30-15:10	Code	Title of Abstracts	Authors
13:30-13:38	CODE333	Prevalence of human papillomavirus infection and associated risk factors among women presenting for cervical cancer screening at reproductive health association of Cambodia (Rhac) between 2020 and 2021	Socheat Theap
13:38-13:46	CODE355	Youth at risks access to sexual health and rights in rural Laos: insights from the HEALTH PROJECT-EXPERTISE FRANCE	Chanthachone Xayyavong
13:46-13:54	CODE041	An innovative childhood development support system for Health Region 1, Thailand	Chayut Owatsakul
13:54-14:02	CODE085	Perinatal outcomes of Covid-19 infection during pregnancy at three central hospitals (Mahosot, Mittaphap, and Mother and Newborn Hospital), in Vientiane Capital, Lao PDR.	Sengaloun Chanthavong
14:02-14:10	CODE001	Breastfeeding behavior among low-income ethnic minority mothers: results of a cross-sectional study	Tiến Bùi Minh
14:10-14:18	CODE088	Awareness of HIV, malaria and TB and access to rapid diagnostic test among rural adults and adolescents of Savannakhet Province, Lao PDR	ViengnakhoneV ongxay
14:18-14:26	CODE035	The association of maternal exposure to environmental tobacco smoke during entire pregnancy and the neurodevelopment of infants: a prospective cohort study	Tengwei Gui
14:26-14:34	CODE156	Knowledge and Attitude about Vaccination among Lao pregnant women in Vientiane Capital, Laos	Souphaphone Phimmavong
14:34-14:42	CODE053	Children exposure to PYRs at 1-3 years of age and their ADHD in preschool: a birth cohort study	TongLUO
14:42-14:50		**Closing Remark**	

Prevalence of human papillomavirus infection and associated risk factors among women presenting for cervical cancer screening at Reproductive Health Association of Cambodia (RHAC) between 2020 and 2021

Socheat Theap[1], Pheak Chhoun, RN[1], Sophea Aing[1]

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Abstract

Introduction: HPV, a common sexually transmitted virus, mainly affects cervical health. Vaccination is vital for prevention, and worldwide efforts aim to curb new cases. In Cambodia, where cervical cancer ranks as the second most common cancer and the fourth leading cause of cancer-related deaths among women aged 15 to 44, scarce HPV data poses distinctive challenges, requiring a multifaceted approach to reduce the health burden. Despite obstacles, the country's progress in addressing cervical cancer through vaccination and screening programs underscores the importance of ongoing efforts and international collaboration.

Objectives: The study aimed to determine the prevalence of HPV infection among women seeking cervical cancer screening services and also sought to identify associated factors among HPV-infected women at RHAC in Phnom Penh.

Methods: A cross-sectional study using Reproductive Health Association of Cambodia's HPV testing data 2020-2021 from 10,985 women seeking cervical cancer screening. **STATA 14.2** was used for statistical analysis. Descriptive statistics and chi-square tests were used to determine and compare characteristics between HPV-positive and negative women.

Results: The prevalence of HPV infection was 10.5% (95% CI: 10.0-11.1). Women who were living with partners (28.65%), had multiple partners (27.41%), <25 years old (20.83%), entertainment workers (19.06%), and never been pregnant (15.46%), using contraceptives (11.42%) were statically significantly associated with HPV infection (p-value <0.001). Notably, women who had early intercourse (<20 years) (13.44%) had an association with HPV infection (p-value=0.002). Furthermore, high school women (12.14%) also were significantly associated with HPV infection with p-value=0.009 compared to other level of education of other women.

Conclusion: The study reveals a high HPV infection prevalence linked to riskier sexual behaviours, from having intercourse at young age to multiple partners. Limited vaccine coverage highlights the need for urgent initiatives, while the research can update regional and or local estimates, guide policy decisions, and support increased vaccine coverage. Identified factors provide a foundation for tailoring preventive measures, informing targeted screening programs for a strategic approach on health promotion to combat HPV-related issues, particularly in cervical cancer.

Keywords: Cambodia, Cervical cancer, Human papillomavirus

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Youth at risks access to sexual health and rights in rural Laos: insights from the HEALTH project- expertise France

Pascale Hancart Petitet[1], Souvanxay Phetchanpheng[1], Poom Viengnakhone[1], Vanphanom Sychareun[1]

[1]HEALTH Project- Expertise France
**Presenting Author: Chanthachone Xayyavong

Abstract

Introduction: The Lao PDR has a large youthful population, with over 40% of the population aged 10-24 years. Many adolescents and young people in the region continue to transition to adulthood with inadequate information, particularly on matters of sexual and reproductive health and rights, adversely affecting their physical, social, and emotional health, well-being, and development. This situation places adolescents and young people at risk of sexual and gender-based violence, exploitation, and harmful and negative health, education, and well-being outcomes. The country has a high adolescent fertility rate, with 10.9% of Lao adolescents giving birth by the age of 15-18 and 4.7% of adolescents having a live birth before the age of 15. Yet, little is known about the geographical disparities among provinces in Laos.

Objectives: The aim of this paper is to draw some preliminary analysis between the overall figures available for Laos as a whole and those related to Savannakhet province, where the HEALTH project, combining action with multidisciplinary and participatory research, is currently implemented. By examining these disparities, the paper seeks to highlight specific regional challenges and inform targeted interventions. The research aims to engage local communities and stakeholders to gather qualitative data, ensuring the findings reflect the lived experiences of the adolescents. Additionally, the paper will explore potential policy implications and recommend strategies to address the identified gaps in sexual and reproductive health education and services.

An innovative childhood development support system for Health Region 1, Thailand

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**Presenting Author: Chayut Owatsakul, pchayut22@gmail.com

Abstract

Introduction: Thailand has recently made great efforts to improve healthcare services and promote early childhood development. However, some children with developmental delays do not receive appropriate developmental stimulation because of the difficulties families face due to time and travel costs.

Objective: We created the innovative system called "ChildWeCare" to monitor and provide appropriate care for children from birth up to 5 years of age with developmental delays identified via screening using the Developmental Surveillance and Promotion Manual.

Methods: ChildWeCare is based on an assistive approach designed specifically for caregivers of children with appropriate knowledge and strategies for each child's specific needs. In the ChildWeCare system, we retrieve data accumulated via an API server developed with Node.js and use mysql for save all information detail of child, information of parents and homework. Parents can register using the LINE application to access the system. Once log in, they will receive an assessment of their child and will also receive homework based on the assessment results.

Results: During May–June 2024, it is estimated that 1,261 children in eight provinces in Health Zone 1, Thailand, will be identified and thus receive appropriate care and developmental stimulation. The homework activities in ChildWeCare are designed to cover the various levels of developmental delay severity and are deliverable in video format so that the caregiver can administer the video content at the appropriate level for the child. **Conclusion:** ChildWeCare can be used to track children with developmental delays whose parents cannot or find it difficult to access appropriate healthcare. It can also provide appropriate assignments for the children and keep track of missing cases. The use of the innovative ChildWeCare system can be expanded to other health regions in the nation to track and improve the care of Thai children with developmental delays.

Keywords: Child developmental delay, Developmental stimulation, Developmental tracking system

Perinatal outcomes of Covid-19 infection during pregnancy at three central hospitals (Mahosot, Mittaphap, and Mother and Newborn Hospital), in Vientiane Capital, Lao PDR

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Abstract

Introduction: People who contract Covid-19 during pregnancy are at an increased risk for complications that can affect both their pregnancy and their developing baby. Thus, pregnant women who are infected with Covid-19 need to be closely monitored by OBGYN teams.

Objectives: Perinatal outcomes of Covid-19 infection during pregnancy at three central hospitals (Mahosot, Mittaphap, and Mother and Newborn Hospital), in Vientiane Capital, Lao PDR.

Method: This study is a descriptive cross-sectional study. Purposive sampling was used for data collection. The sample of this study consists of pregnant women who were infected with Covid-19 and gave birth in Mahosot, Mittaphap, and the Mother and Newborn Hospital, as recorded in medical record books from 2019 to 2022. The total sample size from these three central hospitalsis 362. The data was collected using a data collection form designed by the researcher. SPSS version 25 was used to analyze the data. Descriptive statistics were used to describe the characteristics. The Chi-square test was used to evaluate the association between the characteristics, their vaccinations, and perinatal outcomes (preterm birth, low birth weight below 2500g, fetal death, admission to NICU, APGAR score<7).

Results: A total of 362 pregnant women who were infected with Covid-19 were treated in three hospitals (Mittaphap 175, Mother and Newborn 135, Mahosot 52). Their average age was 27.98± 5.71 years. Eighty-eight percent of them had a body temperature (BT) that was mostly above 37.5 degrees Celsius. The Covid-19 vaccination rate among these women was 24.59%. The rate of full-term pregnancies was 83.43%. The percentage of babies with a birth weight lower than 2500g was 14.60%. The percentage of babies with an APGAR score lower than 7 was 3.32%. The rate of babies admitted to the NICU was 4.14%. The fetal death rate was 1.38%. There was an association between the number of antenatal care (ANC) visits and preterm birth, fetal death, NICU admission, and APGAR score.

Conclusion: There are some concerns regarding perinatal outcomes such as low birth weight, low APGAR score, babies being admitted to the NICU, and some instances of fetal death. Pregnant women infected with Covid-19 should receive increased attention from healthcare teams.

Keywords: Covid-19 during pregnancy, Lao PDR, Perinatal outcomes

Breastfeeding behavior among low-income ethnic minority mothers: results of a cross-sectional study

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Abstract

Introduction: Breastfeeding is the most important/essential practice to help children develop comprehensively, physically, mentally, and intellectually.

Objectives: This study aims to describe breastfeeding practices among Muong ethnic mothers with children under 2 years old in 2 communities in Muong Nhe district, Dien Bien province in 2018.

Methods: This cross-sectional study was conducted on 457 Muong ethnic mothers who had children under 2 years old in Nam Khe and Muong Toong communes from September 2018 to June 2018.

Results: The proportion of children being breastfed was 90.6%, while the percentage of mothers who knew about the benefits of breastfeeding was less than 60%.

Conclusion: While the proportion of children being breastfed was high, the percentage of mothers who knew about the benefits of breastfeeding was low. The proportion of mothers who practiced correctly was higher than the percentage of those with accurate knowledge of breastfeeding.

Keywords: Behavior, Breastfeeding, Children under 2 years old, Mothers

Awareness of HIV, malaria and TB and access to rapid diagnostic test among rural adults and adolescents of Savannakhet Province, Lao PDR

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Abstract

Introduction: Savannakhet province continues to face challenges in prevention and management of emerging and re-emerging diseases, with a particular focus on HIV/AIDS, tuberculosis, and malaria. Community-based intervention requires stronge evidences regarding disease awareness and access to rapid diagnostic tests among local population.

Objectives: We aim to evaluate the awareness and access to diagnostic test of HIV, TB, and Malaria among adult and adolescents in rural community.

Method: A baseline community survey was conducted, as part of HEALTH Project by Expertise France, in February – March, 2022, in rural area of three districts in Savannakhet (Phin, Thapangthong, and Atsaphone). 238 adults and 218 adolescents were recruited through a three-stage stratified sampling approach (recruiting villages, household, and individual) for structured interviews were conducted. Descriptive analysis was performed to assess level of awareness and access to health services related to HIV, TB, and malaria. Inferential statistics were utilized to investigate the association between multiple independent variables and the level of awareness and health check-up access regarding to HIV, TB and Malaria among rural adults and adolescents.

Result: Male and female proportion was slightly different among adult (female 49.2%) and adolescent (female 53.2%) participants. Mean age was 32 for adult and 17 for adolescent participants. Majority of all participants worked as farmers, were Mon-Kmer ethnic, had low awareness on HIV, TB and malaria, knew where to get tested for malaria, but did not know where to get tested for HIV and TB. Factors associated with higher awareness on HIV were non-agriculture occupations [OR : 2.8 (95%CI: 1.1-6.8)], higher education [OR : 10.5 (95%CI: 2.8-39.5)] and higher income [OR : 4.1 (95%CI: 1.7-9.8)]. Factors associated with higher awareness on TB were age group of 26 - 45 years [OR : 2.8 (95%CI: 1.2-6.7)], higher education [OR : 7.4 (95%CI: 1.9-27.3)] and higher income [OR : 2.3 (95%CI: 1.1-5.8)]. Factors associated with higher awareness on malaria was the higher education [OR : 5.2 (95%CI: 1.7-16.0)].

Conclusion: Rural health service requires a comprehensive intervention on awareness and access to prevention against emerging diseases. Awareness among rural population with lower status in social economics and education, especially in rural community.

Keywords: Awareness, HIV, Laos, Malaria, Rapid diagnostic test, Tuberculosis,

The association of maternal exposure to environmental tobacco smoke during entire pregnancy and the neurodevelopment of infants: a prospective cohort study

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Abstract

Introduction: The effects of prenatal exposure to environmental tobacco smoke (ETS) on child's neurodevelopment has not been well documented.

Objective: The association between maternal ETS exposure during pregnancy on the neurodevelopment of infants was explored.

Methods: This study comprised a prospective cohort in rural Yunnan consisting of 385 mother-child pairs who both delivered a surviving infant and provided a urine cotinine (UC) value in all three trimesters. Maternal urine samples were analyzed using ultra-high-performance liquid chromatography-tandem mass spectrometry (UHPLC-MS/MS) to determine the concentration level of UC. The neuro-developmental levels of infants were measured using the Bayley Scales of Infant and Toddler Development, Third Edition (BSID-III) at one year of age. Multiple linear regression and binary logistic regression models were used to analyze the association between maternal ETS exposure and infant neurodevelopment.

Results: The medians of UC concentration level, in first, second, and third trimesters of pregnancy were 2.94ng/ml,2.86ng/ml,2.50ng/ml, with ETS exposure rates of 80.26%, 81.04%, and 80.00%, respectively. The average comprehensive scores for cognition, language, motor, social-emotional and adaptive behavior at one year of age were (99.17±17.57), (93.46±15.44), (93.66±15.83), and (87.83±15.67). And the proportions of infants with developmental delay in above five domains were 9.35%, 22.60%, 18.44%, 6.49%, and 29.35%, respectively. The results of regression analysis indicated that there is a negative association between UC levels in the second trimester and Motor scores (β= -0.239， 95%CI= -0.454 ～ -0.089), and higher risk of developmental delay of language (OR= 3.497， 95%CI: 1.186～10.309) than non-ETS exposure in the first trimester.

Conclusion: Maternal ETS exposure in first pregnancy may affect the neuro-developmental level of infants, especially motor and language development.

Keywords: Environmental tobacco smoke, Infant, Neurodevelopment, Pregnancy

Knowledge and attitude about vaccination among Lao pregnant women in Vientiane Capital, Laos

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Abstract

Introduction: Vaccination during pregnancy is major public health concern in Laos. To survey the knowledge and attitude the vaccination during pregnancy would be important to reduce maternal and neonatal mortality and morbidity.

Objectives: To describe the knowledge and attitude towards vaccination during pregnancy among pregnant women attending antenatal care clinic at 4 central hospital in Vientiane Capital, Laos.

Methods: The cross-sectional study was carried out in Vientiane Capital, Laos. All Pregnant women were eligible to participate into this study. Convenient sample will be applied. Data collection were done in December 2023. Descriptive statistics analysis was performed by using STATA program.

Results: Data from a total of 107 pregnant women. Means age of pregnant women was 26.91 years old, mainly living in Vientiane 72.9%. The knowledge levels were poor level was 17 (15.8%), middle level was 69 (64.4%) and high level was 21 (19.6 %). Those women have Negative attitude to vaccination were 37 (34.5%) and Positive attitude was 80 (65.5%)

Conclusion: The Vaccination during pregnancy was very important. Those pregnant women still had poor knowledge and negative attitude. Therefor the health education package should be developed and provide the all pregnant women in country.

Keywords: Laos, Pregnancy, Vaccination

Children exposure to PYRs at 1-3 years of age and their ADHD in preschool: a birth cohort study

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Abstract

Introduction: Daily exposure to pyrethroid pesticides (PYRs) during toddlerhood may have association with their attention deficit hyperactivity disorder (ADHD) in preschool years.

Objectives: This study aimed to explore the link between children's exposure to PYRs at ages 1-3 and their ADHD during preschool.

Methods: This study included 339 mother-child pairs. Urine samples were collected from children aged 1-3 years to measure concentrations of PYRs metabolites (3PBA, 4F-3PBA, cis-DBCA), ΣPYRs represent total exposure of three PYRs metabolites. ADHD during preschool was assessed using the Conners Parents Symptom Questionnaire (PSQ). Binary logistic regression models were used to examine the relationship between children's PYRs metabolite levels at ages 1, 2, 3 years and ADHD.

Results: The detection rates of PYRs were 98.53%, 99.41%, and 97.94% at ages 1, 2, and 3. The prevalence of ADHD was 14.16%, which was higher for boys than for girls (P=0.031, χ^2=4.6561). At age 1, a 1 μg/g increase in ΣPYRs was associated with 2% increase in ADHD risk [OR=1.02 (95% CI=1.01,1.04)]. At age 2, a 1 μg/g increase in 4-F-3-PBA was associated with 7% increase in ADHD risk [OR=1.07 (95% CI=1.00,1.15)]. In girls, each 1 μg/g increase in ΣPYRs at age 1 was associated with a 3% increase in ADHD risk [OR=1.03 (95% CI=1.01,1.06)], while each 1 μg/g increase in 4-F-3-PBA at age 2 was associated with a 16% increase in ADHD risk [OR=1.16 (95% CI=1.01,1.33)]. No significant differences were found in boys. Preschoolers exposed to high levels of ΣPYRs at 2 years old had a 2.59 times higher risk of developing ADHD compared to those exposed to low levels [OR=2.59 (95% CI=1.03,6.47)].

Conclusion: Children exposure to PYRs at ages 1 and 2 may have negative effect on ADHD in preschool years, and girls showed greater sensitivity than boys.

Keywords: 1-3 years of age, ADHD, Birth cohort, Pre-school children, Pyrethroid Pesticides

Parallel session II-Nutrition Promotion and Food safety (SDG 2)-Namkhong Hall 2

- Chair: Assist.Prof.Dr.Supabhorn Yimthiang, Walailak University
- Co-chair: Dr. Rattiphone Oula, CRS
- Assist.Prof. Dr.Naowarat Maneenin, KKU
- Dr. Kate Eddens, Assoc. Research Scientist, Indiana University School of Public Health – Bloomington

13:00-15:10	Code	Title of Abstracts	Authors
13:30-13:38	CODE082	Developing a National Nutrition Research Agenda (NNRA) for Lao PDR 2023-2026	Somphone Soukhavong
13:38-13:46	CODE100	Development of herbal tea using different plants and its antioxidant capacity test	Chithdavone Her
13:46-13:54	CODE159	Determinants of overweight and obesity among Myanmar Migrant Workers in Northeastern Thailand	Wor Mi Thi
13:54-14:02	CODE135	Development of a novel therapeutic pill for smoking cessation	Pirawat Sritalaharuethai
14:02-14:10	CODE067	Driving public policy for food security and local herbal wisdom through the Trat Provincial Health Assembly	SupapornDamrongphan
14:10-14:18	CODE216	Knowledge, attitude and consumption behavior of blood cockle among working-age group in Surat Thani Province, Thailand	Jirawat Mala
14:18-14:26	CODE367	Association between dietary diversity and nutritional status among children 6-59 months of age: a community-based cross-sectional study in Hadxayfong district, Vientiane, Lao PDR	Chansathit Taikeophithoun
14:26-14:34	CODE192	The situation and influencing factors of Dietary Behavior among college students in Kunming of West China	Juan Chen
14:34-14:42	CODE286	Analysis of influencing factors of perceived discrimination in HIV-infected patients treated with antiviral therapy	Hongrui ZHAO
14:42-14:50		Closing Remark	

Developing a National Nutrition Research Agenda (NNRA) for Lao PDR 2023-2026

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Abstract

Introduction: Nutrition and health research are critical for improving and strengthening a health system. Research provides evidence that can then be analyzed to further understand the health and nutrition situation. The importance of this 'evidence' is becoming increasingly recognized. Lao PDR currently does not have a research agenda for nutrition. To fill this gap, this document proposes and outlines an approach to priority setting for nutrition in the country.

Objectives: The research team aims to establish a nutrition research agenda for the country.

Methods: Applied were descriptive and cross-sectional studies. Phase 1: Identifying nutrition themes, topics, and subtopics with Multisectoral interviews with 30 policymakers including nutrition and health researchers and practitioners in Vientiane Capital, MOH, MAF, MOES, MPI, SUCSA (SUN-CSA), and GOs (WFP, UNICEF) to continue Phase 2: Developing Research Topic Priorities. Phase 3: Rank, finalize, and endorse the NNRA with Multi-criteria analysis with insights from 30 experts.

Results: A National Nutrition Research Agenda 2023-2026 has been developed based on input from multiple policy and stakeholder audiences. The agenda identifies 8 main research themes, 68 sub-topics, and provides 60 research questions across the themes. The top three themes, as prioritized by stakeholder rankings are dietary intake; food security (access to and affordability of food); and maternal, child, and adolescent nutrition. The NNRA can provide guidance for researchers, donors, and policymakers to help focus attention on priority areas for investigation.

Conclusion: The NNRA highlights gaps in evidence and knowledge and provides an action plan for targeted nutrition research in Lao PDR. The NNRA should be shared with researchers, stakeholders and decision-makers. The agenda should be updated after 2026. Future research should focus on the topics identified in the NNRA in order to provide evidence to support decision-makers.

Keywords: Agenda, Lao PDR, National, Nutrition, Research

Development of herbal tea using different plants and its antioxidant capacity test

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Abstract

Introduction: Herbal teas are a popular drink for those who want a healthier alternative to water. These teas can be easily made from various herbs, which contain biological compounds that have antioxidant properties.

Objectives: This study aimed to develop an herbal tea using three plants that have antioxidant properties.

Methods: The plants were extracted using different methods, and the resulting extracts were evaluated for their antioxidant capacity and total flavonoid content. The herbal teas were formulated by mixing the three extracts with dry powder, and their physical properties, antioxidant activity were tested.

Results: The study found that the maceration method produced the extract with the highest antioxidant capacity, and the total flavonoid content was also higher in this extract. The herbal tea formulation that combined the three plant dry powders showed the highest antioxidant capacity compared to other formulations. Additionally, all tea formulations were moist but within the standard range of pH tea.

Conclusion: In conclusion, this study provides evidence that herbal teas made from three plant dry powders have higher antioxidant capacity than herbal teas containing plant extracts. These teas offer a natural way to strengthen the body's immunity and protect against chronic diseases.

Keywords: Antioxidant, *Boesenbergia rotunda* (L.) *Mansf.*, Herbal tea, *Houttuynia cordata thunb*, *Pandanus amaryllifolius roxb*

Determinants of overweight and obesity among Myanmar migrant workers in Northeastern Thailand

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Abstract

Introduction: The prevalence of overweight and obesity among migrant workers has been increasing in recent years. Being significant risk factors for non-communicable diseases, they are linked with premature deaths and disabilities. However, their prevalence and determinants were being under explored among Myanmar migrant workers in Thailand.

Objectives: To identify the prevalence and determinants of overweight and obesity among Myanmar migrant workers in Northeastern Thailand.

Methods: A cross-sectional analytical study was conducted with 406 Myanmar migrant workers in Khon Kaen Province, between June to August 2023. Height in centimeters and weight in kilograms were obtained to calculate Body Mass Index (BMI). Asia Pacific BMI classification was used. Data analysis was performed using Stata version 18, employing multivariable logistic regression to identify determinants of overweight and obesity.

Results: The mean age of participants was 32years with 56.9% being male. 80.54% of them were factory workers. The prevalence of overweight and obesity were 16.5% (95% Confidence Interval (95% CI): 13.19 - 20.45) and 23.40% (95% CI: 19.52-27.78) respectively. Combined overweight and obesity prevalence was 52.57% in female (95% CI: 45.12-59.91) and 30.3% in male (95% CI: 24.69-36.57). Determinants of overweight, and obesity were age over 34 years (AOR=1.85, 95% CI: 1.17 - 2.93), female gender (AOR=2.54, 95% CI: 1.64 - 3.94), length of residence in Thailand exceeding 7 years (AOR=2.26, 95% CI: 1.34 - 3.83), and moderately severe to severe depression disorders (AOR=2.23, 95% CI: 1.12 - 4.43).

Conclusion: More than one third of Myanmar migrant workers are being overweight, and obese. Their determinants include age, gender, length of residence in Thailand, and depression disorders. Therefore, it is imperative to consider suitable public health initiatives including mental health screening, psychosocial supports, and behavioral change communication ensuring the inclusion of older age group, female and long-term residents among migrant workers to maintain balance nutrition.

Keywords: Age, Depression disorder, Gender, Length of residence, Migrant workers, Obesity, Overweight

ICPH-GMS14: "Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation"

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Development of a novel therapeutic pill for smoking cessation

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Abstract

Objectives: A novel therapeutic pill for smoking cessation: this project aimed to develop and control the quality of a low-calorie version of a smoking cessation pill that contained Cyanthillium cinereum (L.) H. Rob. (Little iron weed) extract, along with its packaging.

Methods: The pill was studied and controlled for quality in the form of compressed tablets. These tests included evaluating weight variation, thickness, hardness, grain diameter, microbial limits, and stability under accelerated conditions. It was observed that the pill had a high moisture absorption rate. The packaging employed a blister pack, which was then stacked in an aluminum foil bag. An analytical method using the HPLC technique was used to determine the nitrate content, active compounds from C. cinereum (L.) H.Rob. extract, which passed the method validation.

Results: The HPLC system contained a concentration range of 1.06 – 5.31 µg/mL. The linear equation obtained was $y = 37.2650x + 5.5105$, with a high linear regression coefficient (r2) of 0.9999.

Conclusion: The pill successfully passed all standardized quality control tests in the form of compressed tablets, which included evaluating weight variation, thickness, hardness, grain diameter, microbial limits, and stability under accelerated conditions. This development of a novel therapeutic pill may be used as a prototype of an alternative medicine for smoking cessation in the future.

Keywords: HPLC, Little iron weed, Low calories pill, Quality control, Smoking cessations

ICPH-GMS14: "Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation"

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Driving public policy for food security and local herbal wisdom through the Trat Provincial Health Assembly

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Abstract

Introduction: Trat Province has abundant food supply and herbs but, agricultural chemical used and its affect is challenge. The provincial health assembly was applied using local wisdom to create economic opportunities in conserving medicinal plants, aligning with the provincial 20-year development goal of becoming a "Green City of Happiness."

Objectives: This study examined how stakeholder participation in the assembly public policy process was conducted. We applied the in-depth interviews and observations from 15 key working members during 2021-2022. The Systems Theory analysis was performed.

Methods: We found that the multi-sectoral participation was the crucial factor to drive the public policy thorough input, process, output, and outcome.

Results: The results found that input factors included promoting environmentally friendly agriculture and strengthening the vegetable and herb producer network. The participatory process initiated a local herbal wisdom database to revive plant cultivation knowledge. The promoting health tourism, wellness centers, and establishing the Trat Provincial Thai Traditional Health Promotion Center are the obvious output. The outcome demonstrated alignment of the provincial development plan with public policy on food security and local herbal resources.

Conclusion: It was confirmed that participating multi-sectors, utilizing local resources and wisdom, and integrating health with other aspects are enabling factors of policy success. This knowledgeable case study could be implied for sustainable policy development for food security and community well-being.

Keywords: Food security, Health assembly, Herbs, Local wisdom, Participation

Knowledge, attitude and consumption behavior of blood cockle among working-age group in Surat Thani Province, Thailand

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Abstract

Introduction: Blood cockle (*Tegillarca granosa*) is a valued seafood species in Surat Thani, Thailand. However, when contaminated with pathogenic bacteria, consuming blood cockles can pose a serious risk to public health. In 2023, the Surat Thani Provincial Public Health Office reported that 592 people had suffered from food poisoning due to consuming contaminated blood cockles, resulting in an attack rate of 55.32 per 100,000 population. Most of the patients were employees aged between 25-34 years old. Therefore, it is important to ensure the safety of blood cockle consumption for consumers.

Objectives: This study aimed to assess the knowledge and attitude of the working-age group towards blood cockle consumption behavior.

Methods: An analytical cross-sectional study was conducted, and a self-administered questionnaire was used via online platforms. The sample size was 100, and a multi-step sampling technique was used. The data was analyzed using multiple logistic regression.

Results: Out of the 100 participants, 63% were female, and 45% were single. Most of the participants were between the ages of 31-40 years (63%), employed (28%), and had a Bachelor's degree (51%). 66% of the respondents had experienced diarrhea after consuming blood cockles. The results indicated that 62% had adequate knowledge, while 38% had good knowledge. Additionally, 56% of the participants had moderate attitudes, while 44% had high attitudes. The study found three factors that significantly associated with diarrhea (p-value<0.05): adequate knowledge (AOR=0.238, 95%CI=0.059-0.966), moderate attitudes (AOR=3.136, 95%CI=1.272- 7.732), and the high price of blood cockles affecting purchasing decisions (AOR=0.317, 95%CI=0.126-0.802).

Conclusion: The study indicates that the working-age group has adequate knowledge and moderate attitudes towards blood cockle consumption behavior. However, it is important to promote awareness, attitude, and understanding towards the safety of blood cockle consumption.

Keywords: Attitude, Blood cockle, Consumption behavior, Food safety, Knowledge, Thailand

Association between dietary diversity and nutritional status among children 6-59 months of age: a community-based cross-sectional study in Hadxayfong District, Vientiane, Lao PDR

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Abstract

Introduction: Malnutrition remains a public health concern leading to high morbidity and mortality among children, especially in Low- and Middle-Income Country Countries (LMICs). Globally, the prevalence of stunting, wasting, and overweight was 21%, 6.9%, and 5.6%, respectively. One of the main causes of malnutrition is inadequate diverse food consumption, and dietary diversity score (DDS) is an appropriate predictor for evaluating nutritional status.

Objectives: This study aims to identify the association between dietary diversity and nutritional status among children 6-59 months of age and other related factors influencing malnutrition among children 6-59 months of age.

Methods: A community-based cross-sectional was employed for this study, by conducting structured questionnaire interviews; six types of data were collected, including socio-demographic; feeding and caring practices; illness; dietary diversity; and water, sanitation, and hygiene practices. The study site was in the Hadxayfong district, Vientiane. Two hundred sixty-five participants were enrolled, and two-stage sampling was applied. Five of the ten clusters were selected by using simple random sampling. Then, systematic random sampling was used for sampling households having children 6-59 months of age. Weight and height were measured for each child. Univariate analysis was performed. The chi-square test, Mann-Whitney U test, and T-test were performed in bivariate analysis. Moreover, multicollinearity was checked by using the Spearman correlation coefficient. Finally, multivariate analysis was performed by using logistic regression. A statistically significant association was interpreted by odds ratio with a 95% confidential interval and p-value < 0.05.

Results: This study found the prevalence rates of stunting, underweight, wasting, and overweight children 6-59 months of age were 16.6%, 8.7%, 1.5%, and 9.1%, respectively. The proportion of children who consumed dietary diversity that met the minimum requirement for four out of seven food groups was 68.3%, with a mean DDS of 3.98 (±1.3). The results of multivariate analysis showed there was no association between DDS with malnutrition. However, other determinants associated with malnutrition were identified as low birth weight and greater birth order were 3.75 times and 1.54 times more likely to be stunted, respectively. Children who were never breastfed were 2.91 times more likely to be underweight and caregivers who practiced sometimes rinsed vegetables and fruits were 4.84 times more likely to be underweight. Children who consumed soft drinks were 31.36 times more likely to be wasted and caregivers who worked as other self-employers were 21.52 times more likely to be wasted. And female child was 0.34 times less likely to be overweight.

Conclusion: There was no association between dietary diversity and malnutrition among children 6-59 months of age. However, other factors related to malnutrition both modifiable and non-modifiable factors such as birth weight, birth order, breastfeeding, hygiene, soft drink, occupation, and sex of the child. Therefore, integrated intervention activities should be continued and fostered both nutrition-sensitive and nutrition-specific with a multisectoral approach needed, to enhance breastfeeding and complementary feeding in time and manner appropriately, Parallelly with promoting and educating nutritious and variety of food consumption as a preventive measure.

Keywords: Children aged 6-59 months, Dietary diversity, Malnutrition indicator, Seven food groups

The situation and influencing factors of dietary behavior among college students in Kunming of West China

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Abstract

Introduction: With China's rapid economic development and social progress, students have more food choices but malnutrition problems continue to increase.

Objectives: This study aimed to understand the situation of dietary Behavior among college students in Kunming, to identify the influencing factors of dietary Behavior among college students, and to explore the measures and ways to improve the dietary Behavior of college students.

Methods: Using a stratified random sampling method, a total of 254 college students were selected from different levels (universities, colleges, and vocational colleges) and different types (humanities and social sciences, science, and technology, agriculture and medicine, business and commerce, etc.) in Kunming. A questionnaire was used to collect data based on an online survey.

Results: The correct rate of nutrition knowledge was 70.15%, and there was no significant difference between male students and female students (P>0.05). The correct rate of nutrition knowledge among senior students was higher than that of the junior students (P < 0.05). Father's education levels were identified as influencing factors for nutrition knowledge.

For Dietary behavior, this study found that 94.49% of college students can "eat every day" and "often eat" rice, vegetables, and meat, but there were about 43.31%, 42.12%, and 42.52% of students "rarely eat" or " do not eat" eggs, soy products, and milk products, indicating a lack of protein food intake. A third (35.03%) of the students "rarely" or "rarely" eat breakfast, and almost half (48.81%) of the students do not actively drink water. On the contrary, more than one in ten (10.23%) students often replace meals with snacks or instant noodles, and more than a quarter (25.59%) of college students "eat every day" and "often" eat fried food.

The top three reasons for unhealthy eating are "do not know how to eat healthy ", "save time " and only "eat whatever they like". A third (35.83%) of students do not consider nutrition when choosing food. The main reason for students to skip breakfast was not getting up in the morning.

Conclusion: College students master some nutritional knowledge and have a positive attitude toward a balanced diet, but lack action of balanced dietary behavior. Schools and families should work together to strengthen students' nutritional literacy efforts.

Keywords: College students, Current situation, Dietary behavior, Influencing factors

CODE:286

Analysis of influencing factors of perceived discrimination in HIV-infected patients treated with antiviral therapy

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Abstract

Introduction: Some studies have shown that discrimination has a negative impact on the quality of life of people infected with AIDS. Perceived discrimination can cause great psychological pressure on infected persons, resulting in low self-esteem, anxiety, depression and other unnecessary psychological problems. No literature on perceived discrimination against HIV-infected patients in Yunnan Province has been found in recent years.

Objective: To investigate the status of perceived discrimination among HIV-infected people receiving antiviral treatment and analyze its influencing factors, so as to provide reference for reducing discrimination and improving the life quality of HIV-infected people.

Methods: A face-to-face questionnaire survey was conducted after multi-stage stratified cluster sampling. The questionnaire included socio-demographic characteristics, AIDS infection disease characteristics, Berger AIDS perceived discrimination Scale and Xiao Shui Yuan Social Support Rating Scale. The influencing factors of perceived discrimination were analyzed by multiple linear regression.

Results: There were 633 valid questionnaires. The perceived discrimination score of HIV-infected people was (111.11±19.43), which was at a medium high level, and the dimension with the highest average score was fear of publicity. Multiple regression showed that middle-aged people, those who do not participate in group activities and those who have less social support have higher perceived discrimination.

Conclusion: The perception discrimination of AIDS patients in Yunnan province is high. In the prevention and control of AIDS, it is necessary to actively organize and participate in group activities, improve social support and pay attention to middle-aged AIDS patients.

Keywords: HIV/AIDS, Influencing factors, Perceptual discrimination

Parallel session III- Environmental and Occupational Health - One Health – Eco Health. & Global warming and Climate change adaptation (SDG 13), Health Equity to UHC (Group 1)- Namkhan Hall

- **Chair:** Dr. Ramya Ambikapathi, Senior Research Associate, Cornell University
- **Co-chair:** Assoc. Prof. Dr. Sunisa Chaiklieng
- Asst.Prof. Thiwakorn Rachutorn, Nakhon Ratchasima Rajabhat University
- Dr. Te Vannnarath, NIPH, Cambodia

13:00-15:10	Code	Title of Abstracts	Authors
13:30-13:40	CODE050	Exposure to prenatal pyrethroid pesticides and cord blood lipids in neonates : a prospective cohort study, China	Shuqi Chen
13:40-13:50	CODE144	Environmental and health impacts of risk factors in wooden furniture manufacturing in Baan Ma Village, Lamphun Province, Thailand	Warangkana Naksen
13:50-14:00	CODE055	Infants daily exposure to pyrethroid pesticides and their neurodevelopment at 4 years of age: A prospective cohort study	Jirong Li
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Exposure to prenatal pyrethroid pesticides and cord blood lipids in neonates: a prospective cohort study, China

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Abstract

Introduction: Dyslipidemia may emerge during childhood and even the fetal period. However, the association between prenatal pyrethroid pesticides (PYRs) exposure and neonates' lipid metabolism is still unclear.

Objectives: The study aims to identify the association between prenatal PYRs exposure and neonates' cord blood lipids.

Methods: From 2016 to 2018, women in the first trimester were recruited in rural Yunnan, China. Maternal urine samples in the three trimesters and neonates' cord blood samples were collected, and detected urinary PYRs metabolites (3PBA, 4F3PBA, and DBCA) and cord blood lipids including TC, TG, HDL-C, LDL-C, and non-HDL-C. Multiple linear regression and logistic regression models were conducted to verify associations between the PYRs metabolites and cord blood lipids in neonates. $\sum$PYRs was the sum of three PYRs metabolites. PYRs metabolites were divided into low exposure group (<90th percentiles) and high-exposure group ($\geq$90th percentiles) in all logistic regression models.

Results: The detection percentage of prenatal PYRs was 98.7%. DBCA in the first trimester had a positive association with neonates' LDL-C (β = 0.019, 95 % CI: 0.005- 0.033), and DBCA in the third trimester was positively associated with neonates'TC (β = 0.017, 95 % CI: 0.001-0.032) and non-HDL-C (β = 0.014, 95 % CI: 0.001-0.027). High $\sum$PYRs in the first trimester was associated with an increased risk of neonates' high LDL-C (OR = 2.346, 95 % CI:1.033-5.331). High exposure to DBCA in the third trimester was associated with increased risks of neonates' high TC (OR = 2.299, 95 % CI:1.049-5.037), high TG (OR = 3.500, 95 % CI:1.655-7.405), high non-HDL-C (OR = 2.570, 95 % CI:1.195-5.529).

Conclusion: High exposure to PYRs in the first and third trimester may increase the risk of neonates' high lipids. The first and third trimester of gestation was sensitive windows exposed to prenatal PYRs that may negatively impact neonates' lipid metabolism.

Keywords: Lipid metabolism, Neonates, Prenatal exposure, Pyrethroid pesticides

Environmental and health impacts of risk factors in wooden furniture manufacturing in Baan Ma Village, Lamphun Province, Thailand

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Abstract

Introduction: Baan Ma Furniture Village, located in Sri Buaban Subdistrict, Mueang District, Lamphun Province, is a significant hub for manufacturing wooden furniture in the province. The local people's health and the environment may be impacted by this manufacturing activity.

Objective: The goal of this study was to evaluate the environmental and health impacts among workers and residents in the Baan Ma Furniture Village.

Methods: This study is participatory action research. Focus groups with SWOT analysis among involved stakeholders were used to collect qualitative situation data. For qualitative data, ambient environmental risk factors including temperature, volatile organic compounds and particulate matters in 10 selected factories were measured. Additionally, the questionnaire was administered to 50 workers and 50 village residents along with various health examinations, including blood tests, audiometry, and lung function tests.

Results: The stakeholders include public representatives, community leaders, entrepreneurs, and government agencies expressed opinions about the community's situation, emphasizing occupational health and environmental health issues from wooden furniture manufacturing. Results of health examination according to risk factors showed that there were toluene and lead in the blood of 1 and 8 people, respectively. There were 65 percent of those who had hearing problems and 42 percent of those who had a risk of lung function. Most of them are workers in wooden furniture factories. The results of environmental monitoring revealed that the lighting, noise, heat, dust, and gases in the ambient environment of all the selected factories did not meet the standards.

Conclusion: The information obtained from this study helps to understand the situation of occupational health and environmental health problems in the area. This can be used to plan public health policies to appropriately respond to community needs.

Keywords: Environmental impacts, Health impacts, Risk factors, Thailand, Wooden furniture manufacturing

Infants daily exposure to pyrethroid pesticides and their neurodevelopment at 4 years of age: a prospective cohort study

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Abstract

Introduction: The exposure to low level of pyrethroid insecticides （PYRs） may affect neurodevelopment of children, however few reports on the association of PYRs exposure in infancy with neurodevelopment in preschooler.

Objectives: The study aimed to investigate the association of children exposure to PYRs in infancy with the neurodevelopment in age of 4 years.

Methods: This study based on a birth cohort study that started from January 2016 in rural Yunnan, China. Urine samples (N=263) at ages 1 and 2 were tested for PYR metabolites (3-PBA, 4-F-3-PBA, DBCA). Concentrations of PYRs metabolites were classified as no exposure, low exposure and high exposure using the below detection limit and 75th percentile values. Neuropsychological development at age 4 was evaluated using Griffiths Development Scales-Chinese (GDS-C). Development quotient below 85 was defined as low development level. Multiple linear regression and logistic regression were used to analysis the association of PYR exposure with neuropsychological outcomes.

Results: PYR metabolites detected rate was 98.85% in infants, with the top in 3-PBA. Three metabolites in 2-year-olds were higher than those in 1-year-olds. At age of 4, Children general quotient was 90.87±11.37, with 28.14% in low development level. The quotients in locomotor, personal-social, language, eye–hand coordination, performance and practical reasoning were 113.50±26.20, 112.98±23.44, 86.20±21.69, 90.59±16.38, 88.44±16.34, and 81.84±18.87 respectively; and the proportions of low development level were 7.22%, 9.13%, 56.27%, 41.06%, 39.92%, and 61.22%, respectively. Multiple linear regression analysis showed a negative association between 3-PBA exposure at 2-year-old and the quotient in locomotor (β=-6.669, *95%CI:*-12.351,-0.988). Logistic regression indicated that 4-F-3-PBA exposure aged 2 was positively correlated with low development level in performance domain (*OR*=1.568, *95%CI:*1.017,2.418).

Conclusion: Children were widely exposed to low-dose PYRs in infancy. Children exposure to PYRs during infancy may have a detrimental impact on their neurodevelopment, especially in locomotor and performance domains at 4 years old.

Keywords: Infants, Neurodevelopment, Preschool children, Pyrethroid insecticides

Climate-integrated platforms for enhancing public health surveillance and decision support systems

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Abstract

Introduction: In the ongoing effort to enhance public health surveillance and address climate-related health impacts, we introduce the innovative Public Health Surveillance for Climate Change (PHS2C) platform. This meticulously crafted dashboard system monitors health data in Chi ang Mai province, crucial for comprehending and mitigating climate- sensitive health outcomes.

Objectives: Our primary aim is to establish a comprehensive framework that integrates focused climate change and health indicators, recognizing the intricate interplay between climate drivers, environmental conditions, and public health outcomes. By focusing on prevalent health issues such as Chronic Obstructive Pulmonary Disease, Asthma, Pneumonia, Influenza, Acute Pharyngitis, Bronchitis, Acute Ischemic Heart Diseases, Cerebrovascular Diseases, and Lung Cancer, we seek to provide a holistic understanding of the complex dynamics between environmental factors, human health, and climate change.

Methods: The PHS2C platform enables real-time monitoring of hospital visits, including OPD and IPD categories. Our methodology employs a research and development, stakeholders can assess current data against the past five years (2019-2024).

Results: Through the implementation of the PHS2C platform, we have gained actionable insights into the nexus between climate change and health outcomes in Chiang Mai province. This empirical evidence underscores the urgency for targeted interventions to bolster public health resilience against the impacts of climate change.

Conclusion: The PHS2C platform emerges as a powerful tool for stakeholders to devi se informed interventions and policies aimed at safeguarding public health amidst a changing climate. By harnessing real-time data and fostering a deeper understanding of the interconnectedness between environmental factors and health outcomes, we can bolster the resilience of communities in Chiang Mai province. This proactive approach underscores our commitment to promoting the well - being of populations in the f ace of emerging health challenges exacerbated by climate change.

Keywords: Climate Change, Dashboard, Health impact, Public health surveillance

Public perception, worrying, and practices towards health change during Fine particulate matter crisis in Northern, Thailand
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Abstract

Introduction: Fine particulate matter (FPM) has negatively impacted human health. Chiang Mai was recorded as one of the worst areas with harmful FPM levels. Knowing of public perception, worrying, and practices towards health change during the polluted air is needed.

Objectives: The study aimed investigate awareness and practices towards health change during the FPM crisis period the Northern of Thailand

Methods: A cross-sectional study was conducted using an unidentified online questionnaire to assess awareness and practices towards health during the FPM crisis period the Northern of Thailand between 1 and 30 April 2022. The questionnaire was developed to collect data on demographic, perception worrying and practices towards health change. Descriptive statistics were applied to report perception worrying and health change during FPM crisis.

Results: A total of 671 respondents completed the questionnaire. Five hundred and fifty-six (82.9%) reported poor health, 340 (60%) had mild illness, and 598 (89.2%) confident that the illness was caused by the FPM. Most respondents (612 (91.2%)) wore masks and half used the N95 mask and 43.82% thought that the masks are expensive. People were most worried about the impact of FPM on economics (46.6%), daily life (56.1%), environmental (62.8%), and health (72.35%). There were 75.9% of respondents interested in monitoring the level of FPM. Most participants monitor the FPM via app (34.9%) and over eighty percent are confident that they can apply the information to good practice in FPM protection.

Conclusion: This cross-sectional survey showed northern people worried about the impact of FPM on health, environmental and daily life, and perceived poor change of their health. Related policy maker should provide affordable price of FPM protection mask during the FPM crisis in northern of Thailand.

Keywords: Fine particulate matter, Health perception, Thailand

Nicotine exposure and semen quality changes among male tobacco farmers during the harvest season in Thailand
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Abstract

Introduction: Tobacco leaves contains nicotine that may impacts on the quality of life of tobacco farmers.

Objectives: We therefore decided to examine the semen quality change throughout the tobacco cultivation period and factors related to salivary cotinine levels and semen quality of male tobacco farmers.

Methods: In this longitudinal study, we investigate variations in semen quality among male tobacco farmers in Sukhothai Province, Thailand, focusing on 62 participants. Data were collected at three intervals during the tobacco cultivation period from March to May 2022. The collection methods included a structured questionnaire administered through face-to-face interviews, along with the retrieval of semen and saliva samples.

Results: Results revealed significantly lower semen parameters during the picking top and dry curing of tobacco plants compared to the picking first of tobacco plants and the end of the cultivation season ($p < 0.05$). Age (OR = 0.92, 95% CI = 0.85-0.99, p = 0.044) and alcohol intake (OR = 0.19, 95% CI = 0.05-0.65, p = 0.008) were independently associated with salivary cotinine levels. Additionally, exercise and wearing gloves showed significant positive associations with sperm count.

Conclusion: These findings underscore the importance of targeted education and awareness programs to mitigate the risk of nicotine exposure among tobacco farmers, contributing to the safeguarding of the reproductive health of this occupational group.

Keywords: Exposome, Nicotine exposure, Salivary cotinine levels, Semen quality, Tobacco farming

Association between greenness exposure and depression incidence rate among Bangkok residents: a three-year ecological longitudinal study

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Abstract

Objective: This study applied an ecological study aimed to examine the relationship between greenness exposure and depression among Bangkok residents using the district as a unit of analysis.

Methods: This study utilized data on depression in 50 districts in Bangkok, along with environmental parameters, and demographic and health infrastructure variables within 2018-2020. Greenness was measured using the Normalized Difference Vegetation Index (NDVI), extracted from a Terra-MODIS sensor. Descriptive statistics, bivariate analysis, and Generalized Additive Mixed Models with adjustment of covariates were applied to evaluate the association between greenness exposure and depression. All analyses were performed using ArcGIS Desktop 10.8 (Esri Inc., Redlands, California, United States) and R version 4.2.2 (The R packages Foundation for Statistical Computing, Vienna, Austria).

Results: From 2018 to 2020, there were an average of 4.57 ± 6.45 cases per 100,000 population per year, and the mean NDVI was 0.33 ± 0.09. Adjusted for all covariates, as well as considering the smooth terms basis, an increase of NDVI value would contribute to a reduction in the depression rate by up to 77.7% (RR 0.223, 95% CI of RR 0.200-0.248). Additionally, temperature and humidity were found to contribute to depression rate ($p < 0.05$).

Conclusion: The study has proven that living in greener areas would contribute to a lower depression incidence rate in Bangkok. It is important to promote policies that could increase environmental greenness to enhance social interactions and physical activities.

Keywords: Depression incidence rate, Ecological study, Environmental health, Greenness exposure, Normalized Difference Vegetation Index (NDVI)

Association between short-term air pollutant exposure and blood pressure levels and risk of hypertension

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Abstract

Introduction: Hypertension causes 19.2% of all deaths globally and is the risk factor for the largest number of all-cause deaths, and previous studies have shown that exposure to atmospheric pollutants is a risk factor for increased blood pressure and elevated risk of hypertension in the population, but these findings are inconsistent; and there are no relevant reports in the plateau area.

Objectives: Exploring the effects and associations of short-term exposure to different concentrations of air pollutants on blood pressure levels and risk of hypertension in the population.

Methods: We collected air pollutant exposure and meteorological data from 8 cities and towns in Yunnan Province in the year prior to the survey, established generalized additive models to analyze the linear and nonlinear effects of air pollutants on blood pressure levels in the population, and also established cumulative lag models for each pollutant; and logistic regression models were established to analyze the risk of hypertension in different subgroups of the population under different pollutant concentrations. Funding: Yunnan Provincial Department of Science and Technology Key R&D Programme Projects (202302AA310045; 202103AC100004; 202103AF140002)

Results: (SBP) PM2.5, PM10, SO2, and NO2 concentrations increased by 1ug, SBP increased by 0.476mm Hg, 0.334mm Hg, 1.944mm Hg, and 0.412mm Hg; O3 concentration increased by 1ug, SBP decreased by 0.305mm Hg. (DBP) PM2.5 and PM10 concentrations increased by 1ug, DBP rises by 0.383 mm Hg, 0.469 mm Hg; O3 concentration rises by 1ug, DBP falls by 0.218 mm Hg; CO concentration rises by 0.1mg, DBP rises by 0.958 mm Hg. (SBP) The maximum lag effect time for PM2.5 is Lag01, the concentration rises by 1ug, and the SBP rises by 0.493mm Hg; SO2 maximum lag effect time is Lag06, concentration rises by 1ug, SBP level 3.673mm Hg. (DBP) PM10 maximum lag effect time is Lag0, concentration rises by 1ug, DBP rises by 0.469mm Hg; CO maximum lag effect time is Lag01, concentration rises by 0.1mg, DBP rises by 3.073mm Hg. Dual-pollutant analysis The effects of PM2.5/PM10/CO+other pollutants on SBP and DBP were weakening in the analysis; the effects of SO2/NO2/O3+other pollutants on SBP or DBP were increasing. In the subgroup population analysis, people of different sex, age, ethnicities and drinking status were more sensitive to the changes of different pollutant concentrations.

Conclusion: Atmospheric pollutants are strongly associated with blood pressure and hypertension in the population, with increasing pollution concentrations (except for O3), blood pressure and risk of hypertension in the population gradually increased, and the analysis of different subgroups of the population further demonstrated that ethnic minorities are at higher risk of hypertension regardless of pollutant exposure.

Keywords: Air pollutants, Exposure-response relationship, Hypertension

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Factors related to heat-related illnesses among farmers in Thailand

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Abstract

Introduction: Climate change has been identified as the biggest global health threat of the 21st century. However, little evidence has been reported for mobility and mortality from heat.

Objectives: The purpose of study was factors related to heat-related illnesses among farmers in Thailand.

Methods: A cross-sectional study was conducted in Takhu Sub-District Pak Thong Chai District, Nakhon Ratchasima Province. Data were collected from 1,024 farmers. In addition, data were analyzed using descriptive statistics and multiple logistic regression.

Results: illustrated that 54.4% were male, with age range of 31-40 years, 28.9%, 32.3% had a career in sugarcane farming, corn farming, and cassava farming, the most at 30.5%, and 88.1% had no congenital disease. In terms of behavior, it was found that most of the sample had inappropriate behavior, risking illness from extremely hot weather, such as drinking beverages. And alcohol. There were as many as 60 people. In terms of health effects, it was found that the symptoms of dizziness, headache, and dizziness were the most common at 38.7 percent. Analysis of behavioral factors that were related to Illness caused by heat (heat stroke). It was found that when farmers work in the sun for a long time, if they rarely rest at all or take long breaks in the shade, they have a 0.24 higher chance of getting sick with heat stroke than those who regularly rest indoors. times or approximately 24 percent (AOR = 0.24; 95 % CI: 0.10 - 0.55) and farmers drink alcoholic beverages and all kinds of drugs when working to stimulate the nervous system, 5.9 % have a chance of being at risk of Heat stroke was 6.13 times more common among farmers who did not drink (AOR = 6.13; 95% CI: 4.03 – 12.61) thus, the farmers should be heat-related health risk communication was obtained with the local agencies.

Keywords: Factor, Farmers, Heat-related illness

Parallel session IV- Epidemiology of Communicable and Non-communicable Diseases (Group 1)- Library

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13:38-13:46	CODE047	Youths' metabolic risk factors of non-communicable diseases in selected regions of Myanmar	Nilar Aye Tun
13:46-13:54	CODE207	Situation of care for elderly stroke patients in the community	Charunee Sorakrij
13:54-14:02	CODE007	Association of tobacco exposure and alcohol drinking with hypertension in rural southwest China : a cross-sectional study	Guo-hui Li
14:02-14:10	CODE075	Spatial and temporal patterns of dengue in Lao PDR: a bayesian analysis	Mick Soukavong
14:10-14:18	CODE013	Trends in prevalence, awareness, treatment, control, and self-management of hypertension among rural residents in Da Yao County of Yunnan Province	ZiziYU
14:18-14:26	CODE016	Study on nicotine dependence and its relationship with depression among the elderly Dai people in rural Jinggu County, Yunnan Province	Chunyi Ruan
14:26-14:34	CODE131	Prevalence and factors affecting musculoskeletal disorders of hospital porters working in hospitals, Muang District, Phitsanulok Province	Sirioon Khongsom
14:34-14:42	CODE105	Factors associated with dengue hemorrhagic fever prevention behavior among people in the Attpapeu Province of Laos People Democratic Republic	Khamphet Vonglorkham
14:42-14:50	CODE048	Bisphenol A exposure may be a potential factor in thyroid disease: based on DIA proteomic analysis	Yanlong Li
14:50-15:08		**Closing Remark**	

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Barriers to the utilization of elderly health services in Cambodia
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Abstract

Introduction: An increase of ageing population in Cambodia is posing challenges for the health sector, where little attention has been paid to older people's health need. Understanding the lives of old people in Cambodia, such as how they live, the services they access –are important, yet knowledge of which is largely lacking.

Objectives: To explore the barriers to healthcare utilization for older people in Cambodia.

Methods: A qualitative study of 11 healthcare providers and 251 older people (age 50+) was conducted in Phnom Penh, Kampot, Stung Treng and Battambang provinces, Cambodia. Data were collected through in-depth interviews and focus group discussion.

Results: The study found that elderly people in Cambodia experienced challenges for healthcare utilization. Those challenges were: a) the complexity of the administration process; b) the long waiting time. This problem was not only for the elderly people but also for their family members or other people who accompanied them to the health facilities; c) and road access was challenging.

Conclusion: Overall, elderly people in Cambodia have faced with many challenges ranging from service arrangement, waiting time and access to health facilities.

Keywords: Barriers, Cambodia, Elderly people, Healthcare utilization

Youths' metabolic risk factors of non-communicable diseases in selected regions of Myanmar

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Abstract

Introduction: Non-communicable diseases (NCDs) are caused by multi-factorial — genetic, lifestyle and metabolic risks. The 2009 Myanmar STEPs survey showed that 6.9% were overweight, 1.9% were obese, 10.6% had raised blood pressure among youths.

Objectives: We aimed to determine the prevalence of these NCDs metabolic risks among selected youths of Myanmar, and the association between metabolic risks and age groups, sex, residence and region.

Methods: In 2018, a cross-sectional study was conducted among 400 youths (15 – 24-year-olds) of Yangon Region and Southern Shan State, Myanmar. We adopted WHO STEPS Instrument Version 2.1, modifying questionnaires according to local context. Blood pressure and anthropometric measurements were done by calibrated/standard instruments. In Stata, we determined prevalence (95%CI) of metabolic risks and performed multivariable binary logistic regressions to explore the association between metabolic risks and covariates.

Results: Medium fruit and vegetable servings on an average day was 1.1 (0.9–1.9) servings per day. Mean systolic and diastolic blood pressures were 113.1 ($\pm$11.1) and 69.1 ($\pm$8.2) mmHg. Among the youths, 5% (3.1 – 7.6%) were overweight, 2.5% (1.2 – 4.5%) were obese, 5.5% (3.5 – 8.2%) had central obesity, 2% (0.9 – 3.9%) had raised blood pressure. Upon combining risks (current tobacco use, insufficient fruit/vegetable intake and physical activity, raised blood pressure, overweight/obesity), only 1.3% had none, over half (53%) had two, and 12.3% had $\geq$ three combined risks. Yangon youths had 1.9 times (OR = 1.9; 1.0 – 3.7) the odds of being overweight/obese, and females had 2.7 times (OR = 2.7; 1.3 – 5.5) such odds when compared to Shan (south) and males respectively.

Conclusion: We found very low daily fruit and vegetable servings, and statistically significant associations of regions and sex with being overweight or obese (including central obesity). Behavioral change communication and early diagnosis of NCDs metabolic risks should be tailored in higher risk groups among youths.

Keywords: Diet, Fruit and vegetable servings, Metabolic risk factors, Myanmar, Non-communicable diseases, Youths

Situation of care for elderly stroke patients in the community

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Abstract

Objectives: This descriptive research aimed to studying the situation of care for elderly stroke patients in community of Northeast Thailand.

Methods: Purposive sampling of 10 elderly stroke patients, 12 family caregivers, 20 village health volunteers and 12 health team personnel. Data conducted in-depth interviews with patients and caregivers using semi- structured interviews. Health volunteers and health team personnel, data were collected focus group discussions following discussion guidelines. Research instruments were verified by five experts for content validity. Qualitative data using content analysis.

Results: The research findings are as follows: (1) Elderly stroke patients, aged between 63-87 years, Bedridden, hemiparesis relies heavily on caregivers for daily activities including feeding, medication, and bowel management. Early rehabilitation after hospital discharge shows promise in enhancing self-care abilities and hastening recovery. (2) Family caregivers, predominantly spouses and daughters, are pivotal throughout the illness and rehabilitation phases. including daily assistance, medication management, hygiene care, and emotional support. Extended families contribute significantly, emphasizing the importance of robust familial networks in patient resilience and continuous recovery. Caregivers require guidance on tailored rehabilitation, and acquiring necessary equipment. (3) Village health volunteers form a crucial support system, conducting home visits, providing dietary guidance, ensuring medication adherence, and coordinating equipment provision. Their role in enhancing skills and knowledge contributes to patient care quality. (4) Health teams, coordinating care and rehabilitation efforts, especially in preparing caregivers and volunteers for ongoing community care. Their collaboration ensures comprehensive and effective support for elderly stroke patients in the community.

Conclusion: The results showed that the intricate challenges of caring for elderly stroke patients in the community. There is a heightened demand for comprehensive care. Family caregivers offer vital daily and emotional support, aided by village health volunteers and health teams for ongoing care and rehabilitation. These insights stress the need for tailored healthcare services and support networks, fostering a more inclusive healthcare environment.

Keywords: Community healthcare, Elderly care, Family caregivers

Association of tobacco exposure and alcohol drinking with hypertension in rural southwest China : a cross-sectional study

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Abstract

Introduction: This study examines the prevalence of tobacco exposure (including smoking and SHS exposure) and alcohol drinking, and to simultaneously investigate the relationship between tobacco exposure, alcohol drinking, and concurrent smoking and drinking and hypertension in rural southwestern China.

Methods: Data were collected from a cross-sectional health interview and examination survey including 7,572 adults aged ≥35 years in rural China. Information about participants' demographic characteristics as well as smoking habits, exposure to secondhand smoke (SHS), and alcohol drinking habits were obtained using a standard questionnaire. Blood pressure (BP), height, weight, and waist circumference were measured for each participant.

Results: The overall prevalence of smoking, SHS exposure, drinking, concurrent smoking and drinking, concurrent exposure to SHS and drinking, and hypertension was 37.7%, 27.4%, 16.2%, 12.6%,1.6%, and 41.3%, respectively. Males had significantly higher prevalence of smoking (P<0.01), drinking (P<0.01) and concurrent smoking and drinking than females (P<0.01), whereas females had a higher prevalence of SHS exposure than males (P<0.01). The results of multivariate logistic regression analysis indicated that smokers, individuals who exposed to SHS, drinkers, and concurrent smoking and drinking all had a greater probability of suffering from hypertension (P<0.01). Additionally, concurrent smoking and drinking had the strongest association with the prevalence of hypertension (P<0.01).

Conclusion: Tobacco exposure and alcohol drinking had a greater probability of suffering from hypertension. Comprehensive blood pressure control measures should take into account health education about smoking and alcohol use as well as taking antihypertensive medications.

Keywords: Alcohol drinking, China, Exposure to second-hand smoke, Hypertension, Smoking

Spatial and temporal patterns of dengue in Lao PDR: a bayesian analysis

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Abstract

Introduction: Dengue, a zoonotic viral disease transmitted by Aedes mosquitoes, presents a substantial public health challenge in Lao People's Democratic Republic (Lao PDR).

Objective: This study aimed to delineate spatial-temporal patterns and assess the influence of environmental and climate variables on dengue transmission at the district level.

Methods: Utilizing dengue data from 2015 to 2020 across 148 districts of Lao PDR, we employed a multivariable Zero-inflated Poisson regression model within a Bayesian framework to explore the association between monthly dengue occurrences and environmental and climate variations.

Results: The study identified a total of 72,471 dengue cases, with an incidence rate of 174 per 100,000 population. Each year, dengue incidence peaked from June to September, with a significant spike observed in 2019. Our spatio-temporal model indicated a 91% decrease (95% credible interval [CrI]: 89%, 92%) in dengue risk for a one-unit increase in the normalized difference vegetation index at a 1-month lag, and a 5.7% decrease (95% CrI: 5.3%, 6.2%) for a one cm increase in precipitation at a 6-month lag. Conversely, dengue risk increased by 43% (95% CrI: 41%, 45%) for a 1°C increase in mean temperature at a 3-month lag. Notably, high-risk spatial clusters were predominantly detected in the southern regions of Lao PDR. Probability analysis highlighted elevated trends in 45 districts, underscoring the necessity for targeted control measures in these high-risk areas.

Conclusions: This study underscores the significant impact of climate and environmental factors on dengue transmission, emphasizing the importance of proactive public health interventions tailored to the specific contexts of Lao PDR.

Keywords: Bayesian, Dengue, Lao PDR, Spatial, Temporal, Zoonotic disease

Trends in prevalence, awareness, treatment, control, and self-management of hypertension among rural residents in Da Yao County of Yunnan Province

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Abstract

Objective The aim of this study was to analyze the trends of hypertension prevalence, awareness, treatment, control and self-management among rural residents in Da Yao County, Yunnan Province.

Methods The multi-stage stratified random sampling method was used to select rural residents ≥35 years from Da Yao County, and the number of participants invited to join in the two survey administrations was 2,479 in 2013, and 2,499 in 2022. Each participant received questionnaire survey and physical examination.

Results From 2013 to 2022, the overall prevalence, awareness, treatment, and control of hypertension, as well as rates of compliance to anti-hypertensive drugs and self-monitoring of blood pressure among the surveyed population increased from 40.4%, 57.5%, 67.2%, 26.6%, 70.1% and 58.3% to 53.7%, 65.0%, 89.1%, 35.3%, 84.5% and 82.0%, respectively, whereas the rate of taking measures to control hypertension decreased from 96.7% to 88.3% (all $P<0.05$). The increasing rates of compliance to anti-hypertensive drugs and self-monitoring of blood pressure whereas a decreasing rate of taking measures to control hypertension were also observed among the subgroups categorized by gender, age, level of education, annual household income and access to medical services (all $P<0.05$). Both in 2013 and 2022, participants with lower levels of education had higher prevalence of hypertension than their counterparts ($P<0.01$).

Conclusion The prevalence, awareness, treatment and control of hypertension, as well as rates of compliance to anti-hypertensive drugs and self-monitoring of blood pressure increased over time, while the rate of taking measures to control hypertension decreased over time in Da Yao County. Future hypertension health education should more focus on males, individuals with low levels of education and poor access to medical services, so as to reduce the prevalence of hypertension and to enhance self-management ability of patients.

Keywords: Awareness, Control, Hypertension, Prevalence, Self-Management, Treatment

Study on nicotine dependence and its relationship with depression among the elderly Dai people in rural Jinggu County, Yunnan Province

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Abstract

Introduction: Relevant studies have shown that there are ethnic differences in smoking rate, nicotine dependence rate and depression prevalence.

Objectives: The aim of this study was to analyze prevalence of nicotine dependence and its relationship with depression among rural Dai ethnic minority elderly people in Jinggu county of Yunnan province.

Methods: A multi-stage stratified random sampling method was used to select 1 409 rural Dai ethnic minority elderly people aged 60 years and over from Jinggu County, Yunnan, each participant received a face-to-face questionnaire survey.

Results: The prevalence of current smoking among rural Dai ethnic minority elderly people in Jinggu County of Yunnan province was 18.6%, and was 37.1% for men and 0.8% for women. Men had obviously higher prevalence of smoking than women (P<0.01). Among current smokers, prevalence of nicotine dependence was 32.8%, and was 32.4% for men and 50.0% for women. Prevalence of nicotine dependence did not differ by gender, age group, education levels, and annual per capita household income (all P>0.05). The prevalence of depression in the surveyed population was 52.0%, and was 49.4% for mean and 54.5% for women. The results of multivariate logistic regression l analysis showed that elderly people with nicotine dependence were more likely to suffer from depression than their counterparts (OR=1.517, 95%CI: 1.066~2.158).

Conclusion: Nicotine dependence was positively associated with prevalence of depression among the Dai elderly in Yunnan Province. Taking effective measures to reduce prevalence of nicotine dependence would be helpful to improve mental health of the elderly.

Keywords: Dai ethnic minority, Depression, Elderly people, Nicotine dependence, Rural areas

Prevalence and factors affecting musculoskeletal disorders of hospital porters working in hospitals, Muang District, Phitsanulok Province

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Abstract

Objectives: This cross-sectional study aimed to determine the prevalence and factors affecting musculoskeletal disorders of hospital porters working in hospital, Muang district, Phitsanulok province.

Methods: 93 porters were explored in this study. Data were conducted using the questionnaires categorized into five sections, consisting of personal factors, working factors, working environment factors, work-related stress factors, and Cornell musculoskeletal discomfort questionnaires (CMDQ). The Rapid Entire Body Assessment (REBA) method was used to assess the risks of musculoskeletal disorders for the whole body. Data were analyzed by using descriptive statistics and presented by frequency, percentage, mean, standard deviation, minimum, and maximum. Factors affecting musculoskeletal disorders of hospital porters were analyzed by multiple linear regression statistics.

Results: The results showed that most of them were males (93.50%), 33.46 ± 8.90 years old of mean age, 1-10 years of work experience (50.50%), and working in government hospitals (71.00%). The top three prevalence of musculoskeletal disorders during the past 7 days were lower back (83.90%), neck (71.00%), and right lower leg (68.8%), respectively. Factors affecting musculoskeletal disorders at the statistical significance of 0.05 were underlying disease (p-value = 0.032), type of hospital (p-value = 0.006), the risks of working posture (p-value = 0.009), and psychological and behavioral stress (p-value 0.024).

Conclusion: Therefore, the relevant organization such as the occupational health and safety sector should set up activities to prevent musculoskeletal disorders, for example, demonstrating the correct working posture and publicizing the ways for stress management consulting.

Keywords: Hospital porters, Musculoskeletal disorders, Prevalence

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Factors associated with dengue hemorrhagic fever prevention behavior among people in the Attpapeu Province of Laos People Democratic Republic

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Abstract

Introduction: Dengue fever has become a public health burden in numerous countries because it has spread widely and has greatly increased the number of patients. The World Health Organization estimated that about half of the world's population is at risk of dengue, with 100–400 million infections occurring each year.

Objectives: To study the factors associated with dengue hemorrhagic fever prevention behavior among people in the Attpapeu Province of Laos PDR.

Methods: The cross-sectional analytical study selected 101,513 people who live in the Attpapeu province. The multi-stage sample was used to sample 558 respondents. Data was collected by questionnaires that had a Cronbach's alpha greater than 0.70, including five parts. The data was analyzed by descriptive statistics and logistic regression to explore the associated factors with a significant level of 0.05.

Results: Respondents who had a good level of dengue fever prevention behavior was only 21.0%. The perception of moderate was 54.8%, and the social support of moderate was 79.4%. The factors significantly associated with dengue fever-preventing behaviors were: age (ORadj = 2.51, 95% CI: 1.10, 5.72), education (OR = 3.78, 95% CI: 1.51, 9.48), tribe (OR = 5.07, 95%CI: 2.41, 10.70), container water store (OR Adj = 2.30, 95% CI:1.40, 3.78), and perception of dengue fever (OR Adj = 2.69, 95%CI: 1.63, 4.45).

Conclusion: Therefore, public health agencies should provide knowledge and create awareness for citizens to have more knowledge, skills, and awareness about prevention and control of dengue fever, especially among the Oi tribe, such as creating awareness about dengue fever among school-aged children, integration with teaching or extracurricular activities, campaigns to destroy mosquito larval sources, and campaigning for people to use lids for household water containers.

Keywords: Dengue hemorrhagic fever prevention behavior, Lao's People, Perception, Social support

Bisphenol A exposure may be a potential factor in thyroid disease: based on DIA proteomic analysis

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Abstract

Background: Bisphenol A (BPA) is a common industrial compound. Numerous researches have demonstrated a correlation between endocrine system disorders and exposure to BPA. Thyroid diseases are intricately linked to maintaining homeostasis in the endocrine system. This study aimed to investigate the effects of BPA exposure on Normal human thyroid cells (Nthy-ori 3-1 cells) by comparing the protein changes in Nthy-ori 3-1 cells exposed to BPA with those not exposed to BPA.

Objective: The purpose of this study was to explore the relationship between BPA exposure and thyroid diseases, and to offer a novel approach to studying thyroid diseases.

Method: Nthy-ori 3-1 cells were treated with 30 μg/mL of bisphenol A as the experimental group, normal cultured cells were used as the control group. Each group was repeated three times. DIA proteomic analysis was used to observe the variances in protein expression between the experimental group and the control group. The Kyoto Encyclopedia of Genes and Genomes (KEGG) pathway was used to annotate differentially expressed proteins.

Results: Through DIA proteomic analysis, a total of 5758 proteins were identified. Principal Component Analysis (PCA) revealed a significant separation between the control group and the experimental group along PC1, with 1666 different proteins. These differential proteins are mainly related to human diseases, metabolism, environmental information processing, cellular processes, organismal systems, and genetic information processing. The main enrichment pathways of differential proteins include the complement and coagulation cascade, ribosome, ECM-receptor interaction, and the PI3K-Akt signaling pathway.

Conclusion: Proteomic analysis revealed a large number of differentially expressed proteins in thyroid cells exposed to BPA. KEGG helped elucidate the mechanism of action of BPA exposure on thyroid cells. This study introduces a new direction for future research on the relationship between BPA exposure and thyroid disease.

Keywords: Bisphenol A, DIA proteomic analysis, Normal human thyroid cells

Parallel session V- Health Service and Healthcare Management (Group 1)- Namkhong Hall 1

- **Chair:** Dr. Dang Thi Anh Thu, HUMP
- **Co-chair:** Assoc. Prof. Kulthida Bunjongsiri, Sukhothai Thammathirat Open University
- Asst. Prof. Dr. Mahato Roshan Kumar, KKU
- Ms. Susmita Ghosh, PhD Candidate, Department of Public Health, Purdue University

15:20-17:20	Code	Title of Abstracts	Authors
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15:28-15:36	CODE004	Lao PDR first national TB patient cost survey: an assessment of the financial burden faced by TB affected households in Lao PDR	Phitsada Siphanthong
15:36-15:44	CODE206	The potential development of village health volunteers to assistant the community health professional according to the community public health act 2013	Vorapoj Promasataya-prot
15:44-15:52	CODE253	Situational analysis: the Lao health policy decision-making context.	Sysavanh Phommachanh
15:52-16:00	CODE240	Burden of invasive pneumococcal disease among children in Vietnam: clinical characteristics and serotype distribution	Nguyen Phuong Hanh
16:00-16:08	CODE049	Antenatal Screening of high risk pregnancy in provincial hospitals in Laos	Keooudone Thammavong
16:08-16:16	CODE229	Knowledge, acceptance and willingness to pay for vaccine against Human Papilloma Virus (HPV) among parents of secondary school male students in Nothern Vietnam	Nguyen Thi Minh Ngoc
16:16-16:24	CODE219	Frailty status and influencing factors among middle-aged and older adults of Zhiguo ethnic minority groups in Yunnan province, China	Xiaoju LiLi
16:24-16:32	CODE077	Care and support needs for cognitive decline among older people in Lao People's Democratic Republic: cross-sectional study	SengchanhKounnavong
16:32-16:40	CODE081	Effectiveness and cost-effectiveness of rotavirus vaccination: a comparative modelling study	Phetsavanh Chanthavilay
16:40-16:48	CODE210	Factors contributing to hospitalization expenditures for patients with COPD in Yunnan Province, China: a path analysis	Aihan Wen
16:48-16:56	CODE101	Estimation of anti-seizure medication need among people with patients in Lao PDR	NoudySengxeu
16:56-17:04	CODE209	Co-design of an integrated, person-centered model of care for people with hepatitis B and C in primary healthcare in Vietnam	Huyen Nguyen (B)
17:04-17:12		**Closing Remark**	

Public and private healthcare utilization in Cambodia: results from the world health survey plus 2023

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Abstract

Introduction: In Cambodia, a substantial proportion of healthcare visits are made to private healthcare providers. The Cambodian government has implemented various interventions to encourage the use of public healthcare. However, recent studies on the changes in public healthcare usage have not been conducted.

Objectives: This study aims to describe public and private outpatient and inpatient healthcare use and investigate the factors associated with public healthcare usage in Cambodia.

Methods: A cross-sectional study was conducted in all provinces in Cambodia, including the capital, Phnom Penh. The analysis included 4,603 individuals aged ≥ 18 who had received care within the last 12 months.

Results: Almost 10% of outpatient and 50% of inpatient visits were made to public healthcare facilities. The number of outpatient visits made to public healthcare compared to private healthcare facilities was significantly higher in women (aOR 1.5, 95% CI 1.2, 1.9), respondents who were married or living with a partner (aOR 1.7, 95% CI 1.3, 2.4), those in the poorest (aOR 1.7, 95% CI 1.2, 2.5) and poor (aOR 1.5, 95% CI 1.1, 2.1) compared to the richest wealth quintiles, and respondents with insurance coverage (aOR 4.3, 95% CI 2.4, 7.8). The number of inpatient visits made to public healthcare compared to private healthcare facilities was significantly higher in the poorest (aOR 2.2, 95% CI 1.3, 3.7), poor (aOR 2.2, 95% CI 1.4, 3.6), and middle (aOR 2.1, 95% CI 1.3, 3.5) compared to those in the richest wealth quintiles, and respondents with insurance coverage (aOR 2.1, 95% CI 1.5, 3.2).

Conclusion: Private healthcare dominates outpatient services in Cambodia, whereas public healthcare is preferred for inpatient services, especially for the poorest groups, women, and those with insurance. Improving public healthcare quality, expanding service coverage, expanding health insurance, and engaging the private healthcare sector are crucial to achieving universal health coverage in Cambodia.

Keywords: Cambodia, Healthcare, Health systems, World health survey plus

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Lao PDR first national TB patient cost survey: an assessment of the financial burden faced by TB affected households in Lao PDR

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Abstract

Introduction: Tuberculosis (TB) patients incur large costs for care seeking, diagnosis, and treatment. To understand the magnitude of this financial burden and its main cost drivers, the Lao People's Democratic Republic (PDR) National TB Program carried out the first national TB patient cost survey in 2018–2019.

Objectives: The aims of this study were to determine the direct and indirect costs incurred by TB patients (and households) during TB diagnosis and care and the associated care seeking; to estimate the proportion of households experiencing catastrophic costs due to TB; to examine the risk factors associated with incidence of catastrophic costs due to TB; to examine the difference in financial burden of TB between drug-resistant TB (DR-TB) patients and drug-susceptible (DS-TB) TB patients, TB-non-HIV and TB-HIV.

Methods: A facility-based cross-sectional survey was conducted based on a nationally representative sample of TB patients from public health facilities across 12 provinces. A total of 848 TB patients including 30 drug resistant (DR)-TB and 123 TB-HIV coinfected patients were interviewed using a standardised questionnaire developed by the World Health Organization. Information on direct medical, direct non-medical and indirect costs, as well as coping mechanisms was collected. We estimated the percentage of TB-affected households facing catastrophic costs, which was defined as total TB-related costs accounting for more than 20% of annual household income.

Results: The median total cost of TB care was US$ 755 (Interquartile range 351–1,454). The costs were driven by direct non-medical costs (46.6%) and income loss (37.6%). Nutritional supplements accounted for 74.7% of direct non-medical costs. Half of the patients used savings, borrowed money or sold household assets to cope with TB. The proportion of unemployment more than doubled from 16.8% to 35.4% during the TB episode, especially among those working in the informal sector. Of all participants, 62.6% of TB-affected households faced catastrophic costs. This proportion was higher among households with DR-TB (86.7%) and TB-HIV coinfected patients (81.1%).

Conclusion: In Lao PDR, TB patients and their households faced a substantial financial burden due to TB, despite the availability of free TB services in public health facilities. As direct non-medical and indirect costs were major cost drivers, providing free TB services is not enough to ease this financial burden. Expansion of existing social protection schemes to accommodate the needs of TB patients is necessary.

Keywords: Catastrophic cost, Cost, Lao PDR, Patient cost, Social protection, Tuberculosis

The potential development of village health volunteers to assistant the community health professional according to the community public health act 2013

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Abstract

Introduction: The development of the potential of village health volunteers to work as assistant practitioners of community health is aimed at developing the potential of village health volunteers to work as assistant practitioners of community health. According to the Community Health Professions Act B.E. 2556.

Methods: Mixed Methods Research consists of qualitative research and quantitative research based on the concepts of Kemmis and McTaggart (Planning, Action, Observation, and Reflection). It was a workshop with the target group of 50 village health volunteers in Kantharawichai, Maha Sarakham, Thailand and people receiving health care from village health volunteers who passed the village health volunteers' development course to work as assistant practitioners of community health under the Community Health Professions Act B.E. 2553. 625 samples, using questionnaires and group discussions, qualitative data analysis, content analysis, and quantitative data analysis based on percentages, averages, and standard deviations.

Results: The results showed that people received public health services from village health volunteers, the overall was very high. It averaged 2.71 (S.D. = 0.28), and when considering the individuals, all aspects showed that all aspects had a high level of public health services from village health volunteers, including services in the coronavirus situation 2019 with mean = 2.90 (S.D. = 0.19) in assessment, primary therapeutic, rehabilitation and referral. There is mean = 2.69 (S.D. = 0.37) in promoting community health and wellness. It has mean = 2.67 (S.D. = 0.36) and environmental health mean = 2.60 (S.D. = 0.41), respectively. Success factors resulting in village health volunteers were "3CM-KAP" Model consists of knowledge and capabilities that require continuous development or rehabilitation.

Conclusions: Participation of communities and network parties in the performance, reliability, empathy, continuous care that contributes to the trust and confidence of the community in the performance of the "village health volunteer".

Keywords: Assistant, Community health professional, Development, Potential, The community public health act 2013, Village health volunteer

Situational analysis: the Lao health policy decision-making context

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Abstract

Introduction: Increasing interest in best available research evidence to inform policy globally. Laos, the health policy decision process mainly begins with consultation initiated by external experts with little use of health evidence. It has not investigated yet on the need, demand, supply of HTA in Laos across the diverse stakeholders.

Objectives: Aims to generate evidence as a reference for initiation development and implementation of evidence-informed health policy developments and decision- making.

Methods: A mixed methods was applied with self-administered questionnaires and semi-structured interviews were conducted with different stakeholder groups. Descriptive analysis was done to analyse quantitative data, and manually analysis for qualitative data.

Results: The health policy decision process in Laos has remaining based on consultation meetings, influenced by external experts and or companies, and idea-experience base without widespread evidence use. There remains a lack of human resource and infrastructure for health evidence to inform policy. 2/3 respondents strongly agreed that HTA helps in efficient allocation of health resources and improving quality of healthcare. Half of them perceived that HTA can impact to government budget and transparency, consistent with qualitative data. Conducting HTA on policy types is urgently needed for decision making in Laos. All policy makers are on the demand side for health evidence and HTA output. Few organizations/institutes can supply health evidence and HTA output, but it needs more training and collaboration with multi-discipline to conduct and produce HTA and other health evidence to inform policy in Laos.

Conclusion: improvement of health policy decision process is urgently needed in Laos. HTA and other research evidence are very important to be used in the policy decision process in Laos. Initiative establishment of the UHEP is strongly recommended to supply the HTA output and other research evidence to policy makers for efficient government budgetary allocations in Laos.

Keyword: Decision, Demand, Health, HTA, Lao PDR, Making, Need, Supply

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Burden of invasive pneumococcal disease among children in Vietnam: clinical characteristics and serotype distribution

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Abstract

Introduction: Invasive pneumococcal disease (IPD) is a significant health concern for children, especially in regions without widespread pneumococcal conjugate vaccine (PCV) coverage. *Streptococcus pneumoniae* is a major cause of pneumonia and bacterial meningitis in Vietnamese children, yet PCVs are not included in the national immunization program, relying on private purchases.

Objectives: This research examines the clinical characteristics, antimicrobial susceptibility, and serotype distribution of IPD in children at a Vietnamese tertiary hospital from 2019 to 2022, aiming to inform public health policies regarding PCV adoption and improve clinical outcomes through better antimicrobial management.

Methods: This retrospective cohort study included children diagnosed with IPD. Data collection encompassed patient demographics, clinical presentations, hospital stay duration, and outcomes. Antimicrobial susceptibility testing was performed on *S. pneumoniae* isolates, with statistical analyses identifying patterns and outcomes associated with different serotypes.

Results: The study analyzed 274 pediatric cases of IPD, revealing a high incidence (84.7%) in children under five years old, with meningitis as the predominant clinical manifestation (59.9%). The mortality rate was 8.8%. The most prevalent serogroups were 6A/B, 23F, 19A, 19F, and 14, with PCV-13 coverage reaching 82.5% among the studied population. Resistance to Erythromycin and Clindamycin was nearly universal, with significantly reduced susceptibility to key beta-lactam antibiotics such as Penicillin (94.7%), Ceftriaxone (74.5%), and Cefotaxime (75.3%).

Conclusion: This study highlights the high burden of IPD in children in Vietnam, with substantial mortality and significant antimicrobial resistance. The findings underscore the necessity of incorporating PCV into national immunization programs and stress the importance of enhanced antimicrobial stewardship to improve clinical outcomes.

Keywords: Antimicrobial resistance, Children, IPD, Pneumococcal serotypes, Vietnam

Antenatal screening of high-risk pregnancy in provincial hospitals in Laos

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Abstract

Introduction: Maternal mortality in Laos is 126 per 100,000 live births, the highest among Southeast Asian countries. Early detection of high-risk pregnancies is crucial for reducing maternal mortality and morbidity rates. There is limited information about the implementation of high-risk pregnancy screening in Laos.

Objective: This research aims to determine the proportion and factors associated with high-risk pregnancy in Laos.

Methods: This cross-sectional study was conducted in four provinces of Laos: Oudomxay, Luangprabang, Champasack, and Sekong. Purposive sampling with proportional-to-size technique was used for data collection, which included primary data from interview questionnaires and physical examinations. Ethical approval was obtained from the UHS ethical committee. Data were analyzed using descriptive and inferential statistics, including multiple logistic regression analysis with a significance level of 5% (Alpha = 0.05).

Results: A total sample of 817 pregnant women attending ANC at provincial hospitals was obtained. The proportion of factors associated with different high-risk pregnancies, including postpartum hemorrhage, high-risk factors for preeclampsia, moderate risk of preeclampsia, preeclampsia, gestational diabetes mellitus, maternal risk factors for preterm labor, obstetrical risk factors for preterm labor, and uterine risk factors for preterm labor, are 45.0%, 6.5%, 51.6%, 28.0%, 51.0%, 35.7%, and 2.8%, respectively.

Conclusions: This study reveals that factors associated with high-risk pregnancies such as postpartum hemorrhage, preeclampsia, gestational diabetes mellitus, and preterm delivery are still significant concerns. Policy makers should prioritize improving these activities.

Keywords: Antenatal screening, High-risk pregnancy, Laos, Proportion

Knowledge, acceptance and willingness to pay for vaccine against Human Papilloma Virus (HPV) among parents of secondary school male students in Nothern Vietnam

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Abstract

Introduction: Human papilloma virus (HPV) vaccine for adolescents was recommended as an effective prevention strategy of HPV-related cancers. In Vietnam, HPV vaccination has not been introduced to male adolescent. Therefore, asseing willingness to accept human papilloma virus vaccination and its associated factors among parents of boys will help to designing, implementing and monitoring effectiveness of HPV vaccinaton immunization program.

Objective: This study was carried out to identify knowledge of parents on HPV, their acceptance of having boys vaccinated against HPV and the willingness to pay (WTP) for HPV vaccination in Northern Vietnam.

Methods: 346 parents of secondary school male students were directly interviewed based on a structured questionnaire. Parent's acceptability of HPV vaccine for their sons was identified by one question with response on 3-point scale (agree, don't know, and disagree). Multivariate logistic regression model was used to determine contributing factors to participant's acceptance. Bidding game method was applied to elicit WTP values for HPV vaccination with initial bid of 268.2 USD.

Results: The results showed that 42.2% of parents had good knowledge of HPV and HPV vaccine. 46% of parents agreed to have their sons vaccinated against HPV. Average WTP value for full doses of HPV vaccine was 209.2 USD, ranging between 22.7 USD and 298.2 USD. Parents' knowledge of HPV and HPV vaccine was found as the factor affecting WTP value (p-value: 0.01).

Conclusion: The findings suggest a strategy be introduced for HPV vaccination to male secondary school students in Northern Vietnam.

Keywords: HPV vaccination, Knowledge, Male students, Secondary school, Vietnam, Willingness to pay

Frailty status and influencing factors among middle-aged and older adults of *Zhiguo* ethnic minority groups in Yunnan Province, China

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Abstract

Introduction: With the aging of China and changes in lifestyle, the issue of diseases in middle-aged and older individuals has received extensive attention from society, and the prevalence of frailty has been increasing; risk factors of frailty and suggestions for intervention are necessary.

Objectives: This study investigates frailty among middle-aged Zhiguo ethnic minority individuals in Yunnan Province, aiming to provide insights for enhancing their health.

Methods: A survey was conducted by utilizing a multi-stage random cluster sampling methodology in the settlements of Zhiguo ethnic minority groups in Yunnan Province, encompassing a total of 1,036 middle-aged and older individuals aged 45 and above.

Results: The prevalence of frailty among middle-aged and older individuals of Zhiguo ethnic minority groups was found to be 26.25%, with the Bulang ethnic group exhibiting the highest prevalence (35.56%) and the Jinuo ethnic group showing the lowest (18.49%). Multivariable logistic regression analysis revealed that advanced age, presence of multiple chronic conditions, sleep disorders, and low social support were significant factors influencing frailty among middle-aged and older individuals from these ethnic groups. Importantly, sleep disorders emerged as a common risk factor for frailty in this population (P < 0.05). Middle-aged and older adults from the Jinuo and Bulang ethnic groups who suffered from multiple chronic conditions had a significantly higher likelihood of experiencing frailty compared to those without chronic conditions, with odds ratios of 3.387 and 3.951 , respectively. Additionally, the likelihood of frailty among older individuals from the Bulang ethnic group was notably higher than that observed in middle-aged individuals, with an odds ratio of 3.415. Furthermore, elderly Bulang individuals who reported higher social support were significantly less likely to experience frailty compared to those reporting low social support, with an odds ratio of 0.185.

Conclusion: The frailty status of middle-aged and older individuals among Zhiguo ethnic minority groups in Yunnan Province should not be overlooked, as it is primarily influenced by various factors such as sleep quality, social support, and chronic conditions. Going forward, more focus should be placed on addressing frailty in these groups, with the establishment of frailty screening and treatment services alongside essential public health services.

Keywords: Frailty, Middle-aged and older adults, Zhiguo ethnic minority groups

Care and support needs for cognitive decline among older people in Lao People's Democratic Republic: cross-sectional study

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Abstract

Introduction: Population ageing is a global demographic trend that is occurring at an accelerating pace. Many low- and middle-income countries face the challenge of building health systems that meet the emerging needs of older people while still dealing with a high burden of disease in the younger population with limited resources for health.

Objectives: This study aimed to identify the prevalence of cognitive impairment and the related risk factors by reassessing the scoring of the Revised Hasegawa Dementia Scale among older adults in the Lao People's Democratic Republic.

Methods: A community-based cross-sectional investigation was conducted in rural and urban settings in six districts of three provinces in the country from January to July 2020. In total, 2206 individuals aged 60–98 years (1110 men and 1096 women) were interviewed in person using a pretested Lao version of the Revised Hasegawa Dementia Scale and the WHO STEPwise approach to noncommunicable disease (NCD) risk factor surveillance (the STEPS survey tool). The adjusted odds ratios (AORs) and 95% confidence intervals (95% CIs) were estimated using a logistic model.

Results: The study found that 49.3% (1088/2206) of respondents (39.7% [441/1110] of men and 59.0% [647/1096] of women) had scores associated with some level of cognitive impairment. In addition to age, the following factors were significantly associated with cognitive impairment: having no formal education (AOR=9.5; 95% CI: 5.4 to 16.8, relative to those with a university education), living in the northern region of the country (AOR=1.4; 95% CI: 1.1 to 1.9, relative to living in the central region), living in a rural area (AOR=1.5; 95% CI: 1.2 to 1.8), needing assistance with self-care (AOR=1.8; 95% CI: 1.2 to 2.7) and being underweight (AOR=1.5; 95% CI: 1.1 to 2.2).

Conclusions. Using the Lao version of the Revised Hasegawa Dementia Scale, this study found that more than half of adults aged ≥60 years had cognitive impairment, and this impairment was associated with several risk factors. The study results can be used to help inform health policy in the Lao PDR regarding the urgent need for a routine data collection system and for providing an environment that addresses and reduces the identified risk factors for cognitive decline to mitigate their impact.

Keywords: Dementia, Health system strengthening , Lao People's Democratic Republic, Low- and middle-income countries, Population ageing

Effectiveness and cost-effectiveness of rotavirus vaccination: a comparative modelling study

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Abstract

Introduction: Rotavirus infection, the leading cause of severe diarrhoea and diarrhoeal death in infants, can be prevented by vaccination.

Objectives: We aimed to provide more accurate evidence on economic evaluation of rotavirus vaccination program in infants in Lao PDR.

Methods: Three rotavirus infection and vaccination models—LIST model, UNIVAC model and a dynamic transmission model (Emory)—were parameterized with local data in Lao PDR. These models capture the natural history of rotavirus infections and related outcomes in children under 5 years old. We simulated routine vaccination of children aged 6 weeks at 90% coverage for 10 years, from 2022 to 2031. The effectiveness and cost-effectiveness measured by incremental cost-effective ratio (ICER) per Disability Adjusted Life Years (DALYs) averted were examined.

Results: All models predicted that rotavirus vaccination could reduce severe cases and deaths and are highly cost-effective in comparison to no vaccination, with ICER <50% GDP per capita per DALYs averted. The dynamic transmission (Emory) model predicted the highest reduction in the cumulative risk of severe cases (65% versus 39% versus 16% for Emory, UNIVAC and LIST model, respectively) and deaths (65% versus 34% versus 31%) attributed to rotavirus infections through routine vaccination. The UNIVAC and LIST models predicted that vaccination with Rotavac had the lowest ICER, while vaccination with Rotateq had highest ICER (82 USD versus 117 USD and 248 USD versus 451 USD, respectively). In scenarios with very low mortality rates, vaccination with Rotarix or Rotateq was not cost-effective according to UNIVAC and LIST models. However, the ICERs for immunization with Rotavac or Rotasiil remained below the willingness-to-pay threshold even in low mortality scenarios.

Conclusions: Rotavirus vaccination programs may be highly cost-effective compared to no vaccination, and should be implemented in Lao PDR to reduce rotavirus-related mortality in children under five.

Keywords: Economic impact, Lao PDR, Rotavirus vaccination

Factors contributing to hospitalization expenditures for patients with COPD in Yunnan Province, China: a path analysis

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Abstract

Introduction: Chronic obstructive pulmonary disease (COPD) is a heterogeneous lung condition characterized by chronic respiratory symptoms such as dyspnea, cough, and sputum. Due to its high prevalence, long duration, and progressive nature, COPD imposes a heavy economic burden on families and society.

Objectives: To understand the hospitalization expenditures and the composition of hospitalized patients with COPD in Yunnan Province from 2016 to 2022 and to identify the factors that influence them. The study aims to provide evidence-based information to health administration, hospitals, health insurance offices, and other related departments to help them formulate relevant policies.

Methods: This study analyzed data from 728,980 COPD patients in Yunnan Province between 2016 and 2022. This study described trends in hospitalization expenditures and their components over a 7-year period. Path analysis was used to investigate the factors that affect hospitalization expenditures.

Results: The average hospitalization expenditures for 2016-2022 were 7828 CNY. The average expenditure per hospitalization decreased from 9185 CNY to 7261 CNY, which is a decrease of 20.95%. The main components of hospitalization expenditures were diagnostic fees, medication fees, and comprehensive medical service fees. The proportion of medication fees is decreasing, while the proportion of diagnostic fees and comprehensive medical services fees are increasing. The results of the path analysis indicate that age, gender, ethnicity, hospital level, admission route, medical payment method, COPD with acute lower respiratory tract infection, non-acute exacerbation of COPD, rehabilitation treatment experience, and comorbidity have both direct and indirect effects on hospitalization expenditures through length of stay (LOS). Additionally, marital status indirectly affects hospitalization expenditures through LOS.

Conclusion: Shortening the average LOS is crucial for hospitals to improve efficiency and reduce unnecessary expenses for patients. To achieve this, it is necessary to actively implement clinical pathway management and establish a standardized diagnosis and treatment system.

Keywords: China, COPD, Hospitalization expenditures, Influencing factors, Path analysis

Estimation of anti-seizure medication need among people with patients in Lao PDR

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Abstract

Introduction: Epilepsy is a chronic condition that can be treated by cost-effective anti-seizure medication (ASM). In Lao PDR, the first generation of ASM is widely used, particularly phenobarbital, due to the type of epilepsy and the low cost of treatment. However, limited access to phenobarbital was documented, potentially due to the import quotas of phenobarbital allocated by the International Narcotics Control Board (INCB), which does not allow adequate coverage of populations.

Objectives: This study aimed to assess the number of people with epilepsy and to estimate the annual supply need for narcotic drugs in order to increase the quota of ASM and ensure the availability of essential narcotic drugs.

Methods: A retrospective observational study of the medical records of patients of all ages diagnosed with epilepsy or suspected epilepsy from 2018-2022 was carried out in 15 health facilities located in the four main provinces of Lao PDR. The usual daily dose of each ASM was used to estimate the annual amount of ASM and the quantity of ASM was expressed as the quantity of raw material for local production.

Result: A total of 1,430 patients were diagnosed with epilepsy, representing a prevalence of 14.0 per 1,000 population. The majority of PWEs were aged between 16 and 20 (11.4%) and under 5 years old (10.9%). Phenobarbital was prescribed in 72.9% of PWEs, carbamazepine in 20.7%, valproic acid in 15.4% and phenytoin in 1.7%. More than half (83.0%) of PWEs were on monotherapy and 17.0% on polytherapy. The annual quantity of ASM required for local production in Lao PDR was 37.1 kg for phenobarbital, 76.8 kg for carbamazepine, 17.7 kg for valproic acid and one kilo for phenytoin.

Conclusion: The comparison of these estimates with the existing importation processes and availability of ASMs in Laos sheds light on the gaps in meeting the medication needs of the epileptic population. It underscores the urgency of policy interventions and adjustments in drug importation processes to meet the medication needs of the epileptic population in Lao PDR.

Keywords: Anti-seizure medication, Epilepsy, Lao PDR, Treatment gap

Co-design of an integrated, person-centered model of care for people with hepatitis B and C in primary healthcare in Vietnam

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Abstract

Introduction: Vietnam lacks social health insurance-accredited services for hepatitis B and C screening, diagnosis, linkage to care, treatment, and recovery at primary healthcare. Patients seek specialized services for hepatitis B and C at higher levels of the health system.

Objectives: We aimed to ensure people with hepatitis B and C access quality, affordable, and person-centered services at district hospitals. To achieve this, we applied an innovative experience-based co-design approach to develop a model for hepatitis care in primary healthcare in Vietnam.

Methods: From January to October 2023, five steps of the design thinking process were adapted and deployed: empathize, define, ideate, prototype, and test. A series of participatory workshops with guided activities was held in Thai Binh to help stakeholders experience patient journeys and propose interventions. A literature review of different models of care in some countries was conducted to learn from other settings.

Results: During the workshops, 52 attendees from various sectors (from national to grassroots levels), including people with hepatitis B and C, participated. From 100 ideas collected, we agreed on four areas of prioritized interventions with 12 activities to develop a model of care. This model integrates screening for hepatitis B and C into available health services, provides decentralized and differentiated care, and ensures the hepatitis care services delivered at primary healthcare are accredited to be covered by health insurance. The engagement of people with lived experience of hepatitis and primary healthcare providers in all the process has been instrumental in identifying and overcoming barriers to effective service delivery, and formulating feasible interventions, thereby making the model practical and improving people's satisfaction with services.
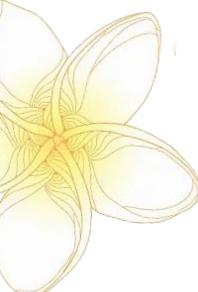
Conclusion: The pilot implementation of the model has shown co-design is an appropriate approach to ensure service accessibility for hepatitis B and C in primary care and enable health equity through person-centered care.

Keywords: Co-design, Person-centered, Primary health care, Vietnam, Viral hepatitis

Parallel session VI- Health Literacy and Health Promotion (Group 1)- Namkhong Hall 2

- **Chair:** Asst.Prof. Soisuda Kesornthong, Thammasath University
- **Co-chair:** Dr. Visanou Hansana, UHS
- Assoc.Prof. Dr. Vorapoj Promsatayaprot, MHSU
- Dr. Nguyen Hoang Thuy Linh, HUMP

15:20-17:20	Code	Title of Abstracts	Authors
15:20-15:28	CODE160	Prevalence of manufactured cigarettes smoking and its determinants among Cambodian men: National Population Survey 2022	Sok, Yuthathikar
15:28-15:36	CODE059	Knowledge and behavior of patients with poor type 2 diabetes control in central hospital, Lao PDR	Phoutsathaphone Sibounheuang
15:36-15:44	CODE132	Factors related to alcohol consumption behaviors among undergraduate students of one university in the lower northern region of Thailand	Manirat Sueasang
15:44-15:52	CODE099	Menopause status among Lao woman in Vientiane Capital, Laos	Panima Chanthalangsy
15:52-16:00	CODE136	The comparisons of health promoting behavior among elderly in urban community, semi-urban community and rural community in lower northern Thailand	Piyaphat Sangrat
16:00-16:08	CODE171	Teacher knowledge of and Attitude Towards Teaching Comprehensive Sexual Education in lower secondary schools in Vientiane capital, Savannakhet province, Lao PDR	Thatsavone Phirom
16:08-16:16	CODE126	Health literacy and quality of life among elderly persons in rural areas of Northeast Thailand	Sirapat Khodseewong
16:16-16:24	CODE233	Knowledge, attitudes and practices toward hepatitis B vaccination status among Lao Dental Students: cross sectional study	Viengsavanh Inthakoun
16:24-16:32	CODE208	Length of hospital stay among cardiovascular patients with valve repair combined valve replacement, northeast Thailand	Ornanong Anpanya
16:32-16:40		**Closing Remark**	

CODE:160

Prevalence of manufactured cigarettes smoking and its determinants among Cambodian men: national population survey 2022

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Abstract

Introduction: Globally, the most common form of tobacco use is manufactured cigarettes, which cause a high rate of mortality and morbidity. In Cambodia, based on the Cambodia Demographic and Health Survey (CDHS) 2022, the prevalence of smoking has declined recently from 31.8% (2014) to 20.9% (2021); however, it remains a serious public health issue particularly among men.

Objectives: This study aims to assess the socio-demographic determinants of manufactured cigarette smoking among men in Cambodia.

Methods: This study utilized data from the CDHS 2022. A two-stage stratified cluster sampling design was used to select the samples. We analyzed 8418 weighted samples of men aged 15-49 years old. Multivariate logistic regression analysis was used to identify factors independently associated with manufactured cigarette smoking, measuring as adjusted OR and 95% CI.

Results: The mean age of respondent was 30.4 years (SD = 9.5) with the average of 7.0 year-education (SD = 4.1). The overall prevalence of manufactured cigarette smoking was 17.7% (95% CI: 16.4-19.1). The mean number of manufactured cigarettes smoked daily was 10.1 (SD = 9.7). Men aged 40-49 years had higher odds of smoking manufactured cigarettes compared to younger individuals (AOR = 6.8; 95% CI: 4.2-11.0). Those who were in the lowest household wealth quintile had higher odds of smoking compared to those in the highest wealth quintile (AOR = 3.3; 95% CI: 2.1-5.0). Individuals with no education had higher odds of smoking than those with higher education (AOR = 2.0; 95% CI: 1.3-3.1). On the other hand, no significant difference was found between urban and rural residences (AOR = 1.1; 95% CI: 0.8-1.4).

Conclusion: These findings emphasize the need for targeted interventions to further reduce the prevalence of smoking among men in Cambodia. Particularly, the tobacco programs should target older individuals, those from lower socioeconomic backgrounds, and those with no education.

Keywords: Cambodia, CDHS, Determinants, Manufactured cigarettes, National population survey

Knowledge and behavior of patients with poor type 2 diabetes control in central hospital, Lao PDR

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Abstract

Introduction: Poor diabetes control leads to several complications such as kidney diseases, cardiovascular diseases, neuropathy and more. It is necessary to assess diabetic patients' knowledge and behavior in order to support them on self-management for making optimal outcomes and prevent the complications.

Objective: To study knowledge and behavior of patients with poor type 2 diabetes control in central hospital, Lao PDR.

Methods: This study is a cross-sectional study. There are 315 poor controlled type 2 diabetic patients participated in this study. The knowledge and behavior were evaluated by using the developed questionnaire by researchers. Descriptive statistic was used to describe frequency, percentage, maximum, minimum, mean and standard deviation. Chi-square test was used to measure the association between the patients' knowledge and behavior.

Results: There are 63.49 % of participants who is 32–59-year-old. The participants had poor knowledge on diabetic disease (60.3%), diet control (54.3%) and exercise (85.4%). The participants had good knowledge on medication used (52.7%). The behavior on self-management was poor (59%) while the behavior on medication used and the behavior on visiting the doctor was good (77.5% and 92.1% respectively). There is no association between the participants' characteristics and the participants' behavior. There is an association between the knowledge on medication used and behavior of the participants (p-value = 0.012).

Conclusion: Most participants with poor type 2 diabetes control remained poor in knowledge and behavior. Thus, the emphasis on patient education and individual management is crucial to implement.

Keywords: Behavior, Knowledge, Poor controlled, Type 2 diabetes

Factors related to alcohol consumption behaviors among undergraduate students of one university in the lower northern region of Thailand

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Abstract

Objectives: This analytical cross-sectional study aimed to study factors related to alcohol consumption behaviors among undergraduate students of one university in the lower northern region of Thailand.

Methods: The study was conducted with a sample of 266 people using stratified random sampling. Data were collected by using an online questionnaire. Data were analyzed by using frequency, percentage, mean, standard deviation, and chi-square.

Results: The research results found that the majority of the undergraduate students had alcohol consumption behavior at a risky level, 50.4 percent. Factors related to undergraduate students' alcohol consumption behavior with statistically significant at the .05 level were gender ($p<0.001$), perceived effects of drinking alcoholic beverages ($p =0.044$), attitudes regarding drinking alcoholic beverages ($p = 0.013$), ability to access alcoholic beverages ($p<0.001$), advertising media about alcoholic beverages ($p<0.001$), social support ($p<0.001$), drinking alcohol among family members ($p<0.001$), and family relationships ($p<0.001$)

Keywords; Alcohol consumption behavior, Thailand, Undergraduate students

Menopause status among Lao woman in Vientiane Capital, Laos

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Abstract

Introduction: Menopause is a condition in which the body stops menstruation permanently because the ovaries stop operating. Typically, it is a year without menstruation, which corresponds to an average age of 45-55years old. The termination of menstruation is caused by the ovaries ending the synthesis of the hormones estrogen and progesterone.

Objectives: To describe the knowledge, self-awareness of woman with menopause in Lao women.

Methods: A cross-sectional study was conducted to interview 217 women experiencing menopause in Vientiane, Laos, using questionnaires and one-on-one interviews. Data were gathered for a total of eight months, from January 2023 to August 2023. Data will be analyzed using descriptive statistics.

Results: The survey found that the means age of menopause for the group is 57.66 years old. While Lao women 72.8% are aware of menopause. They experienced physical symptoms like hot flashes, night sweats, reduced libido, and sleeplessness, as well as psychological symptoms like impatience and agitation. 45.2% of women in this group never went to seek medical advice and health check. When concerned and worried, they contacted friends and less to doctor visits.

Conclusion: The health education regarding the menopause health should be disseminated. The health check up service for those women should be implemented.

Keywords: Knowledge, Laos, Menopause, Self- awareness

The comparisons of health promoting behavior among elderly in urban community, semi-urban community and rural community in lower northern Thailand

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Abstract

Objectives: This research was a cross sectional study aims to compare health promoting behavior among elderly between in urban community, semi-urban community and rural community in lower northern Thailand.

Methods: The samples were 873 elderly recruited by multistage random sampling. A questionnaire was administered by face to face interviews and data analyzed by frequency, percentage, mean, standard deviation, Z-score and One-way Anova.

Results: The results revealed that female (56.6%), average age 69.3 years old, married (68.2%), primary school (80.8%), average income 2,477.6 Baht per month, disease identification (59.1%), living alone (7.8%). And sample groups had health promoting behavior in moderate level (44.3%), health promoting behavior in lower level (39.1%) and health promoting behavior in high level (16.6%). With regard to Z-score analysis; elderly in semi-urban community were highest health promoting behavior score (Z=0.1890), elderly in urban community were average score (Z=0.0213) and elderly in rural community were lowest score (Z=-0.2104) and residential area was different health promoting behavior among elderly statistical significance (p<0.05). Post hoc analysis; elderly in rural community was health promoting behavior score less than semi-urban and urban community statistical significance (p<0.05).

Keywords: Elderly, Health promoting behavior, Rural community, Semi-urban community, Urban community

Readiness of primary care services towards addressing the health needs of Filipinos: a cross-sectional assessment

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Abstract

Introduction: Since sexual education guidelines were implemented, the Comprehensive Sexual Education Curriculum found that the quality of both pre-service and post-service teachers' training was inadequate. In order to identify existing successes and limitations and come up with recommendations for national policies and CSE service strategies, it was important to examine its implementation, especially teacher's knowledge, which is responsible for transferring CSE messages to students.

Objective: To determine factors associated with teacher's knowledge of CSE in lower secondary schools in Vientiane capital, Savannakhet province in Lao PDR

Methods: A study will comprise 423 secondary school teachers, both female and male, will be conducted in Vientiane capital and Savannakhet province. Data will be collected through stratify random sampling technique. We used online survey using Google form through Whatsapp, and the questionnaire was made up of eight parts: Social demographic, Teaching qualification, Attitude towards CSE, Teaching CSE, Training and Developing of CSE, Benefit of CSE education in school, Gender norm, sexuality and sexual violence, and Availability of CSE and supports. The reporting the AOR (95%CI) value based on the p-value. < 0.05 is considered a statistically significant relationship.

Result: More than half of the respondents (60%) were female. More than two third (73.2%) had a high knowledge of CSE. Factors associated with teacher knowledge of CSE were being female (AOR=2.1, 95% CI=1.3–3.4, P=0.002), attending religious services once a year/never (AOR=2.2, 95% CI=1.2–4.2, P=0.016), and attending religious services once a month (AOR=3.9, 95% CI=2.3–6.6, P<0.001), having a higher teaching qualification than a higher diploma was associated with lower teacher knowledge (AOR: 0.6; 95%CI: 0.4-0.9; P=0.035). The importance of CSE in shaping school adolescent's perspective was also associated with higher teacher knowledge (AOR: 2.9; 95%CI: 1.6-5.5; P=0.001), as well as having a textbook for their sexuality education classes (AOR: 1.7; 95%CI: 1.1-2.6; P=0.030).

Conclusion: Teachers who have great CSE knowledge have more awareness of how to deliver CSE than those with low CSE knowledge.

Keywords: Attitudes, Comprehensive sexuality education, Knowledge, Lao PDR

Health literacy and quality of life among elderly persons in rural areas of Northeast Thailand

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Abstract

Introduction: Thailand (17%) is one of three countries within ASEAN already qualified as having an aged population. Health literacy (HL) and Quality of life (QOL) are an important consideration among the elderly. Health literacy and quality of life among elderly persons in rural areas of Thailand have been studied in several papers. One study found that most participants had a low level of health literacy in medication and health product usage, and living in a rural area as a risk factor for low health literacy. Thus, investigation into the factors affecting the quality of life (QOL) of the elderly as health literacy has become important.

Objective: This study aimed to assess the association between HL, and QOL in a sample of elderly people in rural areas of northeast Thailand.

Methods: Cross-sectional data were collected from 147 persons aged 60 years and above from Khwao Rai Subdistrict of Mahasarakham province of Thailand. Questionnaires were used for data collection. Descriptive statistics and chi-square statistics analysis were applied to describe the results of this study.

Results: Overall, 89.4% of participants had a moderate HL. Including Access (51.1%, 24 people), Decision skills (51.1%, 24 people), and Media literacy (80%, 38 people). And 63.8% of participants had a moderate QOL. Focused on the correlation between health literacy of the elderly and quality of life, one skill presented statistical significance as follows; self-management skills (ORadj.= 2.86; 95% CI: 1.55 to 5.28; p-value = 0.001).

Conclusion: As a consequence of the results, self-management skills should be promoted to encourage the elderly to care for themselves and make appropriate decisions about health care that affect quality of life.

Keywords: Decision skills, Media literacy, Self-management skills

CODE:233

Knowledge, attitudes and practices toward hepatitis B vaccination status among Lao Dental Students: cross sectional study

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Abstract

Introduction: hepatitis B virus (HBV) infection is a global health problem is a worldwide health concern. The health worker are risk of exposure especially among dentist, to prevent and control of HBV infection is need to have Good knowledge, attitude and practice (KAP).This study had been assessed the KAP of hepatitis B virus infection prevention and investigate the vaccination status among Lao dental student at the University of Health Sciences.

Objectives: To investigate Lao dental university students' knowledge, attitudes and practices towards hepatitis B virus vaccination status

Methods: A cross-sectional study with quantitative method using a questionnaires comprising 42 questions was designed to assess the knowledge, attitudes and practices towards hepatitis B virus infection among dental students at the University of Health Sciences, Faculty of Dentistry and serum was test for HBV surface antigen by rapid test and anti HB surface antigen were quantified by ELISA. Statistical package for Social Sciences Program SPSS and the Chi- square test were used in describe compare variables and P value < 0.05 was considered significant.

Result: Among of 223 participants were retained for the study out of 304 in dental students, the mean age was 23.6(SD 3.5)year and 60.1% were female. 102(45.7%)of dental students had good level of knowledge of HBV infection, the women were 1.17time (95%CI:1.03-1.33, P= .01). more likely to had a good knowledge than man. Participants with 4th year students level were more (95%CI: 0.04(0.00-0.31) P< .001)likely have good level knowledge than another students level. with 96.4% were recognized that dentist and health care worker are at risk of contracting, with 71.8% agree that HBV is the most wide spread. About 63.2%of the students agree that all health care worker should receive the B virus vaccination before working in the dental clinic. Only1.3% has received at least one dose of HBV vaccine, in contrast 88.3% who never had any dose of HBV vaccine. The proportion of HBsAg was 1.3% which indicated that chronic HBV infection and the unsophisticated of HBV infection were 87%.

Conclusion: The dental students are high risk of HBV infection because of very low vaccine uptake. present study reveals an overall shown that they have low level of knowledge, fair attitude, and practice, therefore we recommend that all dental students should be receive 3 doses of vaccine before their entry into clinical practice area.

Keywords: Attitudes, Hepatitis B vaccine, Knowledge, Lao dental student, Practices

Length of hospital stay among cardiovascular patients with valve repair combined valve replacement, Northeast Thailand

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Abstract

Introduction: Hospital administration, including budgeting, utilizing resources, and using advanced technology for patient care, affects patients' longer hospital stays, higher treatment costs, and decreased quality of life after surgery. Thus, the length of hospital stays and factors related to the length of hospital stay of heart valve surgery patients were important, and useful to improve the patient care process and increase the efficiency of medical.

Objectives: This study aimed to investigate the length of hospital stay and factors associated with length of hospital stay among cardiovascular patients with valve repair combined valve replacement.

Methods: This study is a retrospective study design. The samples were 272 patients undergoing open heart valve surgery: valve repair combined valve replacement who were treated in the Queen Sirikit Heart Center of the Northeast from 1 October 2017 to 30 September 2023. Data were analyzed by percent, mean, and standard deviation. Additionally, multiple logistic regression was used to examine risk factors related to the length of hospital stay.

Results: The study showed that the length of hospital stays of patients undergoing open heart valve surgery was 14.07 ± 8 days. The risk factors related to length of hospital stays were found a history of smoking (OR adj=1.82; 95% CI=1.01 – 3.27), albumin level in blood (< 3.5 g/dl) (OR adj=2.28; 95% CI=1.16 – 4.48), functional class 4 (OR adj = 21.32; 95% CI=4.37 – 104.06), Postoperative infection (OR adj= 3.25; 95% CI=1.23 – 8.59) and arrhythmias (OR adj=2.33; 95% CI=1.01 – 5.38).

Conclusion: This result highlighted that these factors are important for post-surgery patients to stay in the hospital longer than standard. Therefore, hospitals should promote health information, including quitting smoking and consuming behavior, to patients to prepare before surgery. Hospitals must also design guidelines for patient care to prevent further complications.

Keywords: Cardiovascular, Length of hospital stay, Prolong length of stay, Valve surgery

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Parallel session VII-Maternal and Child Health, Sexual Reproductive Health (SDG 3) (Group 2)- Namkhan Hall

- **Chair:** Assoc. Prof. Dr. Chanthanom Mainthip, Vice President Lao Red Cross, Lao PDR
- **Co-chair:** Dr. Sabrina Locatelli, IRD representative, Lao PDR
- Assoc. Prof. Dr. Taweewun Srisookkum, Phayao University
- Mrs.Kelley Khamphouxay, CRS

15:20-17:20	Code	Title of Abstracts	Authors
15:20-15:28	CODE183	Self-care towards menstruation pain among schoolgirls in Vientiane Capital, Laos	Souphaphone Houamboun
15:28-15:36	CODE056	Study on the influencing factors of spontaneous preterm birth through ultrasonography of cervix-related parameters	YinGao
15:36-15:44	CODE260	A clinical trail of silver diamine fluoride application on children's primary teeth to prevent dental caries progression among preschool children, Vientiane: a pilot study	Amphayvan Homsavath
15:44-15:52	CODE261	Intimate partner violence during pregnancy and associated factors in Hue city, Vietnam	Tran Dai Tri Han
15:52-16:00	CODE314	Pilot project: screening of anemia in children and adolescent girls by non invasive device in Lao PDR	Latdaphone Paphatsinh
16:00-16:08	CODE121	Perceived stress of women during the whole pregnancy and lymphocytes of newborns: a birth cohort study	Xiao Xia
16:08-16:16	CODE317	Maternal death in Laos: trends analysis from 2020-2023	Aiy Phepathoum
16:16-16:24	CODE231	Risk prediction for postpartum depression based on random forest algorithm with a multi-ethnic population in Yunnan	Xiu XIA
16:24-16:32	CODE318	Factors associated with the effectiveness of breastfeeding protection, promotion and prevalence of breastfeeding	Maikho Vongxay
16:32-16:40		**Closing Remark**	

Self care towards menstruation pain a mong schoolgirls in Vientiane Capital, Laos

Souphaphone Houamboun[1], vilavanh Meuangpark[1], Palinya Kounlavong[1], Douangsili Bouathong[1], Dokkhoun Manpanya[1], Souphaphone Phimmavong[1] Alongkone Phengsavanh[1]

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Abstract

Introduction: The menstruation was physiological process in women. Knowledge and selfcare during the menstruation were important for reproductive health and wellness especially in Low and middle income countries. Poor self care will be harmful in for female reproductive organ.

Objectives: To describe the knowledge and self acre of menstrual pain among schoolgirls in Vientiane capital, Laos.

Methods: This is cross sectional descriptive study in the schools girls from grade 8 to 12 in Vientiane capital. The interviewed was conducted in February 2024. The independent variable were sociodemographic characteristics and knowledge about menstruation. The dependent variable was self care towards menstrual pain. Descriptive statistics was used to analyzed data by STATA software.

Results: A total schoolgirls of 264. Means age was 15.08 year old. High knowledge 136 (51.5) , Middle level knowledge 87 (33%). Poor knowledge 41 (15.5%). the proportion of Menstrual pain in this group was 256 (97%). Severe pain 74 (28.0%) , Moderate pain 115 (43.6%). Mild pain 67 (25.4%), No pain 8 (3%). Self care during menstrual pain were using of pain killer 68(25.0%), Bed rest 204 (77.3%) , visiting doctors 26(9.8%) , school absence 44 (16.7%) , placing abdomen by warm water bag 170 (64.4%) , drinking warm water 158 (59.8%) , Do nothing 116(43.9%).

Conclusion: The health education package should be developed for provision of health education of adolescents to make them strengthening the knowledge and self care practice.

Keywords: Laos, Menstrual pain, School girls, Selfcare

Study on the influencing factors of spontaneous preterm birth through ultrasonography of cervix-related parameters

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Abstract

Introduction: Preterm birth rates in China have been steadily growing in recent years, and preterm birth has emerged as the leading cause of infant mortality. Effective screening and prevention treatments for preterm birth are lacking for obstetricians, the pathophysiology of preterm birth is still unclear. Thus, it is critical to establish a mechanism for rapidly predicting preterm birth or to identify independent influencing factors.

Objectives: To decrease the incidence of Spontaneous preterm birth (SPB), risk factors were studied and a Nomogram model was constructed to predict the likelihood of an individual having SPB.

Methods: The Sliding Windows Sequential Forward Selection Method (SWSFS), Boruta's Algorithm, and Univariate Analysis were utilized to screen pregnant women for risk factors for SPB. Whether preterm birth occurred or not was included as the dependent variable in a binary logistic regression model to construct an optimal model. The R software was utilized to build a Nomogram model for the individual prediction of preterm birth variables in pregnant women based on the screening risk factors for preterm birth. This study was supported by the project of Yunnan Provincial Department of Education, Project No. 2024J0236.

Results: With maternal preterm birth as the dependent variable, the Random Forest Algorithm determined the top 15 factors based on the importance ranking of the 22 related variables. Cervical strain value yellow (CSVy), Cervical strain value blue (CSVb), Cervical strain rate (CSR), Anterior uterocervical angel quiescent (aUCAq), Posterior uterocervical angel quiescent (pUCAq), Cervical length valsalva (CLv), and Cervical length quiescent (CLq) were the common variables examined using the SWSFS Method, Boruta's Algorithm, and Univariate Analysis. Based on risk factors, a Nomogram model was constructed to predict the likelihood of SPB, its calibration curves, consistency tests, and decision curves demonstrate its capable prediction accuracy and clinical benefits.

Conclusion: CSVy, CSVb, CSR, aUCAq, pUCAq, CLv, and CLq were identified as risk factors for SPB during pregnancy. And the Nomogram model based on the combination of these variables proved predictive.

Keywords: Nomogram model, Preterm birth, Risk factors, Ultrasonography

A clinical trail of silver diamine fluoride application on children's primary teeth to prevent dental caries progression among preschool children, Vientiane: a pilot study

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Abstract

Introduction: Recent studies indicate a doubling or tripling of the prevalence and severity of Early Child Dental Caries (ECC) in Vientiane in the last ten years.

Objectives: This study is to deliver Silver diamine fluoride (SDF) to prevent dental caries progression among children who attending Pre-school in Vientiane Capital.

Methods: This is a community demonstration study. Parents were asked via a questionnaire sent with the consent form about sociodemographic characteristics. Children was having an oral examination for dental caries using the Caries Assessment Spectrum and Treatment (CAST) index. Only the children with caries lesions in enamel and dentine was receive SDF. An evaluation of SDF was occurred after three months fellow-up between intervention and control group. A 24-hr phone call was be implemented to address any concerns or clinical events after SDF application and before the follow-up time. Chi-square or student T-test was used to compare caries status against sociodemographic characteristics, parents' acceptance, and caries status.

Results: A total of 400 children, mean age was 4.3 [0.8] year. the prevalence of dental caries was 98% and the mean dmft was 6.93 in the intervention group. 79% and mean dmft was 6.12 in the control group at the baseline. Child was reported pain 126 (31.5%) and problem eating 117 (29.3%). After 3 months' follow-up by applied SDF data shown that prevalence dental caries in enamel and dentine was (44% and 32%) intervention group and mean dmft was decrease from 6.93 to 5.30, while in dental caries in enamel and dentine was control group was (74% and 47%) with mean dmft 7.23. This number show an increase the progress of dental caries in control group compare to intervention group, there was statistically significant p=0.001.

Conclusion: The study provide information of SDF treatment can be prevent or control caries progress in children due to ECC high prevalence, the effectives of SDF treatment to prevent dental caries, long term follow up is needed and necessary for evidence of effectiveness with low cost.

Keywords: Caries arrested, CAST, ECC, SDF

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Intimate partner violence during pregnancy and associated factors in Hue City, Vietnam

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Abstracts

Introduction: Intimate partner violence (IPV) is a growing public health issue among pregnant women, particularly in low- and middle-income countries. Pregnant women who experience IPV face negative health consequences, and their newborns are also adversely affected in terms of health and development during childhood.

Objectives: This study aimed to determine the prevalence of IPV during pregnancy and its associated factors in Hue City, Vietnam.

Methods: A cross-sectional study, as the first phase of a birth cohort follow-up study, was conducted on three hundred pregnant women with permanent residency in Hue City. IPV during pregnancy was measured using the Conflict Tactics Scale-2 (CTS-2).

Results: The findings indicated that 17.3% of pregnant women experienced IPV, with different types of violence being psychological aggression (14.0%), sexual coercion (7.0%), and physical violence (2.3%). Factors associated with IPV during pregnancy included adverse childhood experiences, perceived support from friends, and relationships with neighbors.

Conclusion: Supporting pregnant women who face IPV is important. More research is required to understand how IPV during pregnancy impacts both women's health and their children's health in their early years.

Keywords: Adverse childhood experiences (ACEs), Intimate partner violence (IPV), Pregnant women

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Screening of anemia in children and adolescent girls by non- invasive device in Lao PDR

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Abstract

Introduction: Anemia, characterized by a deficiency in red blood cells or hemoglobin, significantly hinders the developmental trajectory of children. This deficiency transcends physical development, also impacting cognitive and social domains. While all age groups are susceptible, young children experience a heightened vulnerability to the adverse effects of anemia.

Objectives: This study aimed to detects the prevalence of anemia by non-invasive Pulse Co-oximetry method (spHb).

Methods: A descriptive cross-sectional study in children aged 3 to 6 years and adolescent girls aged 13 to 15 years in 2 provinces (Khammouane and Louang Prabang province). The data collection included demographic data, clinical sign of anemia, nutritional assessment and Measurement Hb by Non-invasive method. And exclusion who failed detection the hemoglobin measurement more than 3 time in 3 minutes and low Perfusion index less than 2.

Results: A total of 407 students were included. The children mean age was 4.6 ±1.085786 years and adolescent girls mean age was 13.9±0.7600541 years. The prevalence of anemia was
84(41.8%) in children (girl and boy was 19,9% and 21.9% respectively) and was 61(29.6%) in adolescent girls. This study found the total hemoglobin mean by non-invasive Pulse Co- oximetry method (spHb) were 13.3(SD±1.14029, min-max 9-16.3) and Perfusion index (Pi) mean 4.9 (SD±2.521813).

Conclusion: Non-invasive methods for anemia detection is possible optional of primary screening in community base and. The duration of anemia further exacerbates the negative consequences for a child's well-being. Early detection of anemia allows for timely intervention, including iron supplementation, deworming, and treatment for underlying diseases.

Keywords: Adolescent girls, Children, Screening anemia, non-invasive Pulse Co-oximetry method (spHb)

Perceived stress of women during the whole pregnancy and lymphocytes of newborns: a birth cohort study

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Abstract

Introduction: Women's stress during pregnancy is generally increased, which may have an impact on the development of offspring lymphocytes.

Objectives: This study aimed to understand the levels of women's perceived stress (PS) during whole pregnancy and to explore the association of perceived stress and neonatal lymphocytes.

Methods: A birth cohort was established in a general hospital of Kunming from the first trimester of pregnant woman and followed up to childbirth. PS scale and questionnaire were investigated the perceived stress and pregnancy data at first, second and third trimesters of pregnancy, and umbilical cord blood of newborn were collected for accounting T cells (CD3+, CD4+, CD8+), NK cells and B cells by flow cytometry. Multiple linear regression was analyzed the association of perceived stress scores and neonatal lymphocytes, respectively.

Results: A total of 592 women were included in the study, and 396 newborns were followed up. The average perceived stress scores of women in early, middle and late pregnancy were 15.38, 14.84 and 13.98, respectively. The average numbers of CD3+, CD4+, CD8+, NK, an B cells were 2366.74/μL, 1614.45/μL, 683.44/μL, 720.53/μL, 570.43/μL, respectively. Multiple linear regression analysis showed the high perceived stress during early pregnancy had a negative correlation with the number of CD8+ T cell in umbilical cord blood (β=-0.142, 95%CI: -0.129 to 0.014, P=0.015). The cumulative high perceived stress had a negative correlation with neonatal cord blood lymphocyte number, as follows: CD3+ T cell (β=-0.131, 95% CI: -0.143 to -0.004, P=0.038) and B cell (β= -0.157, 95%CI: -0.221 to -0.027, P=0.013).

Conclusions: Exposure to high perceived stress in early pregnancy may decrease the number of T cells in newborns and high perceived stress exposure during the whole pregnancy may not only bring lower numbers of neonatal T lymphocyte, but reduce the amount of neonatal B lymphocyte.

Keywords: Lymphocyte, Perceived stress, Pregnancy, Umbilical cord blood

Maternal death in Laos: Trends analysis from 2020-2023

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Abstract

Introduction: According to safe from WHO, Laos had the highest MMR among the region. Maternal surveillance response in Laos was established on 2013. From 2020 to 2023 Maternal death in Laos declined gradually.

Objectives: **To analyze national trends and cause of maternal death in Laos.**

Methods: We extracted 413 cases of maternal death from Maternal Death Surveillance and Response system and **analyzed trends in the maternal death from 2020-2023**

Results:

Year	01 Vientiane Capital	02 Phongsaly	03 Luangnamtha	04 Oudmdomxay	05 Bokeo	06 Luangprabang	07 Huaphamh	08 Xayabouli	09 Xiengkhouang	10 Vientiane Province	11 Bolihamxay	12 Khammouoane	13 Savannakhet	14 Slavanh	15 Sekong	16 Champasack	17 Attapeua	18 Xaysomboun	Total
2020	06	01	05	13	02	04	10	07	10	07	10	09	12	09	03	09	06	03	126
2021	14	07	02	07	06	04	08	02	07	04	05	07	09	05	01	10	08	01	107
2022	04	05	08	08	06	07	04	03	04	08	03	08	15	10	04	03	04	03	107
2023	07	02	02	06	02	06	08	05	05	07	03	06	03	04	00	05	01	01	73
Total	31	15	17	34	16	21	30	17	26	26	21	30	39	28	08	27	18	08	413

The maternal death declined in Laos by about 42% from total number of maternal death 126 in 2020 to 73 in 2023. The leading causes of maternal death were obstetric haemorrhage 32.6%, pregnancy-related infection 13.2% and hypertensive disorders of pregnancy 28.7%, Indirect causes 25.4%.

Conclusions: Laos could achieve the UN 2030 MMR goals if the average rate of reduction is maintained.

Keywords: Causes of maternal death, Laos, Trends in maternal death

CODE:231

Risk prediction for postpartum depression based on random forest algorithm with a multi-ethnic population in Yunnan

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Abstract

Introduction: The occurrence of postpartum depression symptoms poses a serious threat to the psychological health and life safety of both mothers and newborns. Currently, research on the prediction of postpartum depression risk among multi-ethnic populations is limited.

Objectives: To construct a postpartum depression risk prediction model for multi-ethnic population in Yunnan Province of China, and identify predictive factors.

Methods: Women who were 42 days and within 1 year after childbirth were screened, the Edinburgh Postnatal Depression Scale (EPDS≥9) was used for postpartum depression. 52 influencing factors from economics, social psychology, obstetrics, neonatology, spouse and family dynamics and other characteristics were included in the survey. A random forest algorithm was employed to construct a predictive model for postnatal depression risk in the multi-ethnic population of Yunnan Province. The model was evaluated on testsets with accuracy, sensitivity, specificity, positive predictive value, negative predictive value, and the area under the receiver operating characteristic curve (Area Under Curve, AUC) to assess its performance.

Results: A total of 459 women were anaylsed, with a postpartum depression detection rate of 11.55%. Among them, the detection rates for Han, Zhuang and other ethnic minorities were 7.56%, 13.94% and 13.92%, respectively. The top 14 variables in terms of importance scores were: anxiety, history of previous negative emotions, marital relationship, family support level, physical and mental exhaustion in caring for newborns, high-risk pregnancy color, mother-infant rooming-in, feeding mode, education level, spouse's education level, frequency of nighttime newborn care, ethnicity, parity and age. The accuracy was 92.74%, specificity was 95.50%, sensitivity was 69.23%, positive predictive value was 64.29%, negative predictive value was 96.36%, and the AUC value was 0.925, using Han, Zhuang, and other ethnic minorities as validation sets respectively, the model also demonstrated good stability.

Conclusion: The random forest algorithm-based postpartum depression risk prediction model for the multi-ethnic population in Yunnan performed well, which can be utilized to predict risk factors for postpartum depression among women in minority ethnic areas, thereby facilitating targeted intervention measures.

Keywords: Internal validation, Multi-ethnic, Postpartum depression, Random forest, Risk prediction model

Factors associated with the effectiveness of breastfeeding protection, promotion and prevalence of breastfeeding

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Abstract

Introduction: Breastfeeding initiated within the first hour of birth is one of the most powerful practices for promoting child survival and wellbeing In Laos. Even the early initiation breastfeeding within one hour after birth: 39% in LSIS 2012 to 50% in LSIS 2017. Exclusive breastfeeding from birth up to 6 months of age: 44% LSIS 2012 to 45% LSIS 2017). The rate of bottle feeding (from 17% LSIS 2012 to 34% LSIS 2017). The COVID 19 crisis has brought new and unique set of challenges, disrupted access to health services including the Antenatal care (ANC) and interpersonal counseling on Infant and Young Child Feeding (IYCF) Breastfeeding continued to be one priority of specific nutrition interventions in the National Plan of Action for Nutrition (NPAN) 2021-2025.

Methods: This survey was approved by the Instructional Review Broad (IRB), number 10/NECHR, than we starting conducted in partner hospitals located in Vientiane province. Data collection method: Face-to-face interviews with a structured questionnaire. The questionnaire was written by experts in the field of breastfeeding in Laos. 3 Health care providers per hospital (4 hospitals) and around 25 mothers will be samples per hospital. For a total of around 100 mothers. Every woman was assigned a unique identifier with data reporting and data cleaning was done by a data quality check team to reduce data entry errors.

Results: The general characteristics of the showed that the mother between 28-34 years old were Viengkham district (32.4%). While the mother education is higher education in keoudom 16 (64%) and a few mother who has been study in primary school level is 1 person per district bother Thoulakhom and Viengkham district. At the same time, delivery type is Vaginal delivery more than caesarian section the high number of vaginal delivery is found in Phonehong district 24 (100%). Factors associated with effectiveness of breastfeeding protection, promotion, based on Marginal analysis or unadjusted analysis. Strong association was observed between intercept, antenatal care (ANC) history and receiving medical advice. Inappropriate the intercept, antenatal care (ANC) history is high associated with Breastfeeding prevalence for 6 months (Binary) show (number of visit – OR:1.24) and the mother who has receiving medical advice (– OR:3.22) is significant in the model. However worried about Covid19 variable was not significant.

Conclusion: Although the findings of the study are not surprising, they add to the body of evidence that suggests that women with ANC history tend to add breastfeeding. Hence, this study implied that developing programs that enhance women's participation in ANC and medical advice could improve EBF practice. Besides, providing lactating mothers with adequate and up-to-date breastfeeding information during the COVID-19 pandemic could be significant in improving breastfeeding practices.

Keywords: Antenatal care, Breastfeeding, Factors, Nutrition

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Parallel session VIII- HIV/AIDS, TB and Malaria (SDG 3)- Library

- **Chair: Assoc.** Prof. Katiya Ivanovitch, Thammasath University
- **Co-chair:** Dr. Khampheng Phonglusa, DG LaoTPHI
- Asst. Prof. Dr. Anukool Manoton, University of Phayao
- Dr. Dirk Rombot Essink, VU, Netherland

15:20-17:20	Code	Title of Abstracts	Authors
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15:28-15:36	CODE052	Assessment of knowledge, attitude, and TB stigma among Thai high-school students in Bangkok, Thailand	Sarut Moonsarn
15:36-15:44	CODE424	Acceptability of Human Papillomavirus self-sampling tests for cervical cancer among women in Cambodia	CHORN Sophearom
15:44-15:52	CODE354	A mobile health education package to improve MCH, HIV/AIDS, TB, And malaria prevention dnd health access in remoted Southern Laos. HEALTH PROJECT-EXPERTISE FRANCE	Chanthachone Xayyavong
15:52-16:00	CODE046	Screening and testing of HIV and TB among pregnant women and their knowledge of, and attitude towards HIV/AIDS and TB at the ANC clinics, Lao PDR	Douangprachanh Xaysomphou
16:00-16:08	CODE107	Knowledge change related to malaria elimination in four Central Provinces of Vietnam: a community based, before and after intervention evaluation	Dat Le Minh
16:08-16:16	CODE087	Factors associated with knowledge on HIV, TB and Malaria among pregnant women and their perception of aaccess to RDTs for HIV, TB and Malaria in Savannakhet Province, Lao PDR	Vathsana Somphet
16:16-16:24	CODE328	Development and evaluation of an artificial intelligence (AI) -based chest x-ray diagnostic system to detecting and monitoring tuberculosis	Lalita Kaewwilai
16:24-16:32		Closing Remark	

Effectiveness of a community-based antiretroviral therapy delivery intervention on depression symptoms among stable people living with HIV in Cambodia: a quasi-experimental study

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Abstract

Introduction: People living with HIV experience more significant depression compared to the general population. Interventions enhance socio-economic conditions and social support, potentially leading to a reduction in stigma and improving mental well-being of individuals living with HIV.

Objectives: To evaluate the effectiveness of the community-based antiretroviral therapy (ART) delivery (CAD) intervention in improving mental well-being of stable people living with HIV in Cambodia.

Methods: A quasi-experimental study was conducted in ART clinics in the capital city and nine provinces between May 2021 and April 2023. Depression symptoms were measured using Center for Epidemiologic Studies Depression Scale (CES-D-10). Participants with ≥ 10 scores were defined as having depression symptoms. Difference-in-difference analysis was conducted to evaluate the effectiveness of CAD on depression symptoms within and between groups at baseline and endline. Adjusted odds ratios (aOR) with 95% confidence intervals (CIs) were computed.

Results: In total, 4089 stable people living with HIV participated in baseline survey. Of the total, 79.7% (n=1626) of participants in the CAD and 70.3% (n=1441) in the MMD group completed the endline survey. While depression symptoms increased among participants in both groups, the increase in the CAD group was less pronounced than in the MMD group (aOR=0.65, 95%CI: 0.50, 0.84). After adjustment, at baseline, the CAD group had a higher percentage of participants who had depression symptoms (21.7%) compared to the MMD group (16.8%). The percentage increased at the endline in both groups but was lower in the CAD group (27.1%) than in MMD (28.9%).

Conclusions: These findings demonstrate an increasing trend in the proportion of stable people living with HIV with depression symptoms in the CAD and MMD groups. However, the proportion increased more among those in the MMD group. This finding suggests the effectiveness of the CAD intervention in improving mental health among stable people living with HIV.

Keywords: Antiretroviral therapy, Cambodia, Community, HIV, Implementation science, Service delivery

Assessment of knowledge, attitude, and TB stigma among Thai high-school students in Bangkok, Thailand

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Abstract

Introduction: Tuberculosis (TB) is still a major public health problem in Thailand. It is important to notice that stigma highly impacts the quality of life of individuals infected by TB. However, high-school students are also reported to face a significant level of stigma associated with TB patients. Therefore, TB stigma and discrimination are strongly associated with high-school students and also there is limited data collection on the TB stigma.

Objectives: The purpose of the study was to explore of knowledge attitude, and TB stigma among high-school students in Bangkok.

Methods: This study was a cross-sectional design with 630 the participants were high-school students who were studying in grades 10-12 and 15-19 years old under Office the Basic Education Commission, Bangkok areas. Data were collected by the questionnaires which were included four parts such as 1) demographic characteristics factors 2) knowledge of pulmonary TB 3) attitude of pulmonary TB and 4) TB stigma. All data collected were using descriptive statistic.

Results: This study found that most of participants (54.3%) had average score of TB knowledge in poor level (Mean±SD=12.17±2.31), especially knowledge about TB transmission, TB symptoms, TB treatment and TB prevention. Most of the participants (74.5%) towards TB attitude had average score in moderate level (Mean±SD=37.06±8.01), but the participants still need to improve their attitude about food consumption and living with TB patients. Whereas, TB stigma was reported high level among high-school students (57.1%) and had an average score of TB stigma was 11.07 (SD=4.50).

Conclusion: TB stigma was reported high among high-school students. Therefore, it is important to implement strategies such as advocacy, education, and social mobilization in schools to improve TB knowledge, foster positive attitudes towards TB, and reduce stigma among high-school students.

Keywords: High-schools, Stigmatisation, TB attitude, TB knowledge, Tuberculosis

Acceptability of human papillomavirus self-sampling tests for cervical cancer among women in Cambodia

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Abstract

Introduction: The mortality rate of cervical cancer in Cambodia ranks 2nd among all cancer deaths, but only 1 in 10 women aged 30-49 have been screened. The World Health Organization suggested that Human Papillomavirus (HPV) self-sampling tests could be an effective alternative to current methods. However, their acceptability has not yet been studied in Cambodia.

Objective: To assess the acceptability of HPV self-sampling tests for cervical cancer among women aged 30-49 in the rural community of Cambodia.

Methods: Focus group discussions (FGDs) were used in the study and were conducted in OD Angkor Chum (Siem Reap) and OD Mong Reussey (Battambang) from July to August 2022. Twelve FGDs were conducted with women aged 30-49, community health workers, and health care providers from health centers and referral hospitals with the availability of screening services. The Health Belief Model was adopted to guide thematic content analysis.

Results: After being introduced to HPV self-sampling tests, women acknowledged its three fundamental benefits to screening for cervical cancer, such as convenience in self-usage, efficiency, and lower embarrassment as compared to provider-taken sampling. However, four promising barriers were found, including women's capability in conducting the self-test, lack of trust, fear, and women's inattentive manners. Five enabling factors to engage women could be their peers, healthcare providers involvement during health education sessions, the resemblance of the HPV self-sampling test to other self-sampling devices currently used in the country, affordability, and the convenient and familiar location of the self-sampling collection.

Conclusion: The acceptability of the HPV self-sampling test is promising among target women. Future interventions should incorporate strategies that focus on reducing barriers for women, such as health education and training sessions, to improve women's testing capability and trust.

Keywords: Acceptability, Cervical cancer, Human papillomavirus, Self-sampling tests, Women

A mobile health education package to improve MCH, HIV/AIDS, TB, and malaria prevention dnd health access in remoted Southern Laos

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**Presenting Author: Chanthachone Xayyavong

Abstract

Objectives: The aim of this presentation is to share an innovative initiative conducted to improve Maternal and Child Health (MCH), HIV/AIDS, TB, and Malaria Prevention and Health Access in remote Southern Laos. Within the HEALTH project, the Mobile Health Education Package (MHEP), comprising flipcharts, handbooks, KaTang language version videos, and posters, was developed based on epidemiological findings and qualitative research results.

Methods: These materials were subsequently tested with the people in the project's target areas. Village Health Workers (VHWs), district health staff, and health center staff received training on the technical content and methods for the integrated MHEP. Following this, a mobile team was introduced to pilot the integrated MHEP, delivering information on HIV/AIDS, tuberculosis, malaria prevention, and MCH services for women of reproductive age through mobile health education activities in the project target areas of Phin and Thapangthong districts, Savannakhet province. Additionally, the project incorporated community feedback to ensure the materials were culturally relevant and easily understood. Regular monitoring and evaluation were conducted to assess the impact and effectiveness of the MHEP. Collaborative efforts with local leaders and organizations helped facilitate the acceptance and dissemination of the educational materials.

Screening and testing of HIV and TB among pregnant women and their knowledge of, and attitude towards HIV/AIDS and TB at the ANC clinics, Lao PDR

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Abstract

Introduction: Lao PDR is hit by the highest maternal death (185 per 100,000 live births in 2017 according to the UN estimates). The major non-obstetric causes of maternal mortality were HIV and TB infections.

Objective: The study aimed at establishing the proportion of HIV/TB testing as well as assessing knowledge on HIV and TB among pregnant women at the Central Hospitals and Vientiane provincial hospitals and peri-urban district hospitals in Vientiane Capital City.

Methodology: A cross-sectional study was conducted from July 2022 to December 2022 to determine the proportion of HIV among pregnant women attending ANC in the Lao PDR and their knowledge and attitudes towards HIV/TB. In this study, four central hospitals and four district hospitals in Vientiane City and Vientiane provincial hospital were selected as the study sites. Participants were interviewed face-to-face using a structure and standardized questionnaire which included sociodemographic characteristics, obstetric, ANC and testing information as well as the mother's knowledge of, and attitude towards HIV/AIDS and TB. Data were entered into the STATA version 17. Univariate analysis – frequencies and percentages were used to explain and conclude variables and examine the patterns in the data. Factors associated with adequate knowledge of and attitudes towards HIV and TB were investigated using multiple logistic regressions.

Results: Overall, the proportion of HIV positive by rapid test among 1964 pregnant women attending ANC at the central hospitals and district hospitals of the Vientiane Capital City was 0.6%. None of them were not tested for TB. Some participants had misconceptions about HIV such as 35.7% reported that people get HIV by sharing food with a person who has HIV and few participants knew that TB is caused by bacteria (13.7%) and 89.4% mentioned that TB is serious and somewhat serious diseases. About 45.0% and 42.8% had good knowledge of HIV and TB respectively. While 25.9% pregnant women had positive attitude towards HIV/AIDS and about 45.1% pregnant women had positive attitude towards TB. Factors were significantly associated with knowledge of HIV/AIDS and TB were obstetric and ANC information, positive attitudes towards TB, and aware a place to get a TB test.

Conclusion: The study highlighted the low proportion of HIV/AIDS among pregnant women attending ANC at the central hospitals and district hospitals. They had low knowledge of HIV/TB, and negative attitudes towards HIV/TB. Based on the findings, this should emphasize on the importance of implementing targeted interventions, educational initiatives, and awareness campaigns to improve knowledge, correct misconceptions, and negative attitudes associated with HIV/AIDS and TB among pregnant women. These valuable insights can guide the development of policies, programs, and preventive strategies aimed at reducing HIV/AIDS and TB infection.

Keywords: HIV/TB, Lao PDR, Pregnant women, Screening

Knowledge change related to malaria elimination in four Central Provinces of Vietnam: a community based, before and after intervention evaluation

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Abstract

Objectives: This study describes the changes in knowledge of malaria among adults aged 18 and above in four high risk provinces of Vietnam as a result of the Enhancing private sector's responsibility in Vietnam's Malaria elimination program, which started in 2021 and ended in 2023.

Methods: We conducted a baseline and endline cross-sectional study of the Enhancing private sector's responsibility in Vietnam's Malaria elimination program, the former in Sep 2021, and the latter in Sep 2023. A combination of multistage cluster random sampling techniques was used to recruit a total of 736 adults within four high risk provinces of Vietnam: including Gia Lai, Dak Lak, Dak Nong, and Binh Phuoc. Information on the knowledge of malaria elimination, sociodemographic characteristics, and health behaviors were collected. Multivariable logistic regression analyses were employed to estimate the influence of socio-demographic factors on the knowledge of hypertension.

Results: In the endline survey, a majority of participants showed adequate knowledge of the causes of Malaria (96.4%) and its symptoms (Fever 96.2%; Chills 82.5% and sweating 63.5%). Most of participants know to use hammock nets to prevent mosquito bites (98.7%) and know that everyone is at risk of malaria (20.3%), which demonstrated a significant increase from the baseline survey. Age group, education level, income, receiving information about malaria control, and occupation of research participants related to knowledge about malaria control.

Conclusion: The Enhancing private sector's responsibility in Vietnam's Malaria elimination Program improved the levels of malaria knowledge among people in the program areas. However, a lack of knowledge was observed among the uneducated, suggesting a streamlining of educational campaigns in this specific subsection of the population.

Keywords: Central highland, Health education, Knowledge, Malaria, Vietnam

Factors associated with knowledge on HIV, TB and malaria among pregnant women and their perception of access to RDTs for HIV, TB and malaria in Savannakhet Province, Lao PDR

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Abstract

Introduction: Pregnant women in rural Lao PDR face challenges regarding HIV/AIDS, tuberculosis (TB), and malaria.

Objectives: This study investigated knowledge and access to rapid diagnostic tests (RDTs) for these diseases among pregnant women in Savannakhet province.

Method: A cross-sectional survey assessed knowledge of HIV, TB, and malaria in 189 women. Inferential and descriptive statistics were used to identify the variables that were linked to pregnant women's knowledge of HIV/AIDS, TB, and malaria. This study is under the HEALTH project at Expertise France.

Results: Less than half demonstrated high knowledge of HIV and TB, while malaria knowledge was slightly higher. Perceived access to services was higher for malaria than HIV/TB. Very few women had ever been tested for these diseases. Higher household income and frequent antenatal care (ANC) visits were associated with higher HIV knowledge. Age, number of young children, and knowledge of HIV/malaria influenced TB knowledge. Malaria knowledge was linked to the number of young children, HIV knowledge, and perceived access to malaria tests. Perceived ease of access to HIV/TB, RDTs was associated with TB knowledge, ANC attendance, and satisfaction with healthcare. Malaria testing was linked to high malaria knowledge and frequent ANC visits.

Conclusion: These findings highlight a critical need to improve awareness of HIV, TB, and malaria among pregnant women in rural Lao PDR, particularly focusing on vulnerable populations. Additionally, increasing access to RDTs is crucial for early detection and disease prevention.

Keywords: HIV, Pregnant women, Rapid Diagnostic Tests (RDTs), TB & Malaria

Development and evaluation of an artificial intelligence (AI) -based chest x-ray diagnostic system to detecting and monitoring tuberculosis

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Abstract

Introduction: Globally, tuberculosis (TB) ranks as the second most significant infectious cause of death, following COVID-19. It particularly affects the South-East Asian region, where 44% of new cases are reported. Although tuberculosis can be cured and prevented with early diagnosis, it continues to spread in developing nations due to inadequate healthcare resources, particularly the scarcity of skilled radiologists, and funds. The implementation of AI-assisted chest x-ray diagnosis would enhance the efficiency of clinical workflows by assisting with tuberculosis screening, diagnosis, and follow-up of tuberculosis. This would result in a reducing physician workloads and patients' waiting time and stress in order to receive timely diagnosis and treatment.

Objectives: To develop an AI-based x-ray diagnostic system for the detection, differential diagnosis, and follow-up of tuberculosis.

Methods: A retrospective study. First, 100 chest radiographs were reviewed including TB cases (N=43) with positive sputum test confirmation and non-TB cases (N=47) for initial diagnosis and differential diagnosis. Next, 45 pairs of tuberculosis cases from the identical patients were reviewed for follow-up. In-house developed AI software was used to identified lung problems in participants' chest x-rays as well as to compare imaging results and grade into improved, stable, or worsening at initial diagnosis, follow-up, and treatment completion. The AI software's performance was evaluated by four distinct radiologists or pulmonary medicine specialists. SPSS was used for data analysis.

Results: The AI system demonstrated an exceptional sensitivity of 100%, successfully identifying all 43 TB cases. Nevertheless, AI is also susceptible to misclassifying other diseases as TB. A low specificity score of approximately 66.7% indicates that sensitivity is diminished (false positives) on non-TB cases including other diseases. The comparison function determined that physician and AI software were 57% in exact agreement and 100% in within one grade agreement.

Conclusion: The AI system successfully detected all TB patients identified from this study and demonstrated a reasonable comparison function. Therefore, it demonstrates feasibility of TB screening. More research should be done to do large-scale tuberculosis screening, for example, utilizing this AI system installed in digital chest x-ray vans.

Keywords: Artificial intelligence, Chest X-ray, Computer-aided diagnosis, Tuberculosis (TB), Screening

Online session- Health Literacy and Health Promotion- Secretary Room

- **Chair**: Hon.Prof.Dr. Sengchanh Kounnavong, LaoTPHI
- **Co-chair:** Dr. Visanou Hansana, Vice Director of IRED, UHS
- Dr. Phonethipsavanh Nouanthong, Lao NITAG

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14:30-16:00	Code	Title of Abstracts	Authors
14:30-14:38	CODE008	Diabetes self-care intervention strategies and their effectiveness in sub-Saharan Africa: a systematic review	Temesgen Anjulo Ageru
14:38-15:06	CODE011	Effectiveness of road safety education in reducing teen traffic accidents in Southeast Asia: a systematic review	Francis Walugembe
15:06-15:12	CODE012	Initial construction of the exercise maintenance motivation scale: a mixed-method study	Nam Truong Thanh
15:12-15:20	CODE195	A systematic review of publications measuring medical students' perceptions of their learning environment in South Asia	Muhammad Haroon Stanikzai
15:20-15:30	CODE239	Private choices, public concerns: reproductive health education for burmese female migrant workers in Khon Kaen, Thailand	Chaw Yadanar
15:30-15:38	CODE252	Developing an e-book for self-learning about traditional Thai herbal remedies for self-care: a case study of pigad-ya	Chernporn Navanukraw
15:38-15:48	CODE051	Study on the effect of microplastic ingestion on intestinal barrier function in mice	Shirong Liu
15:48-15:56	CODE246	Perceived and Actual Knowledge of Dietary Supplements Among Villagers in Svay Rieng Province, Cambodia	Visessakseth SO
15:56-16:04	CODE184	Characteristics associated with fertility quality of life in infertile patients visiting a Kathmandu, Nepal infertility center: A cross-sectional study	Shital Shakya

Diabetes self-care intervention strategies and their effectiveness in sub-Saharan Africa: a systematic review

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Abstract

Introduction: Diabetes is a significant public health challenge, predominantly in low-and middle-income countries (LMICs), including Sub-Saharan Africa (SSA). Resource constraints, healthcare system gaps, and socio-demographic barriers exacerbate these challenges. Self-care interventions are crucial in diabetes management. However, their effectiveness in SSA remains insufficiently explored.

Objectives: This systematic review assessed the effectiveness and implementation of diabetes self-care interventions in SSA.

Methods: A comprehensive search of PubMed, Scopus, and Google Scholar identified studies on diabetes self-care interventions in SSA published from 2013 to 2023. Included studies targeted interventions on dietary adherence, physical activity, medication adherence, blood glucose monitoring, foot care, and educational or support programs. Study quality was assessed using the JBI checklist. Effectiveness was assessed by outcomes including glycemic control, adherence rate, complication reduction, and improvement in patient outcomes.

Results: Overall, 38.5% of interventions showed positive changes in primary or secondary outcomes. Studies that employed diabetes self-management education showed positive changes in 28.6% of cases. However, SMS text messaging interventions did not demonstrate significant changes in the measured outcomes. Of 13 studies reviewed, 12 used randomized controlled trials, and one study employed a quasi-experimental design. The total of participants across intervention and control groups was 3172 adults with diabetes. The interventions employed various strategies including diabetes self-management education led by nurses and other professionals, SMS text messaging for treatment adherence, and other targeted approaches. The duration of these interventions varied from 2 to 12 months. Specific interventions, such as glucose machine provision with training, family support with culturally tailored educations, and periodontal treatment, notable improved in adherences and reductions in HbA1c levels.

Conclusion: This review underscores the significance of diabetes self-care interventions in SSA, with varying effectiveness across strategies. Tailored education approaches are crucial, and highlight promising outcomes, providing insights for future research, policy, and healthcare strategies in the region.

Keywords: Adherence, Diabetes, Effectiveness, Self-care interventions, Sub-saharan Africa, Systematic review

Effectiveness of road safety education in reducing teen traffic accidents in Southeast Asia: A Systematic Review

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Abstract

Introduction: Traffic accidents are a leading cause of injury and death among teenagers globally, with Southeast Asia being no exception.

Objectives: This review aims to evaluate whether road safety education can effectively reduce these incidents among adolescents in the region. This systematic review assesses the impact of road safety education on reducing teenage traffic accidents and injuries in Southeast Asia. The focus is on the effectiveness of programs, necessary cultural adaptations, practical training integration, implementation challenges, and long-term behavior modification among teenagers.

Methods: A comprehensive literature search was conducted utilizing a range of databases, including PubMed, Scopus, and Google Scholar, to locate relevant studies that were published between 2013 and 2023. Literature extraction approach included using search keywords like traffic accidents, Southeast Asia, teenagers, and road safety education. The selection criteria included relevance to road safety education and teenage participants from Southeast Asia. The effectiveness of the programs was assessed by vote counting, tallying the number of studies showing positive, neutral, or negative impacts on teenage driving behavior.

Results: Seventeen studies met the inclusion criteria. Findings indicate that road safety education programs are crucial for reducing traffic accidents and injuries among teenagers in Southeast Asia. These programs are most effective when they include both theoretical and practical training, are culturally and contextually adapted to the local environment, and involve community and parental support. Challenges in implementation include resource limitations and ensuring long-term engagement and behavior change among teenagers.

Conclusion: Road safety education is a vital component in the strategy to reduce teenage traffic accidents and injuries in Southeast Asia. Policymakers should prioritize financing for road safety education, ensure cultural sensitivity, and include components of hands-on instruction. The long-term behavior change and program sustainability should be the main goals of initiatives meant to increase road safety. Promoting safe driving habits among teenagers requires community and parental involvement in instructional programs.

Keywords: Road safety education, Southeast Asia, Teenagers, Traffic accidents and injuries,

Initial construction of the exercise maintenance motivation scale:
a mixed-method study

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Abstract

Introduction: Exercise motives play a critical role in helping fitness centre members maintain a consistent workout routine.

Objectives: This study aimed to develop and validate the Exercise Maintenance Motivation scale, designed to assess the motivation for maintaining exercise among fitness center members in Vietnam.

Methods: The two-phase study was conducted to outline the development process of the Exercise Maintenance Motivation – Fitness Center (EMM-FC) scale, which is grounded in Self-Determination Theory. In the first qualitative phase, 10 in-depth interviews and four focus group discussions (n = 39, Mean age = 24.8 years old) were performed, identifying five components of EMM through content analysis. Following this, the scale's content and face validity were assessed through a connecting phase and pre-testing which led to the elimination of 20 items, resulting in 40 statements. In the second phase, a cross-sectional survey (n = 280, Mean age = 32.2 years old) was conducted to assess the factorial structure of the EMM-FC scale was assessed with Exploratory Factor Analysis.

Results: Findings yielded five construct dimensions with satisfactory psychometric indicators including convergent validity, discriminant validity, and internal consistency reliability of the EMM-FC scale. The 30-item EMM-FC scale covered five SDT-driven constructs, comprising of "Exercise achievements", "Exercise environments", "Exercise integration with life goals", "Exercise enjoyment", and "Workout-aholic", explaining 61.3% of the variance. Scores of five constructs were positively correlated with the total scores of the scale and notably distinguished between exercise maintainers and non-exercise maintainers.

Conclusions: This study developed a 30-item EMM-FC scale with acceptable reliability and validity. Further potential research is necessary to thoroughly assess the scale's robust psychometric properties. Therefore, the scale can be applied in future scientific and practical research for exercise maintenance.

Keywords: Exercise, Fitness centre, Motivation, Mixed-method study, Scale, Vietnam

A systematic review of publications measuring medical students' perceptions of their learning environment in South Asia

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Abstract

Introduction: Medical education is considered the backbone of future health systems and optimum learning environment is pivotal to effective medical education programs. Yet, the art of measuring medical students' perceptions of their learning environment received little attention and poorly studied in some contexts.

Objectives: This study aimed to provide a summary of medical students' perceptions of their learning environment in South Asia.

Methods: We used PubMed, Scopus, and Web of Science databases to extract relevant research of medical students' perceptions of the learning environment in South Asian countries published from 2000 to 2023. Quality of the studies was assessed using the Newcastle-Ottawa Scale. Information on participants characteristics, country and year of study, measurements scales, and scores for perceptions was independently extracted by 2 trained researchers. The extracted data was then narratively synthesized.

Results: Twelve studies were included in the review. Overall, the scales utilized for the outcome measure varied across studies and different domains of learning environments were evaluated. Seven articles found perceptions to be more positive than negative (7/12, 58%). Five reported perceptions to be more negative than positive (5/12, 42%). Some studies reported a significant effect of gender, study level, and school type on the outcome, while no significant effect was documented in a few studies.

Conclusion: In South Asia, learning environment of medical education programs has a lot of room for growth and development. Moreover, learning environment research is inadequate in quantity and quality, warranting greater attention from researchers and policy planners to address learning environment in medical education programs.

Keywords: Educational environments, Learning environments, Medical education, Perceptions, South asia

Private choices, public concerns: reproductive health education for Burmese female migrant workers in Khon Kaen, Thailand

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Abstract

Introduction: Burmese labor workers constitute one of the largest groups of migrants in Thailand, particularly in Khon Kaen province. Moving to a new country with cultural differences can lead to unmet health needs.

Objectives: This qualitative survey identified the expressed health needs from the perspectives of community committee members and women in the Burmese labor community in Khon Kaen. **Methods**: Group discussions were conducted with six community committee members to identify their perceived health needs. Individual face-to-face interviews were conducted with 141 women participants to gather their expressed health needs. Data were analyzed using content analysis. **Results:** Community committee members expressed satisfaction with employer-provided health services and appreciated the community environment, which included a playground for sports activities. Their primary health concern was birth control education, especially for women. They believed that pregnancy and child-rearing could hinder work and affect wages. Among the women participants, one was pregnant, 75 used some form of birth control, 62 did not use any birth control, and three declined to provide information. None of the women viewed pregnancy or child-rearing as problematic while working as laborers. Some preferred to deliver their babies in Thailand due to health insurance and trust in the healthcare system. They did not feel the need for sex education and were uncomfortable discussing sex or contraceptive use in public or with strangers. Instead, they preferred to seek information from social media. They also expressed interest in finding extra jobs to earn additional income.

Conclusion: There is a clear divergence between the views of community leaders and female members regarding sex education. It is crucial to respect and support women's decisions regarding pregnancy while ensuring they have access to comprehensive information about the potential impacts on their health and work life.

Keywords: Burmese, Female migrants, Reproductive health, Thailand

Developing an e-book for self-learning about traditional Thai herbal remedies for self-care: a case study of pigad-ya

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Abstract

Introduction: "Pigad-ya" encompasses a group of herbs used in traditional Thai medicine, with the most popular being "Tri-phala" for overall health, "Benjakul" for digestive health, and "Benjalokawichen" for fever relief. Using these Pigad-ya not only offers alternative self-care options to Western medicine but also helps conserve Thai traditional medical wisdom.

Objectives: This study aimed to develop an e-book for self-learning about these three herb groups. The study encompassed three phases: gathering data for e-book development, designing and developing the e-book, and assessing pharmacy students' satisfaction and feedback.

Methods: Phase 1 involved content determination by three herbal medicine experts and gathering expected e-book formats from 25 pharmacy students via interviews. Phase 2 included designing lessons, creating flowcharts, and constructing the e-book, with content accuracy evaluated by the same experts. In Phase 3, the developed e-book was distributed to 106 pharmacy students at Khon Kaen University, and their satisfaction across design, content, and utility was assessed using a 5-point rating scale. The level of satisfaction was interpreted as highest (5.00 - 4.21), high (4.20 - 3.41), moderate (3.40 - 2.61), low (2.60 - 1.81), and very low (1.80 to 1.00).

Results: Experts recommended 14 topics for inclusion in the e-book during Phase 1, reflecting essential aspects of Pigad-ya. Students favored an easy-to-read format, suitable font size and spacing, real herb photos, semi-formal language, and reliable references. The Phase 2 e-book incorporated all recommended topics with specific design and content features. In Phase 3, satisfaction levels were high across design ($\bar{x}=4.54 \pm 0.06$), content ($\bar{x}=4.57 \pm 0.03$), and utility ($\bar{x}=4.57 \pm 0.07$).

Conclusion: This study illustrates that the developed e-book effectively facilitates self-learning about Pigad-ya, serving as a template for future e-book development in this field.

Keywords: E-book, Electronic book, Herbal medicine, Herbs, Self-care, Self-learning

Study on the effect of microplastic ingestion on intestinal barrier function in mice

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Abstract

Introduction: As a kind of new environmental pollutant, microplastics are now filled in every corner of the earth, and it is inevitable for humans to ingest a large amount of microplastics from the food chain.

Objectives: The aim of this experiment was to investigate the chronic effects of microplastics on intestine.

Methods: Microplastics administered by gavage to C57BL/6J mice based on daily intake in humans, polystyrene particles of 1μm and 5μm were given to mice for 6 months. The small intestine and colon of mice were taken to make pathological sections, the changes of intestinal morphology and mucosal barrier were detected by HE staining, western blot and immunofluorescence. Samples of intestinal contents were collected and total DNA was extracted, analysis of the relative abundance of intestinal flora by illumina MiSeq high-throughput sequencing technology.

Results: The microplastics induce intestinal inflammation in mice. The jejunal villi were incomplete or even shed in different degrees, lymph node enlarged and inflammatory cells increased significantly. There was an increase of intestinal pro-inflammatory factors IL-1β in mice. The Western blot and immunofluorescence assay showed that the expression level of tight junction protein Occludin and ZO-1 in intestine decreased in microplastics intake group, especially in 1μm group. Exposure to MPs significantly reduces the structural diversity of the intestinal flora, alters the species composition of the intestinal flora of mice. The relative abundance of beneficial bacteria, such as *Duchenne, Bifidobacterium*, decreased significantly, while the relative abundance of harmful bacteria, such as *Odoribacter*, increased significantly.

Conclusions: Long-term microplastics exposure damaged immune barriers, mucosal barriers, and microbial barriers in mice. It suggests that microplastics may have the same effect on the human body.

Keywords: Microplastics immune barrier, Mucosal barrier, Intestinal flora

Perceived and actual knowledge of dietary supplements among villagers in Svay Rieng Province, Cambodia

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Abstract

Introduction: Perceived knowledge refers to an individual's assessment or belief about how much they know or understand a particular topic, while actual knowledge refers to the verified and accurate information a person possesses about that topic. Using dietary supplements (DS) safely and effectively requires both high perceived and actual knowledge.

Objectives: This cross- sectional study aimed to evaluate the perceived and actual knowledge about DS among villagers.

Methods: A structured questionnaire was used to collect data from 450 villagers in Svay Rieng Province, Cambodia. Perception of their own knowledge about DS was measured using five statements reflecting their perception, ranging from low to high. Actual knowledge was assessed with 18 questions: six about what DS are, six about how to select DS, and six about how to use DS. Student's t-test was used to compare the mean knowledge scores between males and females.

Results: The majority of participants (65.3%) perceived their knowledge to be at a low level, having only heard about DS but not knowing what they are. Another 15.1% reported knowing a little about DS but not how to select or use them; 6.7% understood what DS are but could not select appropriate products; 4.0% had sufficient knowledge to select appropriate DS products; and 8.9% had good knowledge, enabling them to teach others how to select or use DS appropriately. The total actual knowledge score was 8.3 ± 4.9. Knowledge about what DS are (2.09 ± 1.75), how to select DS (3.60 ± 2.36), and how to use DS appropriately (2.61 ± 2.01). The mean difference in scores between males and females was 0.74 (SE= 0.51), which was not statistically significant (P= 0.42).

Conclusion: Villagers' perceived and actual knowledge about DS is generally low, with no significant difference between genders. Educational programs to enhance their knowledge are needed.

Keywords: Actual knowledge, Dietary supplements, Perceived knowledge, Svay rieng province

Characteristics associated with fertility quality of life in infertile patients visiting a Kathmandu, Nepal Infertility Center: a cross-sectional study

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Abstract

Introduction: There are 10-15% infertile patients (IP) globally and 12% in Nepal. Infertility has a negative impact on their lives generally and Quality of Life (QoL) particularly. QoL addresses physical, cognitive, relationship, psychological and social domains that differ by cultures and countries. Studies on QoL among IP have been scarce in developing countries like Nepal.
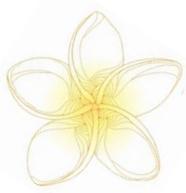
Objectives: The study aims to describe the characteristics associated with QoL of IP seeking infertility treatment. This will help to improve their care and treatment compliance.

Methods: A cross-sectional study using a reliable, valid, self-administered, disease specific FertiQoL questionnaire was conducted among multistage, purposively, conveniently sampled 409 IP in an infertility center in Kathmandu. Frequency and percentages presented their socio-demographic, socio-economic, couple-related, fertility related characteristic and medical history (characteristics associated with FertiQoL) and emotional, mind/body, relational, social, environment and tolerability domains (which measured QoL).

Results: Sixty-nine percent respondents were females. About two-fifth respondents were unemployed, 98% felt that having children was very important to them, 59% had travelled to Kathmandu for treatment, 60% suffered primary infertility, 53% had a history of assisted reproductive technologies (ART) failure, 47% and 19% were undergoing ART using self-gametes and donors' respectively, 80% desired professional psychological support following ART treatment. The mind/body and relational domain scored lowest and highest with a mean score of 60.5± 23.3 and 82± 12.7 respectively. QoL was poor in 48%.

Conclusion: Despite unemployment and low income, people are seeking expensive ART treatments to fulfill the desire to have a child but can experience poor QoL. Psychological support can be crucial in improving FertiQoL.

Keywords: FertiQoL, Infertile patients, Infertility, Kathmandu, QoL

Oral Presentation

DAY 2: 29 June, 2024

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Parallel Session IX- Epidemiology of Communicable and Non-communicable Diseases (Group 2)- Namkhong Hall 1

- **Chair:** Prof. Chea Chhorvann, NIPH, Cambodia
- **Co-chair:** Assoc.Prof. Wallapa Choeibuakaew, Thaksin University
- Assoc. Prof. Kowit Suwannahong, Burapha University
- Asst. Prof. Dr. Roshan Mahato Kumar, KKU

11:00-12:30	Code	Title of Abstracts	Authors
11:00-11:08	CODE170	Diphtheria outbreak in Khammouane Province in 2023	Sysavath Phanatda
11:08-11:16	CODE213	Analysis of influencing factors for acute exacerbation of chronic obstructive pulmonary disease in Yunnan Province: A retrospective cohort study	Guohong Luo
11:16-11:24	CODE295	Prevalence and factors influencing binge drinking among university students	Vanmaika Vang
11:24-11:32	CODE096	Spatial-temporal analysis of influenza in Yunnan (2014-2023) using autocorrelation and scan methods	Xiaoxiao Song
11:32-11:40	CODE304	Physical activity among patients with type 2 diabetes in Vientiane Capital, Lao PDR	Manoluck koumphon
11:40-11:48	CODE115	Association of socioeconomic and lifestyle factors with prevalence of diabetes in rural Southwest China: a structural equation modeling approach	Lan LIU
11:48-11:56	CODE325	Optimal non-invasive screening tools and cutoff points for diabetes and hypertension in Laos: stepwise approach to NCD risk factor surveillance using national survey data	Kethmany Ratsavong
11:56-12:04	CODE274	A study of the effect of physical activity duration and sleep quality on patient-reported outcomes in hypertension	Ru Zhang
12:04-12:12	CODE177	Detection of resistance to Aedes albopictus and analysis of resistance genes in	Diao YI
12:12-12:20		Closing Remark	

Diphtheria outbreak in Khammouane Province in 2023

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Abstract

Introduction: Diphtheria outbreaks have previously been reported from Lao PDR. On June 2023, Khammouane Provincial Health Office reported two suspected diphtheria cases, and one was laboratory confirmed for *Corynebacterium diphtheriae*. Additional suspected cases were reported from Hinboun and Khounkham districts. A detailed outbreak investigation was carried out.

Objective: This study aims to describe the investigation findings.

Methods: Active case finding was conducted through logbook reviews in five health facilities (Provincial hospital, Hinboun and Khounkham District Hospitals, and two health centres), and through convenience sampling in 10 villages using the suspected case definition of any person presenting with laryngitis or pharyngitis or tonsillitis or an adherent membrane of tonsils, pharynx and/or nose with symptom onset since 1 May 2023 in Hinboun and Khounkham districts. Samples were collected from suspected cases with present symptoms, and sent for laboratory confirmation.

Result: From May-August 2023, 163 suspected cases were identified from over 40 villages in Hinboun and Khounkham districts with two deaths (CFR=1.22%). Total of 37 samples were collected with 3 positive for *Corynebacterium diphtheriae* (Positivity rate=8.10%). Most affected age groups were 5-15 years (53%, n=71) and >15 years (31%, n=42). Majority of cases were reportedly not vaccinated prior to being detected as a suspected case. Of 117 cases with information, only 3 cases reported vaccination. Majority of cases were reported from health facilities and represent only those able to seek healthcare, thus the actual case count may be higher.

Conclusion: This outbreak highlights the risk of vaccine-preventable diseases, identifying inadequate vaccination coverage as a contributing factor. The investigation findings emphasized the importance of early case detection and prompt treatment initiation to mitigate the impact. Routine immunization should be enhanced to ensure high and equitable vaccine coverage across all communities. This multi-pronged approach is crucial for controlling diphtheria outbreaks and preventing future occurrences.

Keywords: Diphtheria, Lao PDR, Outbreak, Vaccine preventable disease

Analysis of influencing factors for acute exacerbation of chronic obstructive pulmonary disease in Yunnan Province: a retrospective cohort study

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Abstract

Introduction: Acute exacerbation of chronic obstructive pulmonary disease (COPD) refers to the worsening of breathing difficulties or coughing and sputum symptoms in COPD patients. Its occurrence accelerates the decline of COPD patients' lung function, leading to more hospitalizations and an increased risk of death, seriously affecting their quality of life and increasing their economic burden. It is an important event and research outcome in the development and management of COPD.

Objectives: To explore the incidence, time of occurrence and and influencing factors of acute exacerbation within one year in patients with stable chronic obstructive pulmonary disease (COPD).

Methods: Retrospectively collect the information of COPD case home page trips in Yunnan Province from 2016 to 2022, and establish a time longitudinal observation cohort according to the patient's name and ID number. The incidence rate, time of occurrence and average number of acute exacerbations within one year of COPD were calculated, and the relationship between patients' exposure factors and the number of acute exacerbations within one year was analysed by using multivariate linear regression, and the exposure factors affecting acute exacerbations within one year of COPD patients were analysed by using Cox regression.

Results: The mean age of 405428 COPD patients was 70.75±10.95 years, the mean number of comorbidities was 1.14±1.15, the incidence of acute exacerbations within one year was 17.55%, the mean duration of occurrence was 4.58±3.64 months, and the mean number of acute exacerbations per patient was 0.27.The regression results showed that gender (HR=1.473, 95% CI: 1.446~1.500), age (HR=1.011, 95% CI: 1.010~1.012), number of comorbidities (HR=1.083, 95% CI: 1.076~1.090), medical insurance type (HR=1.481, 95% CI: 1.394~1.574), and admission season (HR=1.115, 95% CI: 1.090~1.140) were the influencing factors for acute exacerbation in patients with COPD within one year.

Conclusion: Gender, age, number of comorbidities, medical insurance type, and admission season are the influencing factors for the occurrence of acute exacerbation in COPD patients within one year. Practical and feasible intervention measures should be developed based on these influencing factors to strengthen the management of acute exacerbation of COPD.

Keywords: Acute exacerbation of chronic obstructive pulmonary disease, Incidence rate, Influence factor

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Prevalence and factors influencing binge drinking among university students

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Abstract

Introduction: Alcohol is the most consumed beverage globally. Adolescents and young adults are at high risk due to heavy episodic and binge drinking, leading to neuropsychiatric disorders, noncommunicable diseases, and malignancies. Lao PDR has the highest alcohol per capita consumption in the South-East Asia region, and the WHO Western Pacific Region urges effective enforcement of measures and laws to address non-communicable diseases.

Objectives: Therefore, this study aims to identify prevalence and factors influencing binge drinking among Laos' national university students.

Methods: The PRECEDE–PROCEED Theory was used to guide this study. This study was carried out analytical cross-sectional study by using self-administered questionnaires to collect desired information on binge drinking, and the study was conducted at the National University of Laos (NUOL), Lao PDR, from June 2023 through October 2023. A sample of 744 university students cluster and multi-stage sampling. The data was collected by self-administered questionnaires and analyzed by using statistics software, namely STATA version 16.1. In addition, descriptive and inferential statistics were applied.

Results: This study's participants were 57% male. More than half of the students were aged 18 to 19. The majority of students were in their second year and were studying natural sciences. The findings showed that the prevalence of high-binge drinking was 45.4%. In addition, students who had high monthly pocket money and drank with their friends were 1.7 times (AOR =1.75; 95% CI = 1.21-2.55; p = 0.003) and 1.5 times (AOR =1.51; 95% CI = 1.04-2.19; p-value = 0.030) more at risk for high-binge drinking than those who had low monthly pocket money and drank with their family or a relative, respectively. Students who had a high GPA, never had sexual intercourse, and no smoking 52% (AOR =0.48; 95% CI = 0.34-0.68; p-value < 0.001), 65% (AOR =0.35; 95% CI = 0.24-0.50; p-value< 0.001), and 70% (AOR =0.30; 95% CI = 0.20-0.45; p-value< 0.001) were protective factors and less likely to low-binge drink than those who had a low GPA, ever had sexual intercourse, and smoke cigarettes, respectively.

Conclusion: There is a prevalence of high-binge drinking among university students, particularly males. According to this result, they are influenced by risk factors like high monthly pocket money and whether they drink with their friends. However, there are protective factors such as a high GPA, never having sexual intercourse, and not smoking. Therefore, it is important to provide data and evidence to aid in the development of health education interventions for reducing alcohol consumption, leading to a good quality of students' lives.

Keywords: Alcohol consumption, Binge drinking, Factors, University students

Spatial-temporal analysis of influenza in Yunnan (2014-2023) using autocorrelation and scan methods

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Abstract

Introduction: Influenza remains a major public health challenge globally, with significant spatial and temporal variability in its outbreaks. Understanding these patterns is crucial for effective surveillance and control strategies, particularly in diverse geographical regions such as Yunnan Province.

Objectives: This study aimed to examine the spatial-temporal distribution of influenza cases in Yunnan Province from 2014 to 2023, identify patterns, trends, and hotspots of outbreaks, and evaluate the efficacy of spatial analytical methods in public health surveillance.

Methods: Data from "National Infectious Disease Reporting System" （NDRS） were analyzed using Global Moran's I to assess overall spatial autocorrelation, and Local Indicators of Spatial Association (LISA) to pinpoint local clusters. Spatial-temporal scan statistics were also employed to detect significant clusters over the study period.

Results: Findings indicated prominent seasonal peaks corresponding with cooler months, particularly in urban areas and cross-border area. Significant clusters, identified through scan statistics, illuminated areas with recurrent high rates of influenza, underscoring critical locations for targeted public health interventions and resource distribution. Those approach provided a nuanced understanding of influenza dynamics in Yunnan, emphasizing both spatial and temporal dimensions.

Conclusion: This comprehensive analysis aids public health officials in refining surveillance and enhancing influenza control strategies, preparing effectively for future epidemics. The study showcases the importance of integrating diverse spatial-temporal analytical methods for a more detailed examination of influenza's public health impact.

Keywords: Infectious disease, Influenza, Spatial-temporal analysis

Physical activity among patients with type 2 diabetes in Vientiane Capital, Lao PDR

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Abstract

Introduction: For individuals with type 2 diabetes (T2D), physical activity lowers the risk of cardiovascular disease (CVD), improves glycemic control, and decreases mortality. It is advised that patients with T2D engage in moderate to vigorous physical activity to manage their condition; however, because they may be physically weak, this can be challenging for them to do.

Objectives: So, this study aims to assess the physical activity among patients with type 2 diabetes in Vientiane Capital, Lao PDR.

Methods: A hospital-based cross-sectional study was conducted among 370 type 2 diabetes patients who came to the outpatient department of the diabetic clinic of three central hospitals from March to May 2024. Data collection was conducted through a pre-tested questionnaire after obtaining ethical approval and informed consent. Data were entered into Epi-data version 4.2.0 and exported to STATA version 17 for analysis. Logistic regression statistics by analyzing bivariate analysis with reporting the COR (95%CI) value. Then the reporting of the AOR (95%CI) value is based on the p-value. < 0.05 is considered a statistically significant relationship.

Result: More than half (60.7%) of participants in this study were female, aged between 51-65 years (55.6%), and the mean age was 56.89 ±9.67. The physical activity among type 2 diabetes patients was moderate PA (600-3000 METs) was 61.8% and nearly two-thirds (21.8%) was low PA (<600 METs). Employee/business (AOR=2.67, 95%CI: 1.5-4.7, p<0.001), duration of diabetes more than 5 years (AOR=0.54, 95%CI: 0.3-0.9, p=0.019), normal weight (25–29.9 kg/m^2) (AOR=0.5, 95%CI: 0.3- 0.8, p=0.008), have difficulties with activities of daily living (AOR=0.30, 95%CI: 0.1-0.9, p=0.037), positive attitude toward PA (AOR=2.37, 95%CI: 1.4-3.8, p = 0.001), perceived moderate physical activity is safe (AOR=3.4, 95%CI: 1.7-5.6, p<0.001), and family supports regarding PA (AOR=2.8, 95%CI: 1.3- 3.8, p=0.018) were associated with the physical activity among patients with type 2 diabetes in Vientiane Capital, Lao PDR.

Conclusion: The level of physical activity among patients with type 2 diabetes was low to moderate. Being an employee/ business, duration of diabetes, normal weight, having difficulties with activities of daily living, positive attitude toward PA, perceived moderate physical activity is safe, and family support regarding PA were independent factors of high level of physical activity. Type 2 diabetic patients should get health education at every visit. It is important to promote physical exercise through campaigns.

Keywords: Lao PDR, Physical activity, Type 2 diabetes

Association of socioeconomic and lifestyle factors with prevalence of diabetes in rural Southwest China: a structural equation modeling approach

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Abstract

Introduction: While the prevalence of diabetes continues to increase worldwide, few studies have explored how socioeconomic and lifestyle factors collectively impact multiple pathways that lead to diabetes.

Objectives: This study investigated the prevalence of diabetes using structural equation modelling (SEM) to examine the pathways and associations of socioeconomic and lifestyle factors on diabetes in rural southwest China.

Methods: Data were collected from a cross-sectional health interview and examination survey among individuals aged ≥35 years in rural China. Fasting blood glucose (FBG), blood pressure (BP), height, weight, and waist circumference were measured for each participant. An individual socioeconomic position (SEP) index was constructed using principal component analysis. SEM was employed to assess the relationships between socioeconomic and lifestyle factors and prevalence of diabetes.

Results: The overall prevalence of diabetes in the present study was 8.3%. Prevalence did not differ by gender (prevalence for both men and women was 8.3% (P>0.05). The results of SEM indicated that body fat distribution, including measures of obesity and central obesity, had the greatest total impact on diabetes (0.15), followed by hyperlipidemia (0.14), SEP (0.10), physical inactivity (0.10), ethnicity (-0.09), family history of diabetes (0.09), age (0.08), and hypertension (0.05).

Conclusion: Socioeconomic and lifestyle factors have both direct and indirect effects on prevalence of diabetes. Future interventions in rural southwest China to prevent and control diabetes should focus in particular on individuals with high SEP, and should emphasize reducing obesity, central obesity, hyperlipidemia, hypertension, and physical inactivity.

Keywords: China, Diabetes, Lifestyle, Socioeconomic status

Optimal noninvasive screening tools and cutoff points for diabetes and hypertension in Laos: stepwise approach to NCD risk factor surveillance using national survey data

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Abstract

Introduction: The highest prevalence and mortality rates of non-communicable diseases (NCDs) are found in low- and middle-income countries, including Laos. Among the top ten causes of mortality in Laos are stroke and heart disease, both influenced by hypertension (HTN), diabetes (DM), and other lifestyle and behavioral risk factors. Identifying non-invasive indicators to screen for diabetes and hypertension risk in low-resource settings is a priority in the Laos health research agenda. Research should inform strategies to prevent and control NCDs in both communities and hospitalized patients. However, information on suitable indicators is limited in Laos.

Objectives: This study aimed to determine the potential predictive value of four noninvasive anthropometric indices in screening for the risk of diabetes and hypertension in the Lao population.

Methods: The data used for this study were collected as part of the National Health Survey which used the World Health Organization's stepwise approach, covered 17 provinces and Vientiane capital, and had a representative sample of 3240 participants over 18 years old.

Results: Among the anthropometry indices tested, waist-to-height ratio (WHtR) had the highest predictive power for the prevalence of diabetes (AUC = 0.73) and hypertension (AUC = 0.70). It is suitable for use in urban or rural areas and for fieldwork.

Conclusion: The WHtR can serve as a public health and clinical screening tool, as there are no differences between sexes, ages, and ethnicities for monitoring diabetes and hypertension risk in Laos, using the optimal cutoff point of 0.5 for both diabetes and hypertension.

Keywords: Alternative non-invasive measures, BMI, Laos, NCD screening, WC, WHtR

A study of the effect of physical activity duration and sleep quality on patient-reported outcomes in hypertension

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Abstract

Introduction: An increasing number of researchers are investigating the influencing factors of Patient-Reported Outcomes (PRO) in individuals with hypertension. Among these factors, physical activity duration and sleep quality stand out as two modifiable and significant variables that impact PRO. Both variables are closely linked to PRO in hypertension,yet when analysed through stratification, the relationship between the two and PRO was relatively little research.

Objectives: To explore the correlation between physical activity hours, sleep quality and PRO in hypertensive patients, and to provide effective information enhancing PRO in this population.

Methods: A self-administered questionnaire was utilized to gather information about patients basic information, lifestyle, and health status, while the PRO Scale for Hypertension (PROISCD-HYV1.0) was employed to assess PRO. T-tests, one-way ANOVA, and multivariate linear regression were employed to analyze the relationship between physical activity hours, sleep quality, and PRO Mediation effects were investigated using the Bootstrap method to assess potential mediating factors. Gender and age stratifications were utilized in the analyses.

Results: After adjusting for potential covariates, the results of the multiple linear regression model indicated a significant correlation between engaging in physical activity for at least 2 hours and PRO [B=6.551, 95% CI (2.611, 10.491)]. Upon further analysis stratified by gender and age groups, the relationship between physical activity hours and PRO was observed in men, women, young, and middle-aged adults, but not in older adults. A significant correlation was also observed between good sleep quality and PRO [B=1.870, 95% CI (0.449, 3.291)], with this association being consistent across all population subgroups. Additionally, the bootstrap method revealed potential direct and indirect effects of physical activity duration on PRO, suggesting that sleep quality may partially mediate the relationship between physical activity and PRO.

Conclusions: Physical activity duration ≥2h and good sleep quality improve PRO in hypertensive patients.

Keywords: Bootstrap, Hypertension, Multivariate linear regression, Physical activity duration, PRO, Sleep quality

Detection of resistance to *aedes albopictus* and analysis of resistance genes in Simao District

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Abstract

Introduction: *Aedes albopictus* is the main mosquito vector for infectious diseases such as Dengue fever. However, large-scale long-term use and irregular use of insecticides have caused serious resistance of the *Aedes* vector. Therefore, it is very important to study the resistance of common insecticides.

Objectives: The resistance of *Ae. albopictus* to beta-cypermethrin, fenitrothion and propoxur in Simao district was detected. The genetic analysis of the tested *Ae. albopictus* was carried out to explore the resistance of the local *Ae. albopictus*, and to provide basic data for the rational use of insecticides and scientific control of the vector *Aedes*.

Methods: Adult mosquito contact tube method was used to determine the mortality rate, and the sample was soaked in 75% alcohol for later use. The DNA of a single mosquito was extracted, and the corresponding biological sample was amplified and part of the knockdown resistance(kdr) gene was analyzed.

Results: A total of 300 adult *Ae. albopictus* larvae or pupae larvae were scooped from Simao district in September 2022. The results showed that the *Ae. albopictus* were resistant to beta-cypermethrin, suspicious resistant to fenitrothion and sensitive to propoxur. Molecular sequencing revealed that there were two alleles in the F1534 site of the third domain, namely wild-type TTC/F (number/proportion of alleles, 16/10.00%) and mutant TCC/S(144/90.00%). The proportion of mutant homozygous S/S was the highest among the genotypes of this site, which was 81.25%.

Conclusion: Aedes albopictus showed doubtful resistance to beta-cypermethrin in Simao district, and its resistance dynamics should be closely monitored. The resistance level to pyrethroids is high, and the knockdown resistance gene mutation frequency is high. In the subsequent insecticide use, compound insecticides should be selected instead of single insecticides, in order to delay the development of resistance or reduce the resistance level, so as to achieve the ideal control effect.

Keywords: *Aedes albopictus*, Drug resistance, Genetic mutation, Knockdown resistance gene, Simao district

Parallel session X- Maternal and Child Health, Sexual Reproductive Health (SDG 3) (Group 3)- Namkhong Hall 2

- **Chair:** Prof. Dr. Chitlada Areesantichai, Chulalongkone University
- **Co-chair:** Assoc.Prof. Sumattana Glangkarn, Mahasarakham University
- Dr. Latsamy Siengsounthone, LaoTPHI
- Asst. Prof. Thanakrit Neamhom, Mahidol University

11:00-12:30	Code	Title of Abstracts	Authors
11:00-11:08	CODE120	Effects of prenatal passive smoking on neurodevelopmental delay of 1-year-old children: a prospective prenatal cohort in Yunnan Province, China	XiaoXia
11:08-11:16	CODE344	Parent and child communication on sexual and reproductive health education in Bolikhaxay province, Lao PDR	Chandavieng Phimmavong
11:16-11:24	CODE165	A study on the prediction model of preterm birth by several inflammatory indicators	Nan Li
11:24-11:32	CODE429	The Association between incomplete Vaccination and Undernutrition in Lao Under Five Children: A Population-based Case-Control Study	Bounhome Soukkhaphone
11:32-11:40	CODE391	Impact of peer- to- peer education on sexual reproductive health among adolescents in schools and villages in Sekong province	Tahirih Tamangen
11:40-11:48	CODE123	Assessing the impact of the 'teach to say-no' intervention on teachers' knowledge, attitudes, and acceptance of CSA prevention in Phnom Penh, Cambodia: a mixed-methods study	Swarnamala Kantipudi, Ph D Candidate
11:48-11:56	CODE330	Construction and validation of a preterm birth risk prediction model based on LASSO-logistic regression	Qingyan Ma
11:56-12:04	CODE113	Demand and willingness to pay for prenatal screening among women of reproductive age in Thua Thien Hue Province	Hoang Le Tuan Hung
12:04-12:12	CODE247	Developmental trajectory and influencing factors of perinatal depression in rural women in western China	RuiHuang
12:12-12:20		Closing Remark	

Effects of prenatal passive smoking on neurodevelopmental delay of 1-year-old children: a prospective prenatal cohort in Yunnan Province, China

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Abstract

Introduction: Prenatal exposure to passive smoking (PS) is a highly modifiable risk factor linked to adverse neurodevelopment.

Objectives: This study aimed to assess the impact of prenatal PS, including various combinations throughout pregnancy, on the likelihood of delayed neurodevelopment among infants in a main tobacco-producing region.

Methods: A prospective prenatal cohort comprising 340 mother-child pairs, validated for passive smoking through urine cotinine (UC) levels, was employed. Neurodevelopment in children at one year was evaluated using the Bayley Scales of Infant and Toddler Development, Third Edition (BSID-III). Marginal structural models (MSMs) were applied to discern the causal effect of PS during pregnancy on the odds of delayed development across cognitive, language, motor, social-emotional, and adaptive behavior functions at 1-year-old infants, accounting for time-dependent confounding of perceived prenatal stress in entire pregnancy.

Results: UC detection rates during pregnancy ranged from 78.53% to 79.41%. Rates of developmental delay in the five domains varied from 5.88% to 27.65%. According to MSM, binary logistic regression analysis indicated that cumulative PS exposure, combined with high perceived stress across three trimesters, maternal age, gestational age, infant sex, and exclusive breastfeeding, was associated with an increased risk of language (OR = 1.50; 95% CI, 1.07, 2.10), motor (OR = 1.72; 95% CI, 1.14, 2.60), and social-emotional (OR = 1.58; 95% CI, 1.02, 2.45) delays.

Conclusion: Prenatal passive smoking was positively correlated with certain delays in infant neurodevelopment throughout pregnancy.

Keywords: Causal effect, Infant, Neurodevelopmental delay (NDD), Passive smoking, Pregnancy

Parent and child communication on sexual and reproductive health education in Bolikhaxay province, Lao PDR

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Abstract

Introduction: Parent-child sexual and reproductive health communication (PCSC) plays a critical role in avoiding negative impacts such as unwanted pregnancy, STDs/HIV transmission, and delaying the age of child marriage and childbearing.

Objectives: The purpose of this study was to explore parents' and adolescent children's perspectives and practices related to PCSC.

Methods: A cross-sectional mixed-methods study conducted in Bolikhamxay province. Parents and children aged 15–19 were key informants. Stratified randomized and simple random sampling techniques and STATA version 13 were used for quantitative analysis, reported by frequency, percentage for descriptive and multivariate logistic regression for analytic analysis. In-depth interviews with parents and adolescent children were used for qualitative approach. A thematic analysis of the qualitative data was conducted manually.

Results: About 32.9% of parents practiced PCSC at least two topics and two times during the last six months. The common PCSC topics that were talked about were sexual intercourse, teenage pregnancy, STIs, HIV/AIDS, condom use, puberty, menstruation, alcohol drinking, and drug use. The factors that were associated with PCSC included monthly income (AOR = 0.50; 95% CI: 0.33, 0.76), a positive attitude toward SRH communication (AOR = 2.74; 95% CI: 1.80, 4.18), and PCSC self-efficacy among parents (AOR = 5.06; 95% CI: 3.31, 7.74). Conversely, lack of SRH knowledge, limited friendly communication skills, feeling uncomfortable, limited time availability, and the taboo of SRH in young adults were the barriers and challenges faced when engaging in PCSC.

Conclusion: The proportion of PCSC practice was considered low in Bolikhamxay. Monthly income, attitude toward SRH communication, and PCSC self-efficacy among parents were major factors associated with PCSC. Upgrading SRH knowledge and friendly communication skills among parents, together with organizing community campaigns and social media platforms, are needed for better SRH communication engagement among parent and child.

Keywords: Parent-child communication, Reproductive health, Sexual health

Study on the prediction model of preterm birth by several inflammatory indicators

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Abstract

Introduction: WHO estimates that the global preterm birth rate is 5%~18%, which is the leading cause of perinatal morbidity and mortality. It has been suggested that some inflammatory factors can predict placental inflammation and preterm birth. It's a relatively non-invasive and efficient method to predict preterm birth by inflammatory factors.

Objectives: To study the risk factors of spontaneous preterm birth and establish a nomogram model to predict the possibility of spontaneous preterm birth in individuals, so that help physicians to identify high-risk pregnant women who are prone to spontaneous preterm birth in routine ultrasound examination and take corresponding measures to reduce the incidence of spontaneous preterm birth.

Methods: The possible risk factors of preterm birth were screened by sliding window sequential forward selection method, Boruta algorithm and single factor analysis, respectively. The occurrence of preterm birth was included as the dependent variable in the Logistic regression model to construct the optimal model. The ROC curve was drawn and the AUC value was calculated for model validation. To construct a nomogram prediction model to predict individual preterm birth factors of pregnant women. This study was supported by a project of the Education Department of Yunnan Province, Project No. 2024J0236

Results: Among the 444 pregnant women, 23(5.2%)had preterm birth. PCT, N, NLR, L, PLR, IL-6 and gestational age were the common variables screened by different variable selection methods. The set of 5 variables screened by comprehensive analysis was included in the nomogram prediction model, and the outcome index was the risk of preterm birth, and the nomogram was drawn. NLR contributed the most to the prediction of preterm birth risk, followed by IL-6 and PCT.

Conclusion: PCT, NLR, PLR, IL-6 and gestational age were identified as risk factors for spontaneous preterm birth. The nomogram model established by combining the above factors has certain predictive significance for whether pregnant women with regular prenatal care will have spontaneous preterm birth.

Keywords: Nomogram, Preterm birth, Risk factors, Ultrasound examination

The Association between incomplete Vaccination and Undernutrition in Lao Under Five Children: A Population-based Case-Control Study

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Abstract

Introduction: In Lao PDR, undernutrition has been a major public health problem for decades. In 2023, the Lao Social Indicator Survey showed that 24.3%, 32.8%, and 10.7% of Lao Under Five Children suffered underweight, stunting, and wasting, respectively. Meanwhile, vaccination coverage in children was less than 50%. Therefore, vaccination might be one of the main drivers of malnutrition, however, the association between them is still unknown.

Objectives: To assess the association between incomplete vaccination and undernutrition in children under five.

Methods: A Population-based Case-Control Study was conducted in Chomphet District, Luangprabang Province, Lao PDR. A total sample of 429 (143 cases and 286 control groups) was recruited. A community screening campaign was conducted in 23 villages to identify the cases. Children with Z-Score of < -2 were considered as undernutrition (WHO). Controls consisted of children who were not malnourished. Cases and controls were paired by sex and age (± 6 months). A trained research team performed the anthropometric measurement and data collection. Conditional Logistic Regression was performed to investigate the association between undernutrition and incomplete vaccination adjusting for a minimal set of covariates identified by a Directed Acyclic Graph. We also accounted for the matching factors.

Results: The proportion of stunting, underweight, and wasting was 43% (95% CI: 39.4% - 46.6%), 21.9% (95% CI: 18.9% - 24.9%), and 8.2% (95% CI: 6.2% - 10.2%), respectively. We observed that children with incomplete vaccination are more likely to suffer undernutrition overall, AOR = 1.83 (95% CI, 1.10-3.17, *p-value* = 0.032). In addition, we found a statistical association between inappropriate vaccination administration (late) and undernutrition, a single inappropriate vaccination administration regardless of the type of vaccine increases the risk of undernutrition overall by 3.7%, the risk of stunting by 4.1%, and the risk of underweight by 4%.

Conclusion: In this study, we observed a high proportion of undernutrition among children under five, along with a significant association between incomplete vaccination and undernutrition. This underscores the dual public health challenge posed by both issues in this vulnerable age group.

Keywords: Undernutrition; Incomplete Vaccination, Association, Prevalence; Children U-5

Impact of peer- to- peer education on sexual reproductive health among adolescents in schools and villages in Sekong Province

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Abstract

Introduction: Lao PDR has the highest teenage pregnancy rate in southeast Asia. CARE Laos aims to improve the access to sexual reproductive health (SRH) services through establishing peer-to-peer education in 6 schools and 10 villages, targeting 500 ethnic adolescents and their parents in Lamam and Dak Cheung districts, Sekong Province. 8 dedicated private spaces, Youth Counselling Friendly Services (YCFS) were established at health centers to provide adolescents access to safe & confidential SRH information.

Objectives: This evaluation investigates the impact and effectiveness of peer-to-peer education combined with YCFS.

Methods: A mix of quantitative and qualitative methods, 177 participants responded to the endline survey and 163 participants (103 female) respondents for FGD in both schools and villages. Key informant interviews (KII) from youth leaders, school principals and healthcare staff.

Results: 75% out of the 500 adolescents-initiated discussions on SRH as well as family planning. 84% of adolescents confirmed that they have received information regarding SRH among their peers and family members, similarly with 80% of adolescents confirmed they have shared the SRH information to other peers. 67% of adolescents reported making their own decision regarding marriage. There was a significant utilization of adolescent dedicated spaces in the second year of operation from 342 to 939 adolescents (779 female).

Conclusion: Peer-to-peer education, combined with dedicated private spaces for accessing SRH information, led to significant improvements in access to adolescent SRH services. Engaging youths as peer mobilizers has successfully built capacity, changing attitudes and knowledge within their communities. Scaling up peer-to-peer education, YCFS services and comprehensive sexual education is recommended to have a wider impact on the population.

Keywords: Adolescents, Peer-to-peer education, Private space, Sexual reproductive health

Assessing the impact of the 'teach to say-no' intervention on teachers' knowledge, attitudes, and acceptance of CSA prevention in Phnom Penh, Cambodia: a mixed-methods study

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Abstract

Introduction: Child sexual abuse is an umbrella term that includes child grooming and Child sexual exploitationsuch as child pornography and Online Child sexual abuse. The gravity of the CSA issue reminds us that exigent circumstances existed. Understanding regarding CSAand CSA prevention approaches among Children, parents and Education provides could improve the CSA prevention.

Objectives: This study aims to evaluate the effectiveness of "teach to say-NO" blended theory-based CSA prevention program by measuring knowledge and attitudes towards CSA and CSA prevention and by analyzing the feasibility and acceptability of intervention among Primary school teachers in school environment.

Method: To achieve the research objective the study was designed in mixed-mothed study, consisting of quantitative quasi experimental study design and a qualitative case study. In total, 146 primary schoolteachers from 27 public schools of Phnom Penh city, Cambodia were employed in the study. 4 weeks of "teach to say-NO" program was delivered to intervention primary schoolteachers. Both the intervention and waitlist comparison group completed the knowledge and attitude toward CSAknowledge and prevention questionnaires cumulated at Baseline, first follow up (after one monthof intervention) and second follow up (after three months of intervention). Succeeding the Qualitative study was evaluated by face-to-face interview conducted with 24 intervention schoolteachers to analyze feasibility and acceptability of intervention.

Results: Knowledge and attitudes with regards to CSA and its prevention has manifested a significant result(P<0.05) within and between the intervention and waitlist comparison groups. The intervention group participants scored significantly higher outcomes after attending the intervention program. The qualitative assessment focused on the feasibility and acceptability of the intervention. Teachers expressed a strong interest in engaging with the program, learning about CSA prevention strategies and techniques. However, they also faced challenges such as age, gender, and environmental issues, emphasizing the importance of flexible program delivery and ongoing support. Despite these challenges, participants identified numerous benefits, including increased confidence in addressing CSA issues, improved communication skills with students, and a heightened awareness of online child sexual abuse risks. Overall, these findings underscored the positive impact of the intervention on teacher practices and attitudes towards CSA prevention.

Conclusion: Outcomes supported the exigency of CSA education to the schoolteachers for healthy school environment. Teacher's ceaseless learning on CSA makes gain to the school children CSA learningand prevents the children from various forms of sexual abuse.

Keywords: Child sexual abuse, Online Child sexual abuse, Primary prevention, Teacher-based intervention

Construction and validation of a preterm birth risk prediction model based on LASSO-Logistic regression

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Abstract

Introduction: Preterm birth is likely to cause a variety of health problems and increase the burden on families and society. The rate of preterm birth in China is on the rise, but there are few risk prediction models for preterm birth. In this study, LASSO-Logistic regression model was used to screen the related factors of preterm birth, and the prediction model was constructed and verified.

Objectives: To construct and validate a risk prediction model for preterm birth based on LASSO-Logistic regression.

Methods: From 2019 to 2023, a total of 993 pregnant women who underwent pregnancy examination and gave birth in a hospital in Qujing City were investigated. A total of 696 cases (70%) were randomly selected as the training set and 297 cases (30 %) as the validation set. The baseline data, pregnancy history, pregnancy complications, pregnancy complications and pregnancy outcomes of the subjects were collected. The LASSO-Logistic regression method was used to screen the potential influencing factors of preterm birth, and a nomogram model was constructed. The model was verified by ROC curve and calibration curve.

Results: Four potential influencing factors were screened out by LASSO-Logistic regression model, pregnancy with diabetes, pregnancy with obesity, preeclampsia and premature rupture of membranes. The nomogram model was constructed and the ROC curve was drawn using the validation set. The AUC value was 0.7272 (95 % CI: 0.5634-0.8909), indicating that the model had high reliability. The calibration curve showed that the predicted probability of preterm birth risk was basically consistent with the actual probability.

Conclusion: Pregnancy with diabetes, pregnancy with obesity, preeclampsia and premature rupture of membranes are risk factors for preterm birth in pregnant women. The nomogram model established by LASSO-Logistic regression in this study can effectively predict the risk of preterm birth in pregnant women. By increasing the influencing factors and expanding the sample size, it is expected to further enhance the clinical value and practicability of the model.

Keywords: LASSO-logistic regression, Nomogram prediction model, Prediction model, Premature delivery

Demand and willingness to pay for prenatal screening among women of reproductive age in Thua Thien Hue Province

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Abstract

Introduction: Prenatal screening detects birth anomalies or medical concerns during pregnancy, giving pregnant women and their families more information about the fetus's health and increasing treatment possibilities. Implement early intervention strategies as needed to improve maternal and fetal health outcomes.

Objectives: 1. To describe the demand for congenital defect screening during pregnancy among women of reproductive age in Thua Thien Hue province. 2. To determine your readiness to pay for prenatal screening for congenital and explore factors related to the willingness to pay.

Methods: This is a cross-sectional descriptive study. A total of 423 women of childbearing age in Thua Thien Hue province in 2023 were interviewed using a paper questionnaire. Willingness to pay was assessed through a contingent valuation method. Multivariate linear regression analysis to identify factors related to willingness to pay.

Results: A noteworthy 86.8% of the study participants expressed their intent to undergo prenatal screening. The average amount they were willing to pay for the First Trimester Screening (FTS) was 787,843 VND. The average amounts they were willing to pay for the three non-invasive prenatal testing (NIPT) packages were 1,203,428 VND, 1,497,606 VND, and 2,199,468 VND, respectively. "Average monthly income", "Ability to pay for necessary medical services", "Number of abortions" and "History of birth defects in the family" are statistically significant factors related to willingness to pay for the prenatal screening.

Conclusion: The health economic aspects of prenatal screening are clarified by this study, which is essential for program management. The results offer vital information for developing cost-support mechanisms for prenatal screening tests among the populace and for influencing health insurance policy.

Keywords: Congenital anomalies, Contingent valuation method, First trimester screening, Non-invasive prenatal testing, Prenatal screening, Willingness to pay

Developmental trajectory and influencing factors of perinatal depression in rural women in western China

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Abstract

Introduction: Depression symptoms may change over time, there may be variability in the developmental trajectory of the depressed population.

Objectives: To explore the trajectory of depressive symptoms and its influencing factors in rural women from first trimester of pregnancy to 42 days after childbirth.

Methods: The longitudinal study design was uesd. In May 2022, women from a rural county of Yunnan Province were surveyed in their first trimester of pregnancy (T1), and followed up in their second (T2) and third (T3) trimesters of pregnancy and 42 days after childbirth (T4). Data were analyzed using latent growth curve model (LGCM), latent class mixture model (LCGM), and multivariate Logistic regression model.

Results: A total of 288 pregnant women were surveyed. Of these, 213 pregnant women who received follow-up survey for at least one time were included in the analysis. The detection rates of depressive symptoms at T1, T2, T3, and T4 were 13.15%, 4.71%, 2.03%, and 1.90%, respectively, which indicated a gradual decrease trend during the perinatal period. Three distinct latent classes were explored: C1 high prevalence group, C2 low prevalence group, and C3 risk group. The C1 group showed higher initial depression scores that continued to rise over time, while the C2 group exhibited lower scores that slightly decreased over time. The C3 group initially displayed decreasing depression scores during pregnancy but which significantly increased after childbirth. Combining C1 and C3 groups into a "high-risk" category for comparison with the "normal" category represented by C2, the multivariate Logistic regression results indicated that women with lower education levels (*OR*=4.041, 95%*CI*: 1.069-15.279), anxiety symptoms (*OR*=4.115, 95%*CI*: 1.388-12.202), and lower family support (*OR*=3.115, 95%*CI*: 1.036-9.361) were more likely to be classified into the high-risk group.

Conclusion: There are three potential categories explored for the development trajectory of perinatal depression among rural women in western China. Women with low education levels, anxiety symptoms, and lack of social support are more likely to be detected with perinatal depression.

Keywords: Developmental trajectory, Latent class mixture model, Perinatal depression, Rural women

Parallel session XI-Environmental and Occupational Health - One Health – Eco Health. & Global warming and Climate change adaptation (SDG 13), Health Equity to UHC (Group 2)- Namkhan Hall

- **Chair:** Asst. Prof. Somkid Juawa, Phayao University
- **Co-chair:** Asst. Prof. Montakarn Chuemchit, Chulalongkone University
- Dr. Boonruang Kanoukhan, Thaksin University
- Dr. Phetsamone Matouchanh, UHS, Lao PDR

11:00-12:30	Code	Title of Abstracts	Authors
11:00-11:10	CODE128	Effects of a hearing protection training with ear fit test feedback on hearing protection use among workers in auto part manufacturing industry	Jaturong Udtabud
11:10-11:20	CODE204	Relationship of Indoor Air Quality to Sick Building Syndrome in Office Personnel at Mahidol University's Faculty of Public Health	Teerapong Lertassava korn
11:20-11:30	CODE032	Knowledge and self-protective behavior regarding pesticide use among farmers in Banphot Phisai District, Nakhon Sawan Province	Kansirinn atThima
11:30-11:40	CODE138	The Preliminary monitoring of Paraquat Residues in water sources: a case study of Nan Rivers and Canals used in agriculture areas	Sirinthip Chaarban
11:40-11:50	CODE139	Artificial neural network for predicting risk scores among stone mortar informal workers exposed to high noise levels	YuwadeeK hunsaard
11:50-12:00	CODE187	Association between length of separation and depressive symptoms in left-behind children: mediating effects of negative life event influences	Yingjuan Cui
12:00-12:10	CODE190	Prevalence and clustering of mental health -related risk factors among junior school students in Nanchong	Tian Xiaobing
12:10-12:20		Closing Remark	

Effects of a hearing protection training with ear fit test feedback on hearing protection use among workers in auto part manufacturing industry

Jaturong Udtabud[1], Surintorn Kalampakorn[2*], Plernpit Boonyamalik[3], Suchinda Jarupat Maruo[3]

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Abstract

Objectives: This quasi-experimental research aimed to study the effects of the program combining hearing protection training and ear fit test feedback on hearing protection use behavior.

Methods: Workers in the auto part manufacturing industry located in Chonburi province who are exposed to high noise ($\geq$ equal or greater than 85 dB (A) will be recruited and divided into the experimental group (n=52) and the comparison group (n=52). The experimental group received the training and individual feedback on ear fit test result, while the comparison group was provided with hearing conservation program in accordance with the company policies. Data was collected by using questionnaires at pre-test and at 1 month after intervention. Data were then analyzed using descriptive statistics; Independent-sample t-test and Chi-square test.

Results: The results revealed that after receiving the program, the experimental group had higher mean difference scores on the use of hearing protective device and personal attenuation Rating – PAR (p <.05).

Conclusion: Findings suggest that the program combining hearing protection training and ear fit test feedback was effective in improving HPDs use behavior and improving PAR score. Occupational health nurse or those responsible of a hearing conservation program could apply to training for those with other workers with similar high noise exposure.

Keywords: Ear fit test, Feedback, Fitting instructions, Hearing conservation program, Personal attenuation rating

Relationship of indoor air quality to sick building syndrome in office personnel at Mahidol University's Faculty of Public Health

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Abstract

Introduction: Sick Building Syndrome (SBS) describes immediate health and comfort issues experienced by occupants indoors. Indoor air quality (IAQ) significantly impacts SBS symptoms, reflecting global concerns about indoor air pollution's adverse health effects. Understanding pollutants' role in SBS is crucial amid growing environmental health concerns.

Objectives: This study aimed to investigate the prevalence of SBS symptoms among office workers in the Faculty of Public Health, where the establishment was adjacent to the congested road of Bangkok city, and their association with IAQ.

Methods: A total of 51 personnel from 17 offices were subjected to questionnaires regarding demographics, working conditions, IAQ perceptions, and SBS symptoms (related to eyes, throat, dermal, nasal, respiratory tract, and neurological) in the past month. Indoor air samples were monitored to determine IAQ from each office, for instance, ventilation, PM2.5, PM10, CO_2, and total bacterial and fungal counts. The IAQ was compared to Thailand's indoor air quality monitoring standards in public buildings. All the data was collected from December 2023 to January 2024.

Results: The average daily working hour of the participants inside the building was 7.4±1.7 hours. The highest prevalence of SBS symptoms was neurological effects (71.9%), followed by eye irritation (63.9%), and nasal membrane (54.5%). Although a correlation between the observed IAQ and SBS symptoms was not established, elevated working hours per week were significantly associated with an increased risk of skin irritation in the multiple logistic analysis (aOR 2.02; 95% CI 1.19–3.44). A significant positive correlation was also observed between indoor and ambient PM2.5 (Spearman's $r = 0.76$), suggesting the influence of particles that leak into the building and the importance of ventilation.

Conclusion: In conclusion, a positive relationship was found between daily working duration and skin symptoms. Improving the ventilation inside the building is essential to maintaining appropriate IAQ for office workers.

Keywords: Faculty of public health, Indoor Air Quality (IAQ), Sick Building Syndrome (SBS), Office workers

Knowledge and self-protective behavior regarding pesticide use among farmers in Banphot Phisai District, Nakhon Sawan Province

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Abstract

Introduction: Thailand is an agricultural country with land and a climate conducive to farming. It uses a large amount of chemicals in agriculture, which are key factors in agricultural production. Nakhon Sawan Province mostly includes flat plains suitable for agriculture. Additionally, most of the population is engaged in agriculture.

Objectives: This cross-sectional study aimed to examine the knowledge and self-protective behavior regarding pesticides use among 274 rice farmers in Banphot Phisai district, Nakhon Sawan Province, who were selected through multi-stage random sampling.

Methods: Data were collected from February to December 2023 using a questionnaire that included sections on general information, knowledge about self-protection from pesticide use, and self-protective behavior regarding pesticide use.

Results: The study revealed that the majority of participants are female, at 67.9%. The age group of 51-60 years represented 44.2%. Most farmers are married, accounting for 74.5%. 42.0% have completed primary education. The majority do not have chronic diseases, at 64.2%. The average annual income fall between 10,000 and 100,000 baht, at 51.8%. The duration of their careers spans 11-20 years for 33.9%, and the length of time they have used chemicals ranges from 11-20 years for 36.9%. Furthermore, farmers generally have a high level of knowledge about self-protection from pesticide use at 82.8%, followed by 15.3% with a low knowledge level and 1.8% with a moderate knowledge level. Additionally, it was found that 93.4% exhibited a good level of self-protective behavior before using pesticides, and displayed moderate behavior levels during and after pesticide use at 74.5% and 70.8%, respectively.

Conclusion: The Eta and Pearson tests revealed that the factors related to self-protective behavior from pesticide use among rice farmers were gender, education level, and knowledge about self-protection from pesticide use. The findings suggest that promoting knowledge could increase appropriate self-protective behavior among rice farmers.

Keywords: Farmer, Knowledge, Pesticide, Self-protective behavior

The Preliminary monitoring of Paraquat Residues in water sources: a case study of Nan Rivers and Canals used in agriculture areas

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Abstract

Introduction: Paraquat has been widely used for weed control in both agricultural and non-agricultural areas. Despite its ban in Thailand since 2020, the legacy of paraquat contamination in water remains a significant public health concern due to its potential toxicity to humans and ecological implications.

Objective: This study investigates paraquat residues in water sources, focusing on the Nan Rivers and associated canals in agricultural areas in Phitsanulok, Thailand.

Methods: A total of 9 water samples were collected: 3 from spots along the Nan River situated within dense agricultural areas, 5 from spots along irrigation canals used for both upstream and downstream rice cultivation, and 1 from a spot along natural canals used for downstream rice cultivation. These sampling points were selected to represent varying proximity to agricultural activities. Water properties including pH, turbidity, and total dissolved solids were examined. Paraquat concentrations were analyzed semi-qualitatively using a standard color comparison test kit developed by the Faculty of Science, Department of Chemistry, Naresuan University. Subsequently, quantitative analysis was performed using a spectrophotometer at an absorbance of 395 nm. The concentrations are reported in mg/L.

Results: Paraquat contamination was not detected in the majority of samples (78%), with detectable levels found at one spot each in the Nan River (2.29 mg/L $\pm$ 0.015) and an irrigation canal (0.25 mg/L $\pm$ 0.023). Both sites exhibited pH levels within the standard Surface Water Quality Standards for Thailand (7.694 and 7.725), while turbidity and total dissolved solids were at 154 mg/L and 35 NTU for the River and 174 mg/L and 42.9 NTU for the irrigation canals.

Conclusion: This study underscores the importance of monitoring paraquat residues in water sources to assess the impact of herbicide activity on water quality. While most samples showed no detectable paraquat contamination, the presence of detectable levels in some areas highlights ongoing environmental concerns. Adherence to ecotoxicology safety, suggests the need for continued vigilance in regulating agricultural practices to protect water resources. Further research is needed to fully understand the extent of contamination and its potential public health implications.

Keywords: Agricultural contamination, Paraquat, Surface water, Thailand, Water quality

Artificial neural network for predicting risk scores among stone mortar informal workers exposed to high noise levels

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Abstract

Introduction: Noise pollution is an adverse phenomenon that affects human health and can lead to occupational hearing loss. The purpose of this cross-sectional study was to create the back propagation artificial neural network model (BP-ANN) to predict the noise exposure risk scores of stone mortar informal workers in Lampang Province, Thailand.

Objectives: This study aims to Artificial Neural Network for Predicting Risk Scores among Stone Mortar Informal Workers Exposed to High Noise Levels

Methods: The study was conducted between August to September 2023. Data collection involved using standardize questionnaires which were developed by researchers and used scientific instruments for noise measurement. The questionnaires contained items related to population characteristics and work information, knowledge, attitude, and practice for preventing noise exposure, noise exposure measurement and risk scores from exposure to noise. Pearson's correlation coefficient, multiple regression analysis and BP-ANN were used to analyze data.

Results: The results showed that seven factors significantly associated with risk scores from exposure to noise while performing their work. Apparently, there were four influential variables which included height of workers, ear symptoms, working hour per day, and noise measurement as tested using regression analysis. The BP-ANN was then imported from four influential variables. The BP-ANN was created as 4-2-8-1 using momentum 0.05, learning rate 0.06, and learning time $100,000$ epoch. Accuracy in predicting noise exposure risk scores was assessed by Mean Absolute Deviation (MAD), Mean Absolute Percentage Error (MAPE), Mean Square Error (MSE) and Root Mean Square Error (RMSE) values were equal to 0.61, 3.05, 2.40 and 1.55 respectively.

Conclusion: Those errors are less than 10%. BP-ANN is an accurate model suitable for predicting noise exposure risk scores. To be used in planning control measure. This implementation leads to good health and well-being (SDGs 3).

Keywords: Back Propagation Artificial Neural Network, High Noise Levels, Risk Scores, Stone Mortar Informal Workers

Association between length of separation and depressive symptoms in left-behind children: mediating effects of negative life event influences

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Abstract

Introduction: Left-behind Children due to parent-child separation are at a higher risk of developing depression and other mental health issues.

Objectives: This study aims to explore how the length of separation impacts depression symptoms in left-behind children, and how negative life events may mediate this relationship, so as to help improve the mental health problems of left-behind children.

Methods: Data from the Psychological Health Guard for Children and Adolescents Project of China was used in a study of 69,874 adolescents in grades 7-12 who had experienced or were experiencing separation. Depression was measured using the CES-D, and negative life events were assessed with the ASLEC. We Modeling the mediating effect to study how the length of separation affects depressive symptoms and investigate the role of negative life events as a mediator.

Results: The primary results of the study indicated that various separation durations were significantly associated with an increased risk of depression, with a greater predictive effect observed as the duration of separation lengthened. Additionally, a separation duration of two years or more was found to have a significant positive predictive effect on the influence of negative life events. Furthermore, the relationship between a separation duration of two years or more and depressive symptoms was partially mediated by the impact of negative life events.

Conclusion: Extended periods of separation from parents can increase the likelihood of depressive symptoms in children, with negative life events exacerbating this impact on those left behind. This underscores the importance of prioritizing the psychological well-being of children experiencing prolonged parental separation.

Keywords: Depression, Mediating effects, Negative life events

Prevalence and clustering of mental health -related risk factors among junior school students in Nanchong

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Abstract

Objectives: This study aims to assess the quality of primary care services and identify the areas for improvement towards implementation of an integrated noncommunicable disease at the primary care level in the Philippines.

Methods: The Primary Care Assessment Survey Tool was adapted to measure identified key domains of primary health care such as access and first contact of care, comprehensiveness, quality and continuity of care, coordination of care, and community participation regarding NCD care delivery through Likert Scale measurement. All cities and municipalities within Tarlac, Cebu, and Zamboanga del Sur in the Philippines were covered and represented by selected doctors or nurses for public and private primary health facility. An electronic survey questionnaire was sent through e-mail address of the respondents. Analysis of data was done using STATA software.

Results: Capability for providing primary health care showed that Tarlac was better than Cebu in terms of coordination and quality of care. However, both areas were observed to have poorer performance on community participation, access, and comprehensiveness. Overall, Zamboanga del sur has the best scores in all primary care domains and observed that coordination of care, access, and quality were relatively higher in Zamboanga del Sur, despite being a disadvantaged province. Community participation has been the lowest in all of the three provinces. Infirmaries provide the most robust primary care similar with rural health units. Several health facilities showed weakness in cultural competence and community participation. Physicians from private primary care clinics were weaker provider of primary care, also in terms of community participation and community orientation.

Conclusion: Health care facilities in the Philippines tasked to deliver primary care services are yet to improve community participation, affecting the quality of care delivery. This informs policy making for reforms on primary health care service delivery at the local and national levels.

Keywords: CES-D, Cluserting, Mental health, Risk factors

Parallel session XII- Mental Health- Library

- **Chair:** Assoc. Prof. Yuvadee Rodjarkpai, Burapha University
- **Co-chair:** Prof. Hla Hla Win, University of Public Health, Yangon, Myanmar
- Dr. Tiwakron Prachaiboon, KKU
- Assoc. Prof. Kongmany Chaleunvong, UHS, Lao PDR

11:00-12:30	Code	Title of Abstracts	Authors
11:00-11:08	CODE426	Mental health status and quality of life among humanitarian aid workers in Thai-Myanmar border	Naw Lar Paw
11:08-11:16	CODE066	Surveying the quality of life and anxiety levels among primary caregivers for cancer patients receiving treatment at the Oncology Department, Hue University Medical Hospital	Uyen Phuong
11:16-11:24	CODE241	A systematic review of stress associated with pain among adult population from 2018 to 2023	Chanraksmey Long
11:24-11:32	CODE431	Analysis of mental health literacy and influencing factors of Dai nationality in Yunnan Province	Keying Zhao
11:32-11:40	CODE114	Depression, anxiety, and stress among high school students and some related factors: comprehensive study across four different geographical areas	Nguyen Phuc Thanh Nhan
11:40-11:48	CODE039	Gender-specific factors of non-suicidal self-injury among high school students in Yunnan Province, China: a machine learning approach	RuiyuLi
11:48-11:56	CODE228	Cost-effectiveness of perinatal depression screening and treatment strategies in China: A Markov Model Simulation	Xingmei DU
11:56-12:04	CODE223	The prevalence of stress and perceived knowledge on stress management among university students in Phnom Penh, Cambodia	Pen Keopanha
12:04-12:12	CODE221	Association between depressive symptoms and smoking intensity with ethnic minorities in Yunnan province, China: A moderated mediation model	Xinping Wang
12:12-12:20	CODE362	Factors associated with moderate or severe mental health symptoms among hypertensive and diabetic patients in a temporary shelter in Thailand	Dr.Ye Htut Oo/Miss. Supattra SamungOo
12:20-12:30		Closing Remark	

Mental health status and quality of life among humanitarian aid workers in Thai-Myanmar border

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Abstract

Introduction: Quality of life of the humanitarian aid workers (HAWs) is difficult to determine, especially of those who are working under low-resourced settings.

Objectives: This present study aimed to determine factors influencing the quality of life of HAWs in the Thai-Myanmar border.

Methods: An analytical cross-sectional study was conducted among 205 HAWs who were selected by using simple random sampling from 4 provinces in the Thai-Myanmar border to response to a structured questionnaire interview. The WHOQOL-BREF was used to measure Quality of Life (QOL), and the mental health status was assessed using the Perceived Stress Scale (PSS) and Major Depression Inventory (MDI). Multivariable logistic regression was used to determine the factors influencing the quality of life of HAWs. P-value <0.05 was considered statistically significant.

Results: Of the total 205, about one fourth of humanitarian aid workers had moderate and poor quality of life (23.4%, 95%CI: 17.80-29.82.), 79% had moderate to high level of stress (95%CI: 72.81-84.38), 12.2% had symptom of depression (95%CI: 8.05-17.47), and 19.51% had symptoms of PTSD (95%CI: 14.32-25.61). Our multivariable analysis observed that the factors associated with moderate/poor quality of life were having acute illness (AOR=3.32 95%CI: 1.05-10.49; P=0.036), having ≤3 family members in the household (AOR=2.68, 95%CI: 1.23-5.80 P=0.013), employment duration <2 years (AOR=2.38, 95%CI: 1.13-5.03, P=0.023), and having ill person in the family (AOR=2.30, 95%CI: 1.02-5.19, P=0.024).

Conclusion: The poor QOL is less than a quarter among humanitarian aid workers in the Thai-Myanmar border. The poor quality of life among humanitarian aid workers was associated with having acute illness, having less family members in the household, shorter employment duration, and having ill person in the family. Hence, periodic psychosocial support to the humanitarian aid workers will enhance their quality of life.

Keywords: Migrant, Humanitarian aid worker, Mental Health Status, Quality of life

Surveying the quality of life and anxiety levels among primary caregivers for cancer patients receiving treatment at the Oncology Department, Hue University Medical Hospital

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Abstract

Introduction: In the context of the increasing prevalence of cancer, primary caregivers for patients are facing a significant burden, affecting their quality of life along with concerning psychological issues.

Objectives: Describing the quality of life and anxiety disorders of primary caregivers for cancer patients undergoing treatment at the Oncology Department, Hue University Medical Hospital.

Methods: A cross-sectional study was conducted on 66 primary caregivers for cancer patients. The study utilized the EQ-5D-5L and EQ-VAS questionnaires to assess quality of life and the GAD-7 questionnaire to evaluate anxiety disorders.

Results: The average quality of life score measured by the EQ-5D-5L scale was 0.92 (SD = 0.10), and the EQ-VAS scale was 72.14 (SD = 14.67). The majority of primary caregivers for patients exhibit anxiety symptoms ranging from mild to moderate (30.3% showing mild anxiety symptoms and 12.1% exhibiting moderate anxiety symptoms), with an average GAD-7 score of 4.02 (SD=3.99). There was a significant negative correlation between anxiety scores and quality of life with r = -0.64.

Conclusion: Primary caregivers for cancer patients often experience lower quality of life and commonly exhibit symptoms of anxiety. Detecting and treating anxiety disorders promptly should be prioritized to reduce caregiving burden and improve the quality of life for both caregivers and cancer patients. Therefore, societal and community support and attention are crucial.

Keywords: Anxiety disorders, Cancer, Primary caregivers, Quality of life

A systematic review of stress associated with pain among adult population from 2018 to 2023

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Abstract

Introduction: Stress, characterized by a feeling of anxiety or tension in response to life challenges, often comes with pain, an unpleasant sensory or emotional experience associated with actual or potential tissue damage, whether real or imagined, often correlates with stress. Recent research has shown a significant relationship between stress and pain. But there is a lack of systematic review in the last 5 years.

Objectives: This review aims to examine the prevalence of stress and the factors associated with stress and pain among the adult population from 2018 to 2023.

Methods: The literature review for this study was conducted using PubMed, with the keyword "Stress and Pain," Following the PRISMA guidelines, a literature review for this study was conducted using PubMed with the keyword "Stress and Pain,"

Results: Among 48,218 studies were identified, nine studies were included in our review. Seven studies reported the prevalence of stress among the adult population, with the highest prevalence of 31.6% (n= 187). Two studies reported mean stress scores, all of which were high. Factors associated with stress included mental health issues, heavy academic workloads, and major injuries. Factors associated with pain included psychological factors and physical workloads.

Conclusion: The studies reviewed provide substantial information about the association between stress and pain. While the findings indicated the widespread occurrence of stress and its impact on pain, particularly in contexts such as mental health challenges, academic pressures, and physical injuries, there remains a notable gap in understanding this association within the Cambodian population. Thus, further research focusing on the specific factors influencing stress and pain in Cambodia is recommended to accurately assess prevalence rates and severity levels.

Keywords: Pain, Prevalence stress, Systematic review

Analysis of mental health literacy and influencing factors of Dai nationality in Yunnan Province

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Abstract

Background: Mental Health Literacy (MHL) is crucial to related to mental disorder.Yunnan Province in China has the highest number of ethnic minorities, and their mental health is important for maintaining social harmony and achieving overall population health goals. Currently, there is a lack of research on mental health literacy among these minority groups in Yunnan Province.

Objective: The study investigated the level,discrepancy, and characteristics of MHL among Dai people in Yunnan province;identified influential factors.

Method: Using a stratified cluster sampling method, we employed a cross-sectional survey to describe the mental health literacy (MHL) of 638 individuals from De Hong Prefecture and Ban Na in Yunnan Province. The Chinese Version of the National Mental Literacy Questionnaire (NMHLQ) and a demographic questionnaire were utilized for data collection. Furthermore, multiple regression analysis was conducted to identify factors influencing MHL among the recruited Dai minority participants.

Results: A total of 638 individuals participated of whom a 41.1% were male and 63.16% were 18 to 44 years of age The participants' the total score on the Chinese Version of the Mental Health Literacy Scale was 105.14 (SD= 23.19). The proportion Dai minority reaching the standard of mental health literacy was only 4.5%(29/638). Logistic regression analysis revealed that female, the individuals with higher education level, living in city and regular exercise were considered as the Positive factors of MHL.

Conclusion: The overall MHL of Dai people were at a low level.There is an urgent need for MHL promotion programs to improve the MHL of Dai minority.

Keywords mental health literacy; Dai minority;Yunnan Province

Depression, anxiety, and stress among high school students and some related factors: comprehensive study across four different geographical areas

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Abstract

Objectives: We examined the prevalence of depression, anxiety, and stress using the Depression, Anxiety, and Stress Scale (DASS-21) among high school students in four different geographical areas; and obtain factors associated with these conditions.

Methods: A cross-sectional survey was conducted in a province in central Vietnam. A total of 1226 students completed self-reported questionnaires. Depression, anxiety, and stress were assessed using the DASS-21 scale. The multivariate model was used to identify the possible factors associated with these disorders.

Results: Overall, the prevalence of depression, anxiety and stress was 52.7%, 65.4% and 46.6%, respectively. Specifically, reports in urban, rural, mountainous and coastal areas for depression, anxiety, and stress corresponded to 52.5%, 62.9%, 47.1%, and 45.7%, respectively; 65.5%, 74.6%, 59.8%, and 59.1%, respectively; and 46.7%, 51.3%, 44.4% and 42.1%, respectively. Specifically, in terms of geographic region, grades 11 and 12 in rural areas had the highest rates of depression, anxiety, and stress, with the following percentages for grade 11 (68.0%, 81.3% and 54.7%) and grade 12 (64.4%, 76.7% and 52.1%). For grade 10, rural areas had the highest percentage of students with depression (56.6%), coastal areas have the highest percentage of students with anxiety (68.9%), and mountain areas have the highest percentage of students with stress (53.2%). Of the significant factors, the addition of the Internet (moderate or servere; had mild/moderate or higher academic pressure; and having a need for psychological counseling support were found to have a significant independent association with all three problems studied.

Conclusion: Our findings suggest a high prevalence of depression, anxiety, and stress among high school students, with potential geographical variations. This underscores the need for routine mental health screening programs in schools to identify students at risk. Additionally, promoting safe Internet use and encouraging students to seek support from trusted adults, such as teachers and their families, may be crucial interventions.

Keywords: Anxiety, Consultation, Depression, Emotional stress, Internet addiction, Students

Gender-specific factors of non-suicidal self-injury among high school students in Yunnan Province, China: a machine learning approach

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Abstract

Introduction: Non-suicidal self-injury (NSSI) plays a crucial role in predicting suicidal behaviors. This study aims to explore the gender differences in NSSI among high school students in a western province of China.

Objectives: To examine potential risk factors in NSSI using combine logistic and machine learning (ML), including Least Absolute Shrinkage and Selection Operator (Lasso) and Boruta feature selection, and explore gender-specific risk factors for NSSI in high school students, providing a new insight for suicide prevention in this population.

Methods: A total of 6180 high school students participated in this survey. Univariate analysis was employed to describe the influencing factors of students' NSSI. Subsequently, adopting ML to screen variables, and logistic regression model to estimate the direction and effect magnitude of the influencing factors.

Results: The prevalence of NSSI was significantly higher for females (31.34%) than males (16.73%). Lasso identified 9 important variables within the male dataset and 10 significant variables within the female, and Boruta feature selection identified 13 significant variables in both male and female datasets. To discover more nuanced understanding of gender-specific risk factors for NSSI, the logistic regression model was established using the variables screened by Boruta feature selection, indicated that anxiety, depression, suffering emotion abuse or emotion neglect in childhood, evening chronotype are common risk factors for NSSI in male and female students. Notably, female students exhibiting aggressive behavior, have experienced bullying incidents, or are at the junior high school learning stage were more likely to report NNSI compared to their male counterparts.

Conclusion: Females in junior high school exhibit a higher likelihood of reporting NNSI compared to their senior high school counterparts and males overall. Among females, specifically, those displaying aggressive behavior and experiencing campus bullying face an elevated risk of NSSI compared to males. Tailored prevention strategies should be developed and implemented taking into account these gender-related distinctions.

Keywords: Gender-specific factor, High school student, Machine learning, Non-suicidal self-injury

Cost-effectiveness of perinatal depression screening and treatment strategies in China: a markov model simulation

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Abstract

Introduction: Perinatal depression impacts 16.3% of pregnant women and new mothers in China. However, current research lacks clear guidance on the optimal timing, frequency, and format of psychological interventions for screening and treating perinatal depression.

Objectives: This study aims to assess the cost-effectiveness of various screening and treatment strategies compared with usual care.

Methods: A Markov model was constructed using six states (health, mild depression, moderate depression, severe depression, remission, and death) with a 22-month time horizon to simulate a hypothetical cohort of 100,000 Chinese pregnant women. We considered frequencies, intervals, and treatment combinations to design 4 strategies as follows: (1) Screening at 42 days postpartum with individual cognitive behavioral therapy (hereinafter referred to as "42D-ICBT");(2) Screening at 42 days postpartum with group cognitive behavioral therapy(hereinafter referred to as "42D-GCBT"); (3) screening at first-, second-, and third-trimester, and 42 days after childbirth with individual cognitive behavioral therapy(hereinafter referred to as "T1-3/42D-ICBT"); and (4) screening at first-, second-, and third-trimester, and 42 days after childbirth with group cognitive behavioral therapy(hereinafter referred to as"T1-3/42D-GCBT"). Cost-effectiveness was assessed in terms of cost per quality-adjusted life-year (QALY) gained, with uncertainty analyzed through probabilistic and deterministic sensitivity analyses.

Results: Costs for the strategies "usual care", "42D -ICBT", "42D -GCBT", "T1-3/42D-ICBT", and"T1-3/42D-GCBT" are 1,720.05 CNY, 1,869.15 CNY, 1,760.64 CNY, 2,223.44 CNY, and 1,547.71 CNY, respectively. The total health outcomes of QALYs are 1.8006, 1.8020, 1.8020, 1.8152, and 1.8147, respectively. Compared with " usual care ", "T1-3/42D-GCBT" saves 12,269.96 CNY per QALY gained, while"T1-3/42D-ICBT" costs 34,522.42 CNY per QALY gained, all of which were below the willingness-to-pay threshold of three times GDP per capita in 2022 (257,094.00 CNY) for Chinese. These findings were robust across deterministic and probabilistic sensitivity analyses.

Conclusion: Perinatal depression screening and treatment is a cost-effective strategy and should be incorporated as part of usual maternal care. Recommended screening with PHQ-9 questionnaire four times during the first-, second-, and third-trimester, and 42 days after childbirth, followed by group psychotherapy if necessary.

Keywords: Cost-effectiveness, Markov model, Perinatal depression, Screening and treatment

The prevalence of stress and perceived knowledge on stress management among university students in Phnom Penh, Cambodia

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Abstract

Introduction: Stress, a common mental health disorder, is known to induce discomfort among individuals. It is widely acknowledged that stress is prevalent among university undergraduate students in both developed and underdeveloped countries. Stress can lead to various physical and mental health problems which can have a significant impact on an individual such as anxiety, anger, pain or changing in appetite or mood swing. In Cambodia, there is a limit studies on the prevalence of stress and perceived knowledge on stress management, particularly among university students.

Objective: This study aims to determine the prevalence of stress among university students in Phnom Penh, to explore the different levels of perceived knowledge on stress management, and to seek insights on stress treatment.

Methods: A cross-sectional study was conducted among adults (n=126) from five differences universities in Phnom Penh using face to face interview. Data was coded and analyzed by using SPSS and MaxQDA.

Results: The findings shows that most students have different levels of stress which high levels of stress 80.2% compared to moderate stress 19.8%. Most participants are reported to have good knowledge 93.7% and poor knowledge 6.3% on stress management. Non-therapeutics such as hangout, sleep, exercise and music therapy were commonly used by participants to manage stress.

Conclusion: This result showed that most students are having good knowledge on stress management, but they cannot manage to reduce their level of stress. Therefore, there is a need to create programs to increase and improve student's stress-management skills and coping abilities program at university.

Keywords: Perceived knowledge, Stress, Stress management, Treatment

Association between depressive symptoms and smoking intensity with ethnic minorities in Yunnan Province, China: a moderated mediation model

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Abstract

Introduction: A national survey shows that the risk of depression among Chinese residents has been detected at a rate of 10.6%, while smoking consumption rates also increase yearly. Previous research has indicated that depressive symptoms may contribute to an escalation in smoking intensity; however, there remains a limited understanding of the mediating and moderating mechanisms underlying this association.

Objectives: This study aimed to investigate the relationship between depressive symptoms and smoking intensity among ethnic minorities residing in Yunnan province, China. We examined the mediating role of meaning in life as well as the moderating influence of gender in this relationship.

Methods: Employing a cross-sectional design, data collection was conducted from July to December 2022 in five selected counties. The participants comprised 1723 ethnic minorities (864 males and 859 females) from three regions within Yunnan Province, China, who completed measures encompassing demographic information, smoking behavior information, the Patient Health Questionnaire-9(PHQ-9), and the Purpose in Life Test-short from (PIL-SF).The PROCESS models 4 and 14 were used to conduct a moderated mediation analysis.

Results: The findings revealed a positive correlation between depressive symptoms and smoking intensity. Additionally, meaning in life was found to partially mediate the link between depressive symptoms and smoking intensity. Moreover, gender moderated the mediating effect of meaning in life with a stronger impact observed among males.

Conclusion: This study enhances our understanding of how depressive symptoms contribute to increased smoking intensity for specific individuals and provides novel insights for interventions targeting tobacco use. It also underscores the significance of considering gender-related factors when developing prevention and intervention programs that address smoking intensity.

Keywords: Depressive symptoms, Ethnic minorities, Gender, Meaning in life, Smoking intensity

Factors associated with moderate or severe mental health symptoms among hypertensive and diabetic patients in a temporary shelter in Thailand

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Abstract

Introduction: Hypertension and diabetes are chronic conditions that require continuous management and access to healthcare, making them particularly challenging for displaced populations. Displaced chronic patients often struggle to take medications regularly and face difficulties in adjusting lifestyle modifications due to their precarious living conditions, challenging socioeconomic circumstances and the limited resources, which can significantly contribute to the development of mental health problems.

Objectives: This study explored the factors associated with moderate or severe mental health symptoms among the displaced persons with hypertension and/or diabetes in a temporary shelter along Thailand Myanmar border.

Methods: This study used baseline data from a clinical trial that aims to evaluate the impact of an evidence-based mental health intervention on improvement of behavioral and clinical outcomes of the chronic population. The IDSS & AMHR Myanmar-Wide Short Instrument was used to measure the severity of mental health symptoms. Multivariable logistic regressions were used to identify the factors related to moderate or severe mental health symptoms.

Results: Among 224 participants, 38.39% (95% CI: 32.20% – 44.97%) had moderate or severe mental health symptoms. Factors that were associated with moderate or severe mental health symptoms, presented as odds ratio (OR) and 95% CI, included non-Karen ethnic groups (OR = 2.05, 95%CI =1.03 to 4.10, p = 0.041), having diabetes (AOR= 2.31, 95% CI=1.21 to 4.38, p= 0.011), financial inadequacy (AOR= 2.52, 95% CI=1.15 to 5.50, p= 0.021), having unhealthy behavior (AOR= 2.21, 95% CI=1.11 to 5.69, p= 0.027) and had sleeping problems (AOR= 2.31, 95% CI=1.67 to 6.15, p= 0.001).

Conclusion: Socioeconomic and behavioral factors had an influence on the severity of mental health symptoms. It is important to take appropriate measures to improve the mental health of chronic patients.

Keywords: Diabetes, Displaced persons, Hypertension, Mental health

Parallel session XIII- Health Literacy and Health Promotion (Group 2) + Health Service and Healthcare Management - Namkhong Hall 1

- **Chair:** Assoc. Prof. Dr. Nitikorn Phoosuwan, Kassetsart University
- **Co-chair:** Asst. Prof. Dr. Aree Butsorn, Ubon Rachathani University
- Assist. Prof. Dr. Chaiwut Bourneow, MHS University
- Dr. Kate Eddens, Assoc. Research Scientist, Indiana University School of Public Health – Bloomington

13:30-15:10	Code	Title of Abstracts	Authors
13:30-13:38	CODE201	Consumption of commercially packaged sweet and savoury snacks and sugar-sweetened drinks by children 6-23 months in Oudomxay and Houaphan, Lao PDR	Pantavanh Keobolith
13:38-13:46	CODE191	Evaluation of the correlation between frailty and sleep quality among elderly: A cross-sectional study	Nguyen The Diep
13:46-13:54	CODE127	Oral health behavior, oral hygiene status, and gingivitis among early primary school children in Bangkok, Thailand	Pemmika Intato
13:54-14:02	CODE342	Adolescent healthier through behavior change adolescent health promotion	Leeva Norporyengva
14:02-14:10	CODE015	Nicotine dependence status and its influence on quality of life of elderly Hani people in Mo Jiang County Yunnan Province	XiminLi
14:10-14:18	CODE194	Effectiveness of 'SMART TEETH' Program on Oral Health Literacy, Oral Health Care Behaviors and Oral Health Quality of Life among Elementary School students of Schools Under the Si Sa Ket Provencal Municipality	Karnchanok Somchai
14:18-14:26	CODE363	Research for influence of social network on drug use among clients of methadone maintenance treatment (MMT) clinics in Kunming	Ling Shen
14:26-14:34		Closing Remark	

Consumption of commercially packaged sweet and savoury snacks and sugar-sweetened drinks by children 6-23 months in Oudomxay and Houaphan, Lao PDR

Pantavanh Keobolith[1], Ranjan Shrestha[1], Thomas Casale[2], Anne Bossuyt[2],
Anolay Vongsouthi[1], Priyanka Basnet[1]

Abstract

Introduction: The Enhancing Nutrition for Upland Farming Families (ENUFF) project aims to improve family and child nutrition in remote and ethnically diverse upland farming communities in northern Laos which includes the promotion of healthy snacks and complementary food through cooking demonstration and community-based growth monitoring and promotion. Even with the project interventions, the consumption of unhealthy snacks is widely visible in the communities.

Objectives: A study was conducted to investigate to assess the prevalence of unhealthy snack and beverage consumption amongst children and its determinants.

Methods: The study used a mixed-methods approach across 16 villages in Houaphan and Oudomxay provinces. 305 household surveys, 8 focus group discussions, and 23 key informant interviews were conducted between October 19th and November 5th, 2023. Caregivers, health workers, and shop owners were interviewed. To assess the diet a 7-day food frequency questionnaire was used.

Results: The study found that more than 70% of children aged 6-23 months had consumed unhealthy snack foods and beverages in the past week while more than 20% were consuming them every day. The most popular types of snacks were sweet biscuits, cookies, chips, and packaged traditional snacks. As for drinks, commercially packaged sweetened drinks including fresh fruit juice, sweetened milk, and soft drinks were the most popular. The focus group discussions revealed that these snacks were given as a reward for good behavior and to stop children from crying. Other drivers included affordability and easy access within the community. Despite limited incomes, 50% of caregivers spent between 10,000 and 50,000 LAK per week on unhealthy snacks and beverages.

Conclusion: The widespread consumption of these unhealthy snack foods and beverages poses a significant threat to the country's target of reducing malnutrition.

Keywords: Affordability, Caregivers, Easy access, Malnutrition, Reward

Evaluation of the correlation between frailty and sleep quality among elderly: a cross-sectional study

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Abstract

Introduction: Poor sleep quality and frailty are common problems among aged people. However, the association between sleep quality and frailty in older people is seldom discussed in low- and middle-income countries.

Objectives: Thus, this study investigated this association hopefully to provide knowledge for the prevention of frailty among elderly patients in Vietnam.

Methods: We conducted a cross-sectional study and enrolled 272 subjects from October 20, 2023, to May 10, 2024, 106 male and 166 female, aged 60-95 years old were recruited in outpatient departments at Thai Binh Medical University Hospital, Northern Vietnam. A self-designed demographic data questionnaire, poor sleep quality was defined as the Pittsburgh Sleep Quality Index (PSQI) ≥ 7, and a Centers for Disease Control and Prevention (CDC)-2017 instrument with 12 items was used for evaluating the risk of falls among participants. Multivariate logistic regression was performed to evaluate the factors affecting frailty and poor sleep quality in patients.

Results: The median age of the participants was 70 years, 61% of them were women, the mean frailty score was 2.2 ± 2.96 and a total of 152 (65.8%) were frailty. The mean PSQI score was 10.9 ± 6.6 and a total of 241 (88.6%) patients had poor sleep quality (PSQI > 7). Multiple logistic regression showed that the presence of poor sleep quality in the elderly was significantly correlated with an increased rate of frailty (odds ratio [OR] of 1.308, 95% confidence interval [CI]: 1.092–1.566, P = 0.004).

Conclusion: We found that frailty and sleep quality were prevalent and that frailty was positively correlated with the PSQI score in elderly patients in Vietnam. The higher the frailty score is, the worse the sleep quality. It means the frailer old patients were, the worse their sleep quality and poor sleep quality may increase the risk of frailty in elderly patients. To manage elderly patients with osteoporosis effectively, medical staff should pay attention to frailty, sleep quality, and its influencing factors.

Keywords: Elderly, Frailty, Insomnia, Sleep disorders, Sleep quality

Oral health behavior, oral hygiene status, and gingivitis among early primary school children in Bangkok, Thailand

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Abstract

Introduction: Gingivitis can affect the functional, psychological, and social dimensions of a child's well-being, which may lead to pain, discomfort, lost school time, low self-esteem, and a negative impact on the quality of life. Various risk factors contribute to gingivitis, which can progress and affect the periodontium in adults.

Objectives: This study aims to identify the association between oral health behavior, oral hygiene status, and gingivitis among early primary school children in Bangkok, Thailand.

Methods: The secondary data of 193 early primary school children from dental chart records collected by the School Oral Health Promotion Program were analyzed using multivariable logistic regression.

Results: The prevalence of gingivitis in early primary school children aged 6-11 years old was 83.4%. Logistic regression analysis revealed that gender and poor oral hygiene were significantly associated with gingivitis (adjusted OR =3.169, 95% CI = 1.386- 7.243 and adjusted OR = 15.509, 95% CI = 2.680- 89.761), respectively.

Conclusion: Gingivitis remains highly prevalence among school children which is related to gender and poor oral hygiene. These findings may be used to promote school policies for improving children's oral health which can help to decrease the progression of periodontium in the future.

Keywords: Gingivitis, Oral health behavior, Oral hygiene status, Primary school children

Adolescent healthier through behavior change adolescent health promotion

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Abstract

Introduction: To support Lao PDR's Sustainable Development Goals such as teenage pregnancy rate, Lao Red Cross (LRC) together with the Provincial Health Department (PHD) started the Integrated Primary Health Care Project (IPHCP) aimed to improve adolescent health in 14 rural schools in two of Luangprabang's poorest districts, Pakseng and Phonethong.

Objectives: Contributing to improved health and well-being of disadvantaged adolescents.

Methods: Knowledge, Attitude and Practices (KAP) survey as baseline and extensive stakeholder coordination with Provincial Departments and District authorities led to the development of a coherent Behavior Change Adolescent Health Package (BCA-HP) curriculum. Student volunteers receive BCA-HP training as well as training material and subsequently provide peer-to-peer health education to other students. Trained and equipped teachers further provided additional educational sessions within and outside of the classroom setting. LRC monitored monthly, quarterly and semi-annually through fixed standard indicators on knowledge, health behavior change including water sanitation and hygiene. The PHD and health centers provided additional health promotion at village level, joined by school volunteers.

Results: A total of 350 adolescent students (59 percent girls; 41 percent boys) received training in year 2023, of whom 80 percent demonstrated significant improvement in their health understanding post-training. As an indirect result of combined efforts, the adolescent pregnancy rate was reduced from 100/1,000 to 59/1,000 in Pakseng and from 90/1,000 to 54/1,000 in Phonathong from 2022-2023.

Conclusion: Adolescent health improved through health education and health promotion by youth volunteers at school and improved health service at health centers. Integrated and coordinated work between LRC, PHD and districts led to positive influence on national SDG indicators. Increased knowledge of healthy lifestyles in youth supported the reduction of the adolescent pregnancy rate.

Keywords: Adolescent health, Behavior change, Volunteer

Nicotine dependence status and its influence on quality of life of elderly Hani people in Mo Jiang County Yunnan Province

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Abstract

Introduction: Nicotine dependence can indeed have detrimental impact on the quality of life for the elderly.

Objectives: The aim of this study was to analyze the prevalence of nicotine dependence and its impact on quality of life among the elderly of Hani ethnic minority in rural areas of Mo Jiang County, Yunnan Province.

Methods: The multistage stratified random sampling method was used to select 1402 rural Hani ethnic minority residents aged ≥ 60 years from Mo Jiang County of Yunnan Province, and conducted questionnaire survey for each participant.

Results: Among the study population, the overall prevalence of current smoking was 23.8%, and males had a significantly higher prevalence of current smoking than females (49% vs. 0.5%, $P < 0.001$). Older adults with primary school education or above had higher prevalence of current smoking that illiterate ($P < 0.05$). The prevalence of nicotine dependence among male current smokers was 44.5%. The highest prevalence of nicotine dependence was found among those aged 60~64 years and those with two or more chronic diseases ($P < 0.05$). The mental component summary, social functioning and role-emotional of male nicotine dependence were higher than non-nicotine dependence ($P < 0.05$). The results of multiple linear regression showed that nicotine dependence is positively correlated with mental component summary, social functioning and role-emotional in older male smokers ($P < 0.05$).

Conclusion: The Hani ethnic minority elderly male has a relatively high prevalence of nicotine dependence, and nicotine dependence improved the mental component summary, social functioning and role-emotional of male smokers. Attention should be paid to the nicotine dependence of local male elderly and their quality of life management should be strengthened.

Keywords: Elderly, Hani ethnic minority, Nicotine dependence, Quality of life, Rural area

Effectiveness of 'smart teeth' program on oral health literacy, oral health care behaviors and oral health quality of life among elementary school students of schools under the Si Sa Ket Provincial Municipality

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Abstract

Introduction: Dental caries and gingivitis are common oral health problems among school-age children. Having dental caries increases toothache in children. Unable to chew food, the body does not receive complete nutrients. It affects growth and also affects sleep and learning.

Objectives: To study the effectiveness of the SMART TEETH program on oral health literacy, behaviors, plaque index, and oral health-related quality of life (OHRQoL) among elementary school students in Si Sa Ket Municipality.

Methods: This quasi-experimental study, a total of 72 students were randomly assigned to either the experimental (n = 36) or control group (n = 36). The experimental group received the 'SMART TEETH' program for 12 weeks, comprising lectures, demonstrations, practice, and group discussions. The control group received regular dental health education. Data were analyzed using descriptive statistics, Paired t-test, and ANCOVA.

Results: After the intervention, the experimental group demonstrated significantly higher mean in oral health literacy (mean difference=6.59, 95%CI=2.51-10.66) and behaviors (mean difference=2.89, 95%CI=1.60-4.18) compared to baseline. They also had a significantly lower mean plaque index (mean difference=2.29, 95%CI=2.13-2.45) and improved OHRQoL (mean difference=61.57, 95%CI=57.63-65.52). When controlling for confounding variables, the mean scores of oral health knowledge (mean difference = -0.72, 95% CI = -5.25-3.84) between the experimental and control group were different, statistically no significantly. However, the mean scores of oral health care behaviors (mean difference = 1.44, 95% CI = 0.12-2.76) plaque index (mean difference = 0.92, 95% CI = 0.58-1.26) and OHRQoL (mean difference = 7.00, 95% CI = 2.90-11.11) were different, statistically significantly.

Conclusion: The SMART TEETH program effectively improved oral health knowledge, and oral health skills in primary students. Therefore, Long-term monitoring by parents and teachers is encouraged.

Keywords: Oral health behaviors, Oral health literacy, Oral health program

Research for influence of social network on drug use among clients of methadone maintenance treatment (MMT) clinics in Kunming

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Abstract

Objectives: To examine drug use behavior of clients attending Methadone Maintenance Treatment (MMT) programs and its relationship with the clients' social network characteristics by cross-sectional study. It visited 324 consecutive MMT clients in four MMT clinics in Yunnan province, China

Methods: A structured, self-completed questionnaire on background characteristics and existing social network. Current drug use was assessed by urine test for opiate metabolites. The association between client's social network characteristics and their own current drug use behavior is analysed using multiple logistic regression adjusting for socio-demographic characteristics.

Results: MMT clients were more likely to concurrently use heroin while attending MMT if their social network had any of the following characteristics: more than half of the members were older than them (AOR = 1.03, 95% CI = 1.00,1.06), any member had a high level of influence on them (AOR = 6.47, 95% CI = 2.86,14.65) and any member joined them in using drugs (AOR = 1.94, 95% CI = 1.04,3.63). Having a social network member who could provide emotional support (AOR = 0.11, 95% CI = 0.03,0.35), having a spouse and/or child in their social network (AOR = 0.44, 95% CI = 0.24,0.81) and having a social network member with a high level of closeness (AOR = 0.28, 95% CI = 0.09,0.90) were associated with a decreased odds of heroin use.

Conclusion: Social networks who could provide MMT clients with emotional support and a close relationship were significant factors for reducing the risk of concurrent drug use among clients attending MMT clinics in Kunming, China. Behavioral interventions should address the role of family and social network members in providing support to these clients.

Keywords: Drug use, Methadone Maintenance Treatment (MMT), Social support network

Parallel session XIV- Health Service and Healthcare Management (Group 2)- Namkhong Hall 2

- **Chair:** Asst. Prof. Dr. Kitti Laosupap, Ubon Rachathani University
- **Co-chair:** Dr. Saroj Nakju, Rhamkhamheang University
- Asst. Prof. Kittipong Sornlorm, KKU
- Dr. Nilar Aye Tun, University of Public Health, Yangon, Myanmar

13:00-15:10	Code	Title of Abstracts	Authors
13:30-13:38	CODE225	Communication among hospital pharmacists to advance health equity in clinical pharmacy practices in Lao PDR	Vanlounni Sibounheuang
13:38-13:46	CODE218	Initial results of the model of care in supporting patients to access comprehensive care and treatment services in Vietnam	Trang Le
13:46-13:54	CODE244	Knowledge, attitudes, and practices toward hepatitis B virus infection among medical students at Hai Phong Medical University, Vietnam	Trinh Mai Phuong
13:54-14:02	CODE023	Care providers perspective towards implementation of antenatal high risk pregnancy screening in Lao PDR: qualitative study	Sisomphone Sengdala
14:02-14:10	CODE042	Multilingual communication experiences of HIV-infected Burmese wives	Rui Deng
14:10-14:18	CODE211	Utilization of medical examination services and it's influencing factors among middle-aged and elderly people in ethnic minority-populated areas in Yunnan Province of West China	JiayiXIONG
14:18-14:26	CODE234	Situation of examination and treatment of chronic diseases among elderly people at Sa Thay health district center in Kontum province, Vietnam	Ngo Viet Loc
14:26-14:34	CODE220	Related factors of depression symptom among middle-aged and older adults of Zhiguo ethnic minority groups in Yunnan province	Xinping Wang
14:34-14:42	CODE214	Development and validation of digital competence assessment scale for health professions students	Cua Ngoc Le
14:42-14:50	CODE245	Dynamic Microsimulation Model for Disability Status among Middle-aged and Elderly Population in Yunnan, China	Xuan Wen
14:50-14:58	CODE248	Effects of a therapeutic lifestyle modification intervention on health-related quality of life of Chinese women during the menopause transition: a randomized controlled trial	Yuru Wang
14:58-15:06		**Closing Remark**	

Communication among hospital pharmacists to advance health equity in clinical pharmacy practices in Lao PDR

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Abstract

Introduction: Communication between clinical pharmacists, healthcare professionals, and patients is fundamental for improving patient health outcomes, inter-professional practice, and health services, thereby promoting health equity among diverse populations. In Lao PDR, clinical pharmacy is mainly practiced in hospitals, where communication plays a critical role in healthcare delivery.

Objectives: This study aims to determine the patterns of communication among hospital pharmacists and the differences in communication activities among various pharmacists, hospitals, and geographical areas in Lao PDR.

Methods: A cross-sectional study surveyed hospital pharmacists responsible for patient care practices across all 158 hospitals in Lao PDR from January to March 2022. It assessed the frequency of clinical pharmacy practices with a focus on collaboration, while also examining differences in practice based on pharmacist characteristics, hospital types, and geographical areas.

Results: One hundred and thirty-nine hospital pharmacists completed the questionnaire (87.97% response rate), with 72.66% female, 53.24% aged 35 or older, and 73.38% having less than 20 years of work experience. No significant differences were found between provinces in written communication and assertive, empathetic verbal interactions. Sekhong demonstrated excellence in communication patterns across diverse groups and in tailoring written communications. Comparison between provinces reveals consistency in communication and consultation practices. Additionally, no notable variations among provinces were found in communicating with assertiveness, confidence, empathy, and respect. However, differences between provinces were observed only in verbal communications by pharmacists tailored to varied clinical and patient-specific environments.

Conclusion: Pharmacists are strategically positioned to play a pivotal role in reducing health disparities by implementing clinical pharmacy practices that offer culturally and linguistically appropriate care while also considering communication and health equity. This approach enables hospital pharmacists to enhance patient quality of life.

Keywords: Clinical pharmacy practice, Communication, Health equity, Hospital pharmacists, Lao PDR

Initial results of the model of care in supporting patients to access comprehensive care and treatment services in Vietnam

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Abstract

Introduction: The care and treatment of hepatitis in Vietnam are mainly concentrated in central and provincial health facilities leading to challenges for patients at the district level in accessing medical services, economic difficulties, and decreased treatment efficacy.

Objectives: This research aims to explore the feasibility of implementing a comprehensive model of care that enhances access to care and treatment services for hepatitis patients at the district level.

Methods: The model of care has been tested from January to April 2024 with two components: 1) collection and analysis of patient data through a system developed by the research team, and 2) communication activities targeting both patients and healthcare staff including healthcare staff training, and communication materials for community education about hepatitis prevention, treatment, and care.

Results: The success of this research has enhanced people's access to a diverse range of health services, including linkage to care, treatment, and communication. A patient data management system has been developed and implemented in district hospitals. Among 3,511 individuals screened, 225 tested positive, 96 were linked to care, and 40 positive patients are eligible for treatment. Besides, 5 categories of communication products were developed including brochures, posters, talk show scripts, radio broadcasts, and infographic files for social media platforms; 2 training sessions on the detection, diagnosis, and treatment of hepatitis for 47 doctors and nurses in district hospitals were organized. This model has also supported building a social health insurance payment mechanism for hepatitis patients at the district level.

Conclusion: The data collected have not only demonstrated the effectiveness of the care model in supporting patient access to hepatitis treatment services but also instilled a sense of hope and optimism. This model has significantly improved the equity of the population in accessing healthcare services, marking a positive step forward in our healthcare system.

Keywords: Integrated care, Noncommunicable diseases, Philippines, Primary care, Readiness

Knowledge, attitudes, and practices toward hepatitis B virus infection among medical students at Hai Phong Medical University, Vietnam

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Abstract

Introduction: Building capacity in hepatitis B virus prevention and management for medical students and health professionals is one of the pillars of the Vietnam national viral hepatitis control strategy.

Objectives: Evaluate the knowledge, attitudes, and practices of medical students in Hai Phong Medical University, Vietnam about HBV prevention and control to identify opportunities for improving the capacity of future medical professionals to eliminate new HBV infections and reduce the burden of CHB.

Methods: A cross-sectional study was conducted among final-year medical students at Hai Phong University of Medicine and Pharmacy from November 2021 to May 2022, using a stratified random sampling technique.

Results: Among 496 participants, 80.9% reported they had been tested for hepatitis B and 81.9% had received the hepatitis B vaccine. The mean knowledge, attitude, and practice score was 34.6 out of 54 (64%) with only 29% of the study participants obtaining a good score. In multivariate analysis, female students (p < 0.001) and students who had encountered chronic hepatitis B patients (p <0.0001) had significantly higher knowledge scores. By contrast, significantly lower knowledge was found among students majoring in Medical Laboratory and Odonto-Stomatology (p < 0.0001). The study also highlighted a lack of trust in the hepatitis B vaccine safety and lack of confidence in providing counseling, testing, and management of patients with chronic hepatitis B.

Conclusion: Our findings highlighted the need to strengthen the school's training program regarding Hepatitis B prevention. Thereby, the program could equip future medical professionals with the readiness for hepatitis B prevention and management.

Keywords: HBV, Knowledge, Medical students, Vietnam

Care providers perspective towards implementation of antenatal high risk pregnancy screening in Lao PDR: qualitative study

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Abstract

Introduction: Maternal and perinatal mortality are still the major concern problems in Laos and many other low-income countries. Standard antenatal screening of high-risk pregnancy can improve maternal and perinatal health outcomes.

Objective: The main purpose of this study was to explore the barriers, limitation of its implementation of high-risk pregnancy early detection in Laos.

Methods: This study was carried out in four provincial hospitals in Laos from February to December 2023. Qualitative research methods including key informant interviews from ANC clinic was conducted. The study applied purposive sampling to recruit 13 obstetricians ,5 midwives and 1 general practitioner for data collection. In-depth semi-structured individual interviews were used to collect the data. Deductive conventional content analysis was concurrently done.

Results: Three main categories were identified that hinder implementation of the Antenatal high screening for high risk pregnancy : a) importance of antenatal high risk pregnancy screening such as benefit of early detection of high risk pregnancy, b) barriers of antenatal high risk pregnancy screening include Political commitment of government, Infrastructures (laboratory testing , drug and medical equipment), Cultural belief and language barrier, human resources, training issues (availability of antenatal care guideline, refresher training), health insurance issues. c) referral of high-risk pregnancy women consist of needs the referral guidelines and improvement the referral mechanism.

Conclusions: The antenatal screening for high-risk pregnancy in Laos is not being fully implemented in the four facilities. The capacity building of human resources, infrastructure and health insurance coverage need to be improved.

Keywords: Antenatal screening, Care providers, High risk pregnancy, Laos, Perspective

Multilingual communication experiences of HIV-infected Burmese wives

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Abstract

Introduction: The China-Myanmar borderland embodies a zone of transnational aspiration and anxiety with a high risk of contagious diseases. As a major global disease, human immunodeficiency virus (HIV) epidemic has been increasing, particularly among linguistic minorities in the China-Myanmar borderlands.

Objective: To ensure that public healthcare provisions are accessible for linguistic minorities living with HIV, we examine the communication experiences of HIV-infected Burmese wives at a Chinese border town.

Methods: Drawing on a critical sociolinguistic ethnography conducted between May 2022 and December 2023, this study collected multiple types of data, including semi-structured interviews with two Burmese wives and four stakeholders (comprising two Chinese healthcare providers and two Chinese husbands), participant observation, field notes, and relevant written documents such as China's HIV healthcare policies.

Results: The findings demonstrate that language presents a significant barrier to the Burmese bride's access to China's public healthcare programs, and their health disparities are exacerbated by compounding disadvantages in migration status, low socioeconomic conditions, and cultural stigma. To overcome these challenges in accessing public healthcare resources, Chinese husbands and healthcare providers play crucial roles as intermediaries for ensuring sustainable treatment and effective communication. They have developed collective resilience to enhance the quality of HIV healthcare services.

Conclusion: The study emphasizes the significance of providing multilingual services as a public healthcare intervention and protective measures to enhance borderland resilience for both the local medical system and linguistic minorities in China and beyond. By addressing the lived experiences of linguistic minorities at the intersections of language, gender, class, and migration status, our study contributes valuable insights to the field of crisis communication in multilingual contexts.

Keywords: Burmese wives, HIV healthcare communication, Multilingual crisis communication, Transnational migration

Utilization of medical examination services and it's influencing factors among middle-aged and elderly people in ethnic minority-populated Areas in Yunnan Province of West China

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Abstract

Introduction: Background An aging society is often accompanied by a high prevalence of non-communicable diseases (NCDs), which increases healthcare expenditures and burden of disease on society. Routine medical examination is important for early detection, early diagnosis, and active and effective intervention of NCDs.

Objective: This study aimed to describe the utilization of medical examination services for middle-aged and elderly people in ethnic minority areas in Yunnan Province, to analyze the influencing factors of medical examination, and to provide scientific evidences for optimizing the health resources and improving quality of health care for NCDs for ethnic minorities.

Methods: Using multi-stage random cluster sampling method total 2,710 middle-aged and elderly people involved in this study. The multivariate logistic regression was applied based on Anderson's model to analyze the influencing factors.

Results: The utilization rate of medical examination services for middle-aged and elderly people in ethnic minority-populated areas in Yunnan Province was 73.7%, and the utilization rate of regular medical examination services was 39.3%. The results of the multivariate logistic regression analysis showed that gender (female: unscheduled medical checkup OR=1.294, regular medical checkup OR=1.531), age (60-74 years old: unscheduled medical checkup OR=1.666, regular medical checkup OR=4.235), 75 years old and above (unscheduled medical checkup OR=1.499, regular medical checkup OR=2.673), education (junior high school and above: OR=1.367 for irregular medical checkups, OR=1.575 for regular medical checkups), health literacy level (high health literacy level: OR=1.431 for regular medical checkups), occupation (farming: OR=0.716 for regular medical checkups), NCDs (yes: OR=1.419 for regular medical checkups), detection of depressive symptoms (yes: OR=0.692 for regular medical checkups), regular exercise (yes: OR=1.298 for irregular medical checkup OR=1.298, regular medical checkup OR=1.839), and healthcare facilities nearest to home (township and above healthcare facilities: irregular medical checkup OR=1.318, regular medical checkup OR=1.391) were the influencing factors for the utilization of medical examination services.

Conclusion: The utilization rate of medical checkup services among middle-aged and elderly people in ethnic minority-populated areas in Yunnan Province is high, but regular medical examination services are underutilized.Factors about personal characteristics have the widely influence on the utilization of medical examination services.Factors about health behaviors and contextual characteristics have some influence on the utilization of medical examination services. There is no significant differences have been found in the utilization of medical examination services between Han and ethnic minorities.It is suggested that the quality of medical examination services at township health centers need to be improved.More attentions should be placed on males, middle-aged and young seniors,less education, farmers, patients with NCDs, and groups with symptoms of depression, so as to enhance their awareness of medical examination and increase the level of utilization of regular medical examination services.

Keywords: Influence factor analysis, Middle-aged and elderly people, Physical examination, Yunnan province

Situation of examination and treatment of chronic diseases among elderly people at Sa Thay Health District Center in Kontum Province, Vietnam

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Abstract

Introduction: Many studies on the situation of the elderly people have been conducted, but there were still a few studies on examination and treatment of their chronic diseases.

Objectives: To describe the situation of chronic diseases in the elderly people at Sa Thay Health District in Kontum Province and to find out some factors related to examination and treatment of their chronic diseases.

Methods: A cross-sectional descriptive study on 460 elderly people at Sa Thay Health District in Kontum Province. The χ^2 test with significance level $\alpha = 0.05$ was used to find factors related to examination and treatment of their chronic diseases.

Results: The prevalence of chronic diseases in the study subjects was 61.7%. Hospitals or health centers are the places where the majority of subjects choose to have periodic chronic diseases examination (51.1%); 19.7% of the subjects did not have chronic diseases examination. The marital status and main income of the study subjects are related to the use of chronic medical examination and treatment services at relapse (p value < 0.05).

Conclusion: Based on the findings, it is necessary to take appropriate actions and measures to promote the role of the elderly; increase resources in health care for the elderly.

Keywords: Chronic diseases, Examination and treatment services, The elderly

Related factors of depression symptom among middle-aged and older adults of *Zhiguo* ethnic minority groups in Yunnan Province

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Abstract

Introduction: As the pace of population aging accelerates, the mental health issues of middle-aged and elderly individuals are increasingly attracting widespread attention from society and governments. Studies suggest that with the progression of age, the likelihood of experiencing symptoms of depression also increases. Consequently, middle-aged and older adults have become a high-risk group for depression, particularly among the Zhiguo ethnic minority communities.

Objectives: To analyze the prevalence and influencing factors of depression symptom among middle-aged and older adults belonging to Zhiguo ethnic minority groups, who experienced relative isolation prior to modernization and bypassed the transitional period associated with feudal monarchy in Yunnan Province.

Methods: Using stratified cluster sampling, a total of 1035 individuals from Zhiguo ethnic minority groups were investigated with the 9-item Patient Health Questionnaire (PHQ-9) to measure depression symptom scores (a total score≥5 was considered indicative of depression symptom). A self-administered questionnaire was utilized to investigate 24 covariates across five dimensions: sociodemographic, social-interpersonal network, mental health status, physical health status, and health behaviors.

Results: Among the surveyed participants, 231 individuals (22.32%) exhibited depression symptoms. The logistic regression analysis showed that middle-aged and elderly people belonging to Zhiguo ethnic minority groups with occupations as laborers (OR=8.73), farmers (OR=7.34), and other professions (OR=7.13), those who reported feeling stressed or anxious in the last month (OR=5.43), those suffering from one (OR=2.81) or more chronic illnesses (OR=2.14), experiencing sleep problems (OR=3.74)/debilitating (OR=1.69)/mild-moderate pain (OR=2.23, 4.37), and engaging in sedentary behavior (OR=2.27)were at higher risk for depressive symptoms. The risk of depressive symptoms was lower among middle-aged and elderly people belonging to Zhiguo ethnic minority groups with higher social support scores (OR=0.96) and meaning in life scores (OR=0.96).

Conclusion: The prevalence of depressive symptoms among middle-aged and elderly individuals of Zhiguo ethnic minorities is substantial, influenced by multiple factors.

Keywords: Depression symptoms, Middle-aged and older adults, Related factors, Zhiguo ethnic minority groups

Development and validation of digital competence assessment scale for health professions students (DigiCAS-HPS) during post- Covid-19 new normal era

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Abstract

Introduction: The emergence of the COVID-19 pandemic triggered a swift transition to online learning, remote work and an increased demand for proficiency in telehealth and digital health among health professions students as they prepare for their future careers.

Objectives: In responding to the question: "What are the essential constructs and the validity of a digital competence assessment scale for health professions students", this study sought to develop and validate a digital competence assessment scale (DigiCAS-HPS).

Results: The present study followed a mixed-methods approach: qualitative methods (phase 1) for generating and refining items in the scale through literature review on digital frameworks, pilot testing and expert review, and quantitative methods (phase 2) including exploratory and confirmatory factor analysis for its validation. The study revealed a two-factor structure, encompassing Digital Communication, Collaboration, and Online Security (Factor 1) and Digital Content Development and Software Mastery (Factor 2), demonstrating strong construct validity and reliability. Regarding differences in digital competence across groups, older and soon-to-graduate students exhibited higher proficiency in digital content development and software mastery.

Conclusion: The two critical facets of DigiCAS-HPS scale could tailor training programs and ensure that health professions students are well-prepared for the evolving telehealthcare landscape. This promotes the growth and accessibility of telehealth, which is increasingly vital in the post-COVID-19 new normal era.

Keywords: Covid-19, Digital competence assessment, Health professions students, Telehealth, Training program

Dynamic microsimulation model for disability status among middle-aged and elderly population in Yunnan, China

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Abstract

Introduction: With the deepening aging trend, the proportion of elderly individuals in Yunnan Province is steadily increasing, paralleled by a notable rise in the numbers of disabled and semi-disabled elderly. Yunnan is thus confronted with a substantial challenge posed by aging demographics.

Objectives: To forecast disability trends among middle-aged and elderly residents in Yunnan Province and assess policy effectiveness using a dynamic microsimulation model.

Methods: The CHARLS Yunnan Province data from 2011, 2013, 2015, and 2018 were used for model construction, with data from 2020 used for internal validation, and the cross-sectional survey data from Yunnan Province in 2022 were used for external evaluation. The Katz Index of Independence in Activities of Daily Living (ADL) was used to assess the disability status. The random effects Logit model was used to construct a dynamic microsimulation model. Implementation scenarios of the 'Healthy Yunnan Action (2020-2030)' policy were simulated, and its effectiveness was evaluated by 2030.

Results: The 2% difference between predicted and actual results shows the model's strong predictive performance. The model's prediction showed that Yunnan's middle-aged and elderly disability rate rose from 23.09% in 2022 to 33.40% in 2030, a 10.31% increase over 8 years. Policy simulations suggested disability rates could decrease by 2.33%, 5.22%, and 9.64% by 2030 with pain prevalence reductions of 20%, 50%, and elimination of pain patients. Additionally, interventions such as "blood pressure control", "adequate sleep", "fall prevention", "smoking cessation", "alcohol limitation" and "blood glucose control" could all to varying degrees reduce the disability rate among middle-aged and elderly individuals.

Conclusion: Disability rates among middle-aged and elderly individuals in Yunnan are projected to increase. Urgent preventive measures are needed, focusing on chronic pain, high blood pressure, blood sugar, falls, and sleep, along with promoting healthy behaviors like smoking cessation and moderate alcohol consumption.

Keywords: CHARLS, Disability, Dynamic microsimulation model, Middle-aged and elderly individuals, Policy evaluation

Effects of a therapeutic lifestyle modification intervention on health-related quality of life of Chinese women during the menopause transition: a randomized controlled trial

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Abstract

Introduction: Population aging is a global challenge for achieving the Sustainable Development Goals (SDGs). China is specifically dealing with a substantial increase in the aging population, particularly with a large number of menopausal and post-menopausal women. Promoting the health and well-being of midlife women is crucial for achieving health equity. However, women experiencing the menopause transition have not received adequate attention.

Objectives: This study aimed to explore the effects of a Therapeutic Lifestyle Modification (TLM) intervention on health-related quality of life in perimenopausal Chinese women.

Methods: A 12-week randomized controlled trial with two parallel arms was conducted at a provincial hospital in China. Ninety-four eligible perimenopausal women aged between 40 and 55 years were randomly assigned to a TLM intervention or usual care at a 1:1 ratio. This new integrative lifestyle intervention consisted of menopause-related health education, dietary guidance, pelvic floor muscle training, and Bafa Wubu Tai Chi exercise. The outcome was assessed at baseline and post-intervention using menopause-specific quality of life (MENQOL).

Results: At the baseline, 88% of the participants reported moderate-to-severe menopausal symptoms. Ninety-three percent of them completed the entire intervention as planned, including the post-assessment. Linear mixed-effects model showed that the TLM intervention led to statistically significant reductions in the average total (-0.60, 95%CI [-0.80 to -0.41]) and domain scores (Vasomotor -0.81, 95%CI [-1.18 to -0.44], Psychological -0.53, 95%CI [-0.80 to -0.25], Physical -0.57, 95%CI [-0.76 to -0.38] and Sexual -0.79, 95%CI [-1.02 to -0.55]) of the MENQOL compared to the control group from the baseline to post-assessment. The between-group differences observed in the intention-to-treat analysis were confirmed through the per-protocol and sensitivity analyses.

Conclusion: The TLM intervention effectively improved menopause-specific quality of life for midlife women. Our study findings are valuable for improving post-reproductive healthcare services and promoting health equity.

Keywords: Health equity, Integrative lifestyle modification, Menopause empowerment, Menopause-specific quality of life, Post-reproductive healthcare

Parallel session XV- Environmental and Occupational Health - One Health – Eco Health., Global warming and Climate change adaptation (SDG 13), Health Equity to UHC (Group 3)- Namkhan Hall

- **Chair:** Prof. Dr. Suwat Chariyalertsak
- **Co-chair:** Assoc. Prof. Dr. Warangkana Chankong. Sukkhothai University
- Prof. Tran Thi Tuyet Hanh, HUPH
- Dr. Dirk Rombot Essink, VU, Netherland
-

13:00-15:10	Code	Title of Abstracts	Authors
13:30-13:38	CODE146	The application of fault tree analysis for assessing the Safety Integrity Level (SIL) of steam boiler: a case study in a university hospital, Thailand	Kanutsawan Maksuk
13:38-13:46	CODE025	Application of community-based health impact assessment: case study of Kuan Meang mountain's industrial stone quarry, Province, Thailand	Songpon Tulata
13:46-13:54	CODE149	Factors associated with accident prevention behavior among workers in the automotive production process. A case study in Ayuthaya, Thailand	Sasithon Rompa
13:54-14:02	CODE061	Reducing Health Impact of Traditional Gold Industry in Si Satchanalai, Thailand	SuwichaThaweesook
14:02-14:10	CODE133	Situational Analysis of Self Care in People with Respiratory Diseases During PM2.5 Situation	Dr. Napaphat Poprom/Assoc. Prof.Waraporn Boonchie Poprom
14:10-14:18			
14:18-14:26	CODE368	Distribution of diatom and climate ecological environment in Panlong river, Kunming, Yunnan	Linxiong Wu
14:26-14:34	CODE271	LASSO-Logistic regression based screening of NSSI risk factors for students with different chronotype in Yunnan provinces of China	TingSong
14:34-14:42	CODE188	Depressive trajectories of early adolescent middle school students after school entry: a longitudinal study	Peng Chen
14:42-14:50	CODE232	Isolation, identification, and biological characteristics of a yersinia enterocolitica bacteriophage strain	Chunpeng Mao
14:50-15:08		**Closing Remark**	

The application of fault tree analysis for assessing the Safety Integrity Level (SIL) of steam boiler: a case study in a university hospital, Thailand

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Abstract

Introduction: Fire and explosion from the steam boilers malfunction can cause serious injuries, deaths, and significant damages to properties. Many boilers are at high risk of fire and explosion due to the nature of work, and unfortunately it only takes one mistake to cause a serious, life-threatening fire and explosion.

Objectives: This study was to identify fire and explosion potential hazard for assessing the safety integrity level (SIL) in the process of steam production.

Methods: The Fault Tree Analysis (FTA) was applied to identify the potential hazards for assessing the SIL of the process of steam boiler. The study was conducted from April and August 2023 at a university hospital in Thailand.

Results: Flow control systems showed the average probability of failure on demand (PFD) as 5.7×10^{-1}. The PFD was classified as level 1 (SIL1: $\geq 10^{-2}$ to $< 10^{-1}$ time per year). Average probability of failure to perform its design function on demand showed very high probability of failure.

Conclusion: Eventually, efforts should be made to supervise those probability of failure by installing suitable safety instrumented system to reduce undesirable conditions, including to set mean time to repair for steam boiler. This implementation leads to good health and well-being (SDGs 3).

Keywords: Fault tree analysis, Probability of failure on demand, Safety integrity level, Steam boiler

Application of community-based health impact assessment: case study of Kuan Meang mountain's industrial stone quarry, Province, Thailand

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Abstract

Introduction: Most of development projects in Thailand causes various controversy. The community-based health impact assessment (CHIA) approach generates learning activities by examining the possible economic, social, and environmental impact of development project.

Objectives: This case study examined the application and effectiveness of community-based health impact assessment (CHIA) on environment, health and social issues Thailand by Thum Raed Mountain Range Conservation Network in the case of Industrial Stone Quarry of Khao Khuan Miang, Trang province,

Methods: The qualitative study used qualitative data collection methods including document research, in-depth interview, group interview and participant observation as well as workshop of stakeholders consisted of community leaders, academia, the CHIA working group, and government officials. The data was triangulate and undergone content analysis.

Results: The results showed that the Conservation Network and local villagers used the CHIA as academic process tool to generate reliable information on the anticipated health impacts on natural resources social and cultural capital to enable mutual learning between the community, government and other sectors in studying policy alternatives, and to influence the study results on policy decision to revoke Khao Khuan Miang's status from an industrial stone quarry area, using the draft Community Forest Act, through the Special Committee to Consider and Study Solutions to Problems Regarding the Issuance of Mining Concessions Currently, the revocation of Khao Khuan Miang's status is in process. Meanwhile, the community has utilized its potential to develop itself as archaeological and the forest resources as eco-tourism destination. Additionally, local government have been supporting the community to carry out various development activities in line with the mutually agreed development direction.

Conclusion: CHIA could influence positive decision-making on development projects while protecting environment, health and social wellbeing.

Keywords: CHIA, Mixed method, Stone mining, Working group

Factors associated with accident prevention behavior among workers in the automotive production process. A case study in Ayuthaya, Thailand

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Abstract

Introduction: Accident prevention behavior is at the core of every workplace occupational safety and health, and understanding how an accident happens is truly the first step in preventing future recurrence.

Objectives: This study was to assess the factors relating to accident prevention behavior among 272 workers of automotive production process.

Methods: The study was conducted between February and March 2023. Data were collected using standardized questionnaires developed by the researcher along with sound pressure levels and heat index sampling in the working area. The questionnaires contained items related to population characteristics and work information, predisposing factors, enabling factors, reinforcing factors, working environment factors, and accident prevention behavior. Pearson's correlation coefficient was used to analyze data.

Results: The findings revealed eight factors significantly associated with accident preventive behavior of workers while performing their work (P<0.05). These eight variables included perceived susceptibility, perceived severity, perceived benefits, perceived barriers, enabling factors, reinforcing factors, sound pressure levels, and heat index in the working area.

Conclusion: Therefore, efforts should be made to manage those variables by designing appropriate activities to reduce undesirable behaviors of workers in the working area. This implementation leads to good health and well-being among workers (SDGs 3).

Keywords: Accident prevention behavior, Enabling factors, Predisposing factors, Reinforcing factors, Working environment factors

Reducing health impact of traditional gold industry in Si Satchanalai, Thailand

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Abstract

Introduction: Si Satchanalai District of Sukhothai Thailand is famous for traditional gold industry with asbestos-containing materials. There are confirmed cases of Silicosis in this area. The local governor and stakeholders were aware of such occupational disease and then applied the Health Impact Assessment (HIA) for participatory prevention.

Objective: Aims of this study was to describe how health impact assessment was conducted to prevent the silicosis.

Methods: Method of quantitative research was applied using questionnaire for data collection from 50 participants during January-March 2024. Scope of analysis was covered four domains i.e., physical health, working environment, mental health, and social impact.

Result: We found that 10 percent among target-screening was diagnosis of silicosis. PM2.5 was concentrated in their working place. Severe stress was estimated 4 percent among those villages. However, this traditional industry has positive impact on social and economic aspects. As a results of health impact assessment, four key measures were proposed, i.e., alternative materials used, safety workplace management, knowledge utilization, and individual health promotion.

Conclusion: It is concluded that the participatory health impact assessment could apply to raise awareness of occupation and activity consequence in their communities.

Keyword: Asbestos, Health impact assessment (HIA), Occupational health

Situational analysis of self care in people with respiratory diseases during PM 2.5 situation

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Abstract

Introduction: PM.2.5 caused by forest burning, is classified as the major problems in the northern region of Thailand. From the past studies, it has been found that PM 2.5 is associated with diseases or disorders related to respiratory system, such as asthma, pulmonary disease, and cancer. Nevertheless, air pollution from PM 2.5 is a major problem of climate change in the upper north which affects the health of people in several areas.

Objectives: This descriptive research aimed to study the situational analysis of self-care in people with respiratory diseases during PM2.5 situation.

Methods: The data were collected by using qualitative methods with the questionnaire and focus group discussion. The sample group were selected using purposive sampling, consisting of 22 cases who diagnosed with respiratory disease, and living in Sansai and Samoeng districts, Chiang Mai Province. The data were analyzed using descriptive statistics and data classification health management issues.

Results: About 52.60 percents were female with age of 71.95 years old. But about 31.60 percents smoked and 73.70 percents never infected Covid-19. There was found that the most cases were caused by PM 2.5, dust and smoke from open burning by the people in the community. The season transition and highly humidity were associated with air pollutions and relapses of the diseases. The participants were used inhaler in the morning, evening and if necessary. Used of air conditioner, air purifier, and used of technological communication tools in San Sai District was better than Samoeng District. Both of areas commented that the local agencies had the campaigns with public relations to control the burning which was the cause of PM 2.5 and air pollution.

Conclusion: The health and environmental management of people would be possible to control, reduce relapses, and morbidity rate of respiratory disease from PM 2.5 in Chiang Mai Province.

Keywords: PM 2.5, Self-Care in people with respiratory diseases, Situational analysis

Distribution of diatom and climate ecological environment in Panlong River, Kunming, Yunnan

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Abstract

Introduction: The population and quantity changes of diatoms are closely related to changes in climate, ecology, environment, and hydrology, and have regional differences. Panlong River is the mother river of Kunming, flowing from north to south through the main urban area of Kunming and flowing into Dianchi Lake in Yunnan.

Objectives: To explore the distribution and quantity of diatom and diatom populations in Panlongjiang, Kunming, Yunnan, and their relationship with seasonal climate, ecological, and environmental changes.

Methods: This study selected 11 sampling points in Panlong River, and used microwave digestion method to digest samples for diatom testing at regular intervals every month for a year. Scanning electron microscopy was used to develop artificial intelligence (AI) automatic recognition and counting software to count the number of diatoms. Using temporal and spatial statistical analysis methods. Fund project: 1) Key project of Yunnan Province's New Era Civilization Practice Social Science Popularization Volunteer Service Action Project (Ecological Education Volunteer Service Project) (KPZYFW202297); 2) Yunnan Province Social Policy Research and Consultation Evaluation Project (YNLB20230401); 3) Yunnan Provincial Key Laboratory of Criminal Science and Technology Innovation Research Fund Project (YNPC-S2021007).

Results: Established a basic database of diatoms in the Panlong River. Scanning electron microscopy obtained high-resolution diatom maps and published books. The application of artificial intelligence technology in diatom counting has greatly improved the efficiency, detection rate, and accuracy of diatom testing. 3.28 million diatoms were found at sampling points on the water surface of the Panlong River. The top three diatoms in terms of quantity are Microcystis, Chlorella, and Ovaria, accounting for approximately 23%, 13%, and 13% of the total number of diatoms. The number of diatoms in the dominant population of Panlong River is closely related to water temperature, climate, and time, and has a clear seasonal variation pattern: in spring, the dominant algae are mainly marine algae, small ring algae, and boat shaped algae; in summer, they are mainly small ring algae, egg shaped algae, and sea chain shaped algae; in autumn, they are mainly coronal algae, small ring algae, and egg shaped algae; in winter, they are mainly egg shaped algae, boat shaped algae, and straight chain algae. The environmental factors of water flow velocity and the spatial location of different sampling points are important factors affecting the growth and reproduction of diatoms. The quantity, dominant species, and regional characteristics of diatoms have reference value for forensic identification.

Conclusion: The use of scanning electron microscopy and artificial intelligence (AI) technology can improve the efficiency and accuracy of diatom detection. The basic investigation of the population and quantity changes of diatoms in local water bodies, as well as the analysis of climate, ecology, and environmental impact factors, play an important reference role in local environmental protection, biodiversity research, water pollution control, forensic identification, and other fields.

Keywords: Climate, Ecology, Environment, Diatom, Panlongjiang

Lasso-logistic regression based screening of NSSI risk factors for students with different chronotype in Yunnan Provinces of China

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Abstract

Introduction: Non-suicidal self-injury (NSSI) is a common mental health threat among adolescents and may be related to the chronotype. Screening for risk factors associated with NSSI in different chronotype facilitates the identification of high-risk populations.

Objectives: Screening risk factors associated with NSSI among students with different chronotype.

Methods: A total of 6002 students were recruited in Yunnan Province between May 2021 and May 2022 using a multi-stage stratified cluster sampling approach. Chronotype is categorized as morning-type, intermediate-type and evening-type based on circadian rhythm preferences for activity and rest. Potential influences in the three chronotype were screened using LASSO, and then multifactorial Logistic regression was established to explore the risk factors in each case.

Results: The prevalence of NSSI in students was 26.3% and was more prevalent in the evening-type. LASSO regression screened 7, 10 and 11 potential predictors from the morning-type, intermediate-type and evening-type, respectively. Logistic regression analyses revealed depression, childhood trauma and gender as common risk factors for NSSI. Notably, evening-type and intermediate-type students who exhibited aggressive behaviors and had mobile phone addictive habits were more likely to report NSSI compared to morning-type counterparts.

Conclusion: Depression, childhood trauma and gender as common risk factors for NSSI. Mobile phone addiction increases the risk of NSSI, particularly among evening-type students. These distinctions chronotype-related should be considered in the development and implementation of targeted prevention strategies.

Keywords: Analysis of risk factor, Lasso regression, Non-suicidal self-injury

Depressive trajectories of early adolescent middle school students after school entry: a longitudinal study

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Abstract

Introduction: The transition to middle school may introduce environmental stressors, subsequently influencing depressive symptoms during early adolescence. The onset of depression during early adolescence is a pivotal phase that heightens the likelihood of experiencing major depression throughout adolescence.

Objecitves: The present study aimed to reveal the trajectories and analyze the heterogeneity of students transitioning to middle school during early adolescence.

Methods: In 2022, the Sichuan Department of Civil Affairs launched a pilot program in Nanchong to assess depressive symptoms among junior school students using the CES-D scale. The students were evaluated in September 2022 and retested in April and October 2023. The study utilized a group-based trajectory model to identify potential categories of depressive trajectories, and multinomial logistic regression was employed to investigate the demographic characteristics associated with different depressive trajectories.

Results: Three types of depression trajectories were found: low-risk, early adolescent ascending, and potentially at-risk.An Multinomial logistic regression analysis was conducted to investigate the relationship between population characteristics and different depression trajectories.The findings suggest that specific variables, including gender (OR=1.8), single-parent family status (OR=1.3), membership in a restructured family (OR=1.3), inadequate sleep duration on school days (OR=1.3 for less than 5 hours and OR=2.1 for 5-6 hours), excessive cell phone use on school days (OR=2.4 for 2-3 hours and OR=4.0 for 4+ hours), and excessive cell phone use on non-school days (OR=2.0 for 4+ hours), were correlated with an increased likelihood of being categorized as an early adolescent ascending trajectory.

Conclusion: This study suggests that there is group heterogeneity in the trajectories of depressive symptoms among middle school students after school entry.

Keywords: Depression, Development trajectory, Early adolescence

Isolation, identification, and biological characteristics of a *yersinia enterocolitica* bacteriophage strain

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Abstract

Objectives: It is planned to isolate Yersinia enterocolitica bacteriophage in mouse book of pestis focus and study its biological characteristics, so as to provide basis for controlling the harm of Yersinia enterocolitica to human body and environment.

Methods: Using standard strains CMCCB52202 (O: 2, 2a, 2b, 3) and CMCCB52301 (O: 3, 3) as host bacteria, Yersinia enterocolitica bacteriophages were isolated from samples collected in the focus of pestis in Lijiang by the double-layer plate method; Randomly select a phage strain and observe its morphology using transmission electron microscopy. Observe the size, status, potency, and pH stability of the phage plaque using a double-layer plate method; The drop method was used to determine its sensitivity to temperature and its ability to lyse 98 bacterial strains at different temperatures (21 ℃, 28 ℃, and 37 ℃).

Results: Nine strains of Yersinia enterocolitica bacteriophages were successfully isolated and named separately. Randomly select a strain of bacteriophage LJ-142 and identify it as a muscle tail bacteriophage under electron microscopy. The center and edge of the bacteriophage plaque are clear; When diluted to 10-5, the single spot diameter is about 2.0-3.0mm; Stable survival in environments ranging from 4 ℃ to 50 ℃ and pH values between 5.0 and 9.0; Can cleave part of Yersinia enterocolitica, but does not cleave other cross species bacteria.

Conclusions: Nine Yersinia enterocolitica bacteriophages were successfully isolated from the pestis focus. The LJ-142 randomly selected from them belongs to the myotail bacteriophage family and has good environmental adaptability; Only partially cleaving Yersinia enterocolitica, but not cleaving other species of strains, can be used as an alternative diagnostic phage for Yersinia enterocolitica.

Keywords: Biological characteristics, Host specificity, Isolation and identification, *Yersinia enterocolitica* phages

Parallel session XVI- Epidemiology of Communicable and Non-communicable Diseases (Group 3)- Library

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13:38-13:46	CODE395	Assessment of HCWs' knowledge, perception of IPC level and the actual practices in community and central hospitals in Vientiane Capital and province, Lao PDR: a quantitative cross-sectional study	Kim van Engen
13:46-13:54	CODE018	Establishing minimum clinically important difference in patients with chronic gastritis based on the PROISCD-CG	YingCHEN
13:54-14:02	CODE112	The care needs of dementia patients in Nam Dong District, Thua Thien Hue Province: an observational study using the camberwell assessment of need for the elderly questionnaire	Khoa Dang Cao
14:02-14:10	CODE134	Physical activities for elderly people in elderly schools, Phrae Province	Chanoknun Fakmit
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14:18-14:26	CODE019	A study on the prevalence of three types of cardiovascular diseases and their relationships with depression symptom in rural Yiliang County of Yunnan Province	Du-liLIU
14:26-14:34	CODE117	Antibiotic use behaviors of ethnic minority farmers in the Sino-Burmese border area of Yunnan Province : a one health approach	Jing Fang
14:34-14:42	CODE174	Perioperative skeletal muscle mass and subcutaneous fat in colorectal cancer: A random-intercept cross-lagged panel study	Guanghong Yan
14:42-14:50		**Closing Remark**	

Burden and risk factors of suspected cholangiocarcinoma in high *opisthorchis viverrini* endemic rural communities in southern Lao PDR

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Abstract

Introduction: Cholangiocarcinoma (CCA) is a major contributor to hepatobiliary mortality in the Lao People's Democratic Republic (Lao PDR). Infection with the carcinogenic trematode *Opisthorchis viverrini* (OV), acquired through consumption of insufficiently-cooked river fish, is a known risk factor for the development of CCA. Together with OV, other risk factors contribute to the pathogenesis of CCA.

Objectives: We conducted this study to identify the burden of CCA and identify risk factors in high-risk communities in Lao PDR.

Methods: A cross-sectional study was performed in Champasack and Savannakhet provinces, southern Lao PDR, where OV infection is highly endemic. We assessed hepatobiliary morbidity with abdominal ultrasound (US). In addition, multiple risk factors known or suspected to be associated with CCA were assessed such as OV infection (examined by Kato-Katz technique for stool examination), lifestyle risks (e.g. smoking and alcohol consumption by face-to-face questionnaire), co-morbidity (e.g. diabetes mellitus) and hepatitis B infection status, both serologically tested.

Results: In 3,400 participants, the overall prevalence of suspected CCA was 7.2% (95% confidence interval [95% CI] 5.4%−9.6%). The suspected CCA prevalence increased with age, and was higher in men at all ages. Almost all participants (88.3%) were infected with OV. In the multivariate regression analysis, suspected CCA was positively associated with OV infection (adjusted odds ratio [aOR] 3.4, 95% CI 1.7−6.5), and a history of cholecystectomy (aOR 2.7, 95% CI 1.5−4.9).

Conclusion: Our CCA screening in high OV prevalence rural areas of Lao PDR uncovers a high public health burden, primarily driven by elevated OV infection rates. Urgent interventions are needed to curb OV infection in these communities. Age and gender disparities in suspected CCA prevalence highlight the need for targeted efforts. Beyond OV, notable factors like a history of cholecystectomy offer valuable insights for preventive strategies. This research enhances our understanding of hepatobiliary morbidity and informs public health initiatives in Lao PDR.

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Assessment of HCWs' knowledge, perception of IPC level and the actual practices in community and central hospitals in Vientiane Capital and Province, Lao PDR: a quantitative cross-sectional study

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Abstract

Introduction: Globally, Healthcare-Associated Infections (HAIs) and Antimicrobial Resistance pose significant public health concerns. In Lower-Middle-Income Countries, 15% of hospital patients contract an HAI, while this is 7% in High-Income Countries. As 70% of HAIs can be diminished with effective Infection Prevention and Control (IPC) implementation, HCWs' knowledge and compliance with IPC practices are crucial.

Objectives: This study assessed the current IPC implementation situation and the association between the self-perceived IPC-level, IPC knowledge and IPC practices in Lao PDR.

Methods: A cross-sectional study was conducted by using a self-administered questionnaire, including the WHO-IPCAF tool. In total, 425 participants were included from 12 community, and 7 central hospitals in Vientiane Capital and Province. Data were collected during March and April 2024, and analyzed using multiple logistic regression in SPSS Statistics version 27.0.

Results: Of 139 completed forms, 71 (51%) were from community hospitals and 68 (49%) from central hospitals. The overall IPCAF median score was Intermediate level (549, IQR 459-644), with central hospitals scoring higher (629, IQR 534-677) than community hospitals (503, IQR 413-589). In both care levels, CC2 scored highest, and CC6 and CC7 lowest. The mean IPC knowledge score was 6.4 (SD 1.5) out of 10, and the mean IPC practice score was 5.8 (SD 1.3) out of 9. While no significant association was found between knowledge and better practices OR 0.55 [95%CI 0.22-1.40, p0.21], a higher self-perceived IPC level in the facility did; the group who reported Advanced level showed 4.23 [95%CI 1.37-13.09, p0.01] times higher odds of better practices compared to those who reported Basic level.

Conclusion: The IPC implementation level in Lao PDR is intermediate, with CC2 scoring highest and CC6 and CC7 lowest. However, stratification indicated advanced level in central hospitals. While knowledge showed no significant association with better practices, a higher IPC-level in the facility did.

Keywords: Central hospital, Community hospital, IPC, Lao PDR

Establishing minimum clinically important difference in patients with chronic gastritis based on the PROISCD-CG

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Abstract

Introduction: Chronic gastritis (CG) is a prevalent digestive system disorder characterized by recurrent abdominal pain, belching, and distension. Evaluating treatment efficacy is crucial for promoting effective interventions. Currently, symptom assessment and gastroscopy are the primary methods used to evaluate chronic gastritis efficacy; however, these approaches lack specificity or patient acceptance. Patient-reported outcomes (PROs) provide valuable subjective perspectives that can inform clinical diagnosis and treatment planning while improving patients' quality of life and prognosis. Questionnaire surveys are an essential tool for obtaining accurate patient feedback; however, measurement errors may obscure genuine changes in scale scores before and after intervention measures. To address this issue's clinical significance, we propose defining the minimal clinically important difference (MCID), which represents the smallest score change recognized as meaningful by patients on a given questionnaire dimension.

Objectives: To develop a MCID for PROISCD-CG in chronic gastritis and provide the basis for clinical efficacy evaluation.

Methods: PROISCD-CG and SF-36 were used to conduct two cross-sectional surveys before and after treatment, and then the MCID of each domain and the total scale of the test scale was calculated by anchor method and distribution method, and the final MCID was obtained by weighting the two methods.

Results: The difference in scores before and after treatment of PROISCD-GM (V1.0) for chronic gastritis was statistically significant ($P<0.001$), and the MCID of physical health, mental health, social health, spiritual/belief health dimensions and total scale were 9.52, 9.01, 6.25, 8.33 and 8.21, respectively.

Conclusion: When the scale score exceeds MCID, the intervention can be considered to have practical clinical significance, and the MCID formulated can provide a basis for clinical decision-making and efficacy evaluation of chronic gastritis.

Keywords: Chronic gastritis, Minimal clinically important difference, Patient-reported outcomes

The care needs of dementia patients in Nam Dong District, Thua Thien Hue Province: an observational study using the camberwell assessment of need for the elderly questionnaire

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Abstract

Objectives: This study aimed to describe the care needs among dementia patients in Nam Dong District, Thua Thien Hue Province by using the Camberwell Assessment of Need for the Elderly (CANE) questionnaire, and to examine its related factors.

Methods: A cross-sectional descriptive study was conducted on 182 dementia patients living in Nam Dong District, Thua Thien Hue Province. The care needs of dementia patients were examined by using the CANE questionnaire (score range: 0-30). The CANE has shown a good level of reliability ($\alpha = 0.87$). The multivariate linear regression analysis was undertaken to explore the associated factors of the care needs among dementia patients.

Results: The mean score of the subjects' needs was 8.21 ± 7.99 (Min: 0; Max: 30). Met needs were reported most commonly in the following areas: food (34.1%), drugs (29.7%), physical health (25.3%) and looking after the home (24.7%). Meanwhile, unmet needs with the highest proportions included accommodation (30.2%), memory (24.7%), money/budget (24.2%), and information regarding health conditions and treatment (18.1%). Higher health care needs were significantly related to Co Tu ethnic group; unmarried group (including single; widowed; divorced/separated); poor, near-poor household economic status group.

Conclusions: Unmet needs are common among dementia patients. Primary health care providers should work with carers to promote social support services as well as health care services that meet all needs of dementia patients and improve their quality of life.

Keywords: Dementia, Health care needs, Mountainous area, The camberwell assessment of need for the elderly (CANE)

Physical activities for elderly people in elderly schools, Phrae Province

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Abstract

Objectives: This research objective was to explore the rationale for physical activities in elderly school in Phrae Province.

Methods: The research employed qualitative study with use of in-depth interviews. Two main groups of informants are 1) 5 teachers in the elderly schools, and 2) 5 elderly people studying in elderly schools, selected through purposive sampling, total of 10 representatives from a total of 49 elderly schools. Data were analyzed using thematic analysis.

Results: The study results showed that 1. physical activities in elderly schools were 30-minute physical exercise for the elderly group, which included 11 poses consisting of 1) body warm up, 2) ankle warm up, 3) toe stand, 4) heel stand, 5) lunge, 6) tendem walk, 7) one-leg standing, 8) heel walk, 9) toe walk, 10) figure walk, and 11) side stepping. In addition, there was the making of walking bowls from coconut shell, elastic bands and loincloth, 2. methods of physical activity are that the teachers or elderly leaders led the exercises in the morning with teachers preparing exercise equipment, including walking bowls from coconut shell, elastic bands and loincloth, 3. The elderly openion about benefit of physical activities was to promote physical, mental, emotional, spiritual and social health from doing activities together in the elderly schools, 4. The school supporting resources including human resources as teachers from Denchai Subdistrict Municipality Non-Formal Education and Denchai Crown Prince Hospital, budget from NHSO and municipalities, and tools and equipment which were PVC pipe, elastic bands and speakers with microphones were insufficient to support, and 5. Physical activities after school were 30-60 min walking, 30-60 min watering plants, 30-60 min gardening, 30-60 min sweeping, cleaning floor and washing clothes, and biking in the evening from 4-5 P.M. (1 hour).

Keywords: Elderly schools, Physical activity, Thematic analysis

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A transtheoretical model-based online intervention to improve medication adherence for Chinese adults newly diagnosed with type 2 diabetes: a mixed-method study

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Abstract

Introduction: Type 2 diabetes mellitus (T2DM) is increasing in China, with medication non-adherence being a major contributor to uncontrolled T2DM. The Transtheoretical Model (TTM) has shown effectiveness in chronic disease management, but few studies have applied it in online interventions for T2DM medication adherence.

Objective: The study aimed to develop and investigate the effects of TTM based online short video health education program on promoting positive stage of change (SOC) movement, improving medication adherence, self-efficacy, and reducing HbA1c levels in newly diagnosed patients with T2DM.

Methods: This sequential mixed-method study was conducted from April 2023 to March 2024. Using the TTM as a framework, the study initially explored 32 participants' experiences with hypoglycemic medications, health information acquisition, and perspectives on online programs. Then, a quasi-experimental study design was conducted. Two communities were randomly assigned as the intervention (n=91) and comparison (n=98) groups, with a total of 189 newly diagnosed middle-aged T2DM patients from various SOC. The intervention group received stage-matched short videos and participated in WeChat group discussions, compared with usual care in the comparison group. Data were collected at baseline, 3-month, and 6-month follow-ups and analyzed using binary logistic regression analysis, Mann-Whitney U tests, and Friedman's ANOVA.

Results: The intervention group was more likely to achieve positive SOC movement from baseline to 3 months ($P<.001$, Adj OR 17.13, 95% CI 6.98-42.08), 3 to 6 months ($P=.005$, Adj OR 2.45, 95% CI 1.31-4.57), and baseline to 6 months ($P<.001$, Adj OR 15.60, 95% CI 7.39-32.92) compared to the comparison group. The intervention group also had significantly higher mean CDMSS-11 and MMAS-8 scores at 6 months ($P=.03$ and $P<.001$, respectively) , and lower mean HbA1c levels at 3 months ($P=.03$) and 6 months ($P<.001$) than the comparison group.

Conclusions: Applying the TTM framework to develop the online intervention program promoted positive SOC movement, improved self-efficacy, medication adherence, and glycemic control in newly diagnosed T2DM patients.

Keywords: Medication adherence, Stage of change, Transtheoretical model, Type 2 diabetes

A study on the prevalence of three types of cardiovascular diseases and their relationships with depression symptom in rural Yiliang County of Yunnan Province

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Abstract

Introduction This study aimed to analyze the prevalence of three types of cardiovascular diseases (hypertension, coronary heart disease, and stroke) and their relationships with depression symptom among rural residents of Yiliang County, Yunnan Province.

Methodology A health interview and examination survey was conducted on 2506 rural residents aged ≥35 years in Yiliang County, Yunnan province, utilizing a multistage stratified random sampling method. A binary logistic regression model was employed to analyze the relationships between depression symptom and three types of cardiovascular diseases (CVDs): hypertension, coronary heart disease (CHD), and stroke.

Results The prevalence of hypertension, CHD, stroke, and depression symptom in the surveyed population was 64.2%, 4.3%, 3.3%, and 5%, respectively. Prevalence of hypertension, CHD, stroke, and depression symptom increased with age ($P < 0.001$). Females exhibited higher prevalence of both hypertension (67.6% vs. 60.8%, $P < 0.001$) and depression symptom (6.3% vs. 3.8%, $P < 0.05$) compared to males. Individuals with lower educational levels and household per capita income had higher prevalence of hypertension ($P < 0.05$) and depression symptom ($P < 0.05$). Prevalence of depression symptom was higher in Han majority than in ethnic minority groups ($P < 0.001$). Individuals with good access to medical services had a higher prevalence of depression symptom than their counterparts ($P < 0.05$). The results of logistic regression analysis revealed that individuals with CHD (OR=3.462, 95% CI: 1.962-6.108), and stroke (OR=3.683, 95% CI: 2.001-6.781) had a higher risk of developing depression symptom.

Conclusions Prevalence of three types of CVDs was higher among rural residents in Yiliang County of Yunnan Province compared to other regions. Targeted prevention and intervention efforts are warranted, particularly among females, individuals with lower educational levels, and those with lower incomes. Implementing effective strategies to mitigate prevalence of CVDs will contribute to improve rural residents' mental health.

Keywords: Coronary heart disease, Depression, Rural area, Stroke

Antibiotic use behaviors of ethnic minority farmers in the Sino-Burmese border area of Yunnan Province : a one health approach

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Abstract

Introduction: Antimicrobial resistance (AMR) has increasingly become a global public health crisis and antibiotic use in both human medicine and agriculture is the major driving force of this crisis. A clear dose-response relationship between antibiotics use and development of antimicrobial genes are observed by many studies. Thus, the key measure to curb AMR is to control and reduce overuse and misuse of antibiotics, which requires a good understanding of people's antibiotic use behaviors. R city located in Sino-Burmese border areas of Yunnan Province of China is part of Sub-Mekong Region and a China national level land port with Myanmar where several ethnic groups live. Those may have impact on the antibiotic use behaviors of local farmers.

Objectives: To understand antibiotic use behaviors and underlying factors of farmers in R city.

Methods: A One Health approach was adopted in which a questionnaire survey was conducted and supplemented by small-scale qualitative interviews on antibiotic use in both human medicine and animal raising of local farmers.

Results: We investigated 513 farmers. Of whom, 90.8% are ethnic minorities and 70.8% raised at least one kind of livestock. There were 83.2% and 43.3% of surveyed farmers reporting antibiotic use in human medical care and animal husbandry in the past six months prior to the survey, mostly without a prescription. Several informally-imported foreign antibiotics were widely available on local markets at low price and used by local farmers to treat various illnesses such as sore throat and "Re", a locally-defined condition. Local farmers have own understanding of antibiotics that is different with that of scientific knowledge.

Conclusion: Misuse and overuse of antibiotics in both medical care and animal raising were common behaviors among local ethnic minority farmers in R city of Yunnan Province. Regulation gap, easy access to cheap antibiotics produced abroad and local knowledge of antibiotics are the major factors leading to these behaviors.

Keywords: Antibiotics, Behaviors, Border areas, Local knowledge

Perioperative skeletal muscle mass and subcutaneous fat in colorectal cancer: a random-intercept cross-lagged panel study

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Abstract

Introduction: Low skeletal muscle mass and high adipose tissue coexist across the body weight spectrum and independently predict poor survival in colorectal cancer (CRC) patients. This combination may create a vicious cycle of mutual deterioration. Tumor-associated metabolic conditions preferentially affect subcutaneous adipose tissue, but the nature and direction of its relationship with skeletal muscle are unclear. We investigated whether perioperative skeletal muscle loss in CRC patients leads to subcutaneous fat accumulation and vice versa.
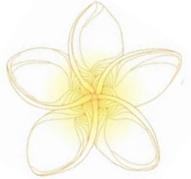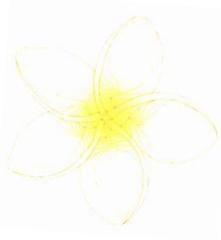
Objectives: Patients with stage I-III CRC who underwent radical resection at the Third Affiliated Hospital of Kunming Medical University from September 2012 to February 2019 were retrospectively included.

Methods: Skeletal muscle index (SMI) and subcutaneous fat index (SFI) of the third lumbar (L3) truncation were calculated using computed tomography at preoperative (T1), postoperative 2 months (T2) and postoperative 5 months (T3). We used Random Intercept Cross-Lagged Panel Model (RI-CLPM) analyses to examine intra-individual relationships between SMI and SFI.

Results: At the within-person level, SFI was negatively related to subsequent SMI during the observation period (T1- T2: $\beta = -0.372$, $P = 0.038$; T2- T3: $\beta = -0.363$, $P = 0.001$), and SMI was negatively related to SFI during T1-T2 ($\beta = -0.363$, $P = 0.001$). However, during T2−T3, SMI and SFI were positively related, contrary to the main effect ($\beta = 0.357$, $P = 0.006$). At the person-to-person level, the random intercepts of SFI and SMI were not significantly correlated ($r = 0.157$, $P = 0.603$).

Conclusion: CRC patients show a bidirectional relationship between SMI and SFI in vivo, where preoperative skeletal muscle loss causes postoperative subcutaneous fat accumulation, which then feeds back to regulate skeletal muscle mass loss in a vicious cycle.

Keywords: Colorectal cancer, RI-CLPMretrospective cohort, Skeletal muscle index, Subcutaneous fat index

ICPH-GMS14: "Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation"

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POSTER
PRESENTATIONS 1,
28 June, 2024

Poster Exhibition 1
Time: 12.30-13.30
Room:

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Maternal and Child Health, Sexual Reproductive Health (SDG 3)		
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CODE353	Improving mother and child health, HIV, TB, And malaria prevention in remoted communities in Laos" An angoing research action join initiative in Laos. HEALTH PROJECT-EXPERTISE FRANCE	Chanthachone Xayyavong
CODE083	The role of biophysical profile and perinatal outcome among high-risk pregnant women at Setthathirath Hospital and Mother and Newborn Hospital, Vientiane Capital, Lao PDR.	Douangphachanh Xaysomphou
CODE079	Antibiotic knowledge, attitudes and reported practice during pregnancy and six months after birth: a follow-up study in Lao PDR	Sengchanh Kounnavong
CODE089	Maternal knowledge and paternal nutrition support are associated with micronutrient outcomes: evidence from case-control study of children under five years in Lao PDR	Viengnakhone Vongxay
CODE185	Sociocultural influences on early sexual practices: Understanding Akha people's trajectories, societal integration, and pathways for progress in Northern Laos	Chandavieng Phimmavong
CODE270	Expansion of non-invasive prenatal screening to the screening of 10 types of chromosomal anomalies: a cost-effectiveness analysis	Bounhome Soukkhaphone
CODE078	Risk factors for anaemia among women and their young children hospitalised with suspected thiamine deficiency in northern Lao PDR	Dalaphone Sithideth
CODE084	Husband's involvement in taking care of women's health during pregnancy in Kham District Hospital Xieng Khouang Province, Lao PDR	Vansy Manivone
CODE091	Perception and barrier in access to sexual and reproductive health services among youth (aged 18-24) in Xiangkhuang province: a mixed-method study	Johnly Phanthady
CODE092	Factors associated with self-care efficacy of pregnant women in Vientiane capital	Phikhounkeo Kedsana
CODE172	Breastfeeding Duration among Children aged 0- 24 month in Vientiane and Bolikhamxay Province, Lao PDR: A Survival Analysis	Kongmany Chaleunvong
CODE175	Risk factors of preterm delivery in the Lao PDR: Hospital-based matched case-control study	Visanou Hansana
CODE226	Prevalence and risk factors of gestational diabetes mellitus among pregnancy women managed at Hai Phong hospital of obstetrics and gynecology, Vietnam, 2022	Hoang LE Tuan
CODE276	The relationship between maternal hygiene practices and diarrhea in children under 2 years of age in Khammouan province	Viengphetsamone Viengphasy
CODE282	Factors associated to breastfeeding duration among children aged 0-24 month in Vientiane province, Lao PDR	Phitphavanh Amphavanh
CODE:390	The effectiveness of the Early childhood development promotion by the child and family development team in Mueang Chaiyaphum District	Pharapron Phimalai
CODE335	Study on the association between uterine fibroids and tea drinking in premenopausal women in Yunnan Province	Yunrui Sun

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colspan Environmental and Occupational Health - One Health – Eco Health. & Global warming and Climate change adaptation (SDG 13), Health Equity to UHC		
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CODE097	Detection of heavy metal contamination in organic vegetables from markets and vegetation sites in Vientiane Capital, Laos	Somded Latsavong
CODE102	Air pollution from charcoal-grill shops and factors associated with respiratory health of grill-workers in Lao PDR: a focus on inequity in exposure and health by gender	Phoxay Phiasackhoua
CODE212	Determination of fluoride concentration in drinking water resources at Lao P.D.R.	Phimfalee Sayaxang
CODE300	Antibiotic use in respiratoty infection among children in Vientiane Capital. Laos	Sourideth Sengchanth
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colspan Epidemiology of Communicable and Non-communicable Diseases		
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CODE254	The needs for and use of essental resources for COVID-19 pandemic preparedness in the country: A qualitative study in the central, northern, and southern parts of Lao PDR (Laos).	Sysavanh Phommachanh
CODE417	Refeeding Syndrome in Pediatric Patients: clinical manifestations, and Outcomes	Latdaphone Paphatsinh
CODE163	Evaluation of quality measure for colonoscopy in colorectal cancer screening among patients in Mahosot hospital, Vientiane capital, Lao PDR: a cross sectional prospective study	Dalouny Sihalath
CODE164	A study of re-infection of Covid-19 and the related factors in Lao health care workers: Vientiane capital, Champasak and Luangprabang, Lao PDR.	Thidachanh Soukkhaserm
CODE243	The correlation between temperature variation and prevalence of Dengue Fever in Vientiane Capital, Lao PDR: A retrospective study using 2007 – 2022 Secondary Database	Soudavanh Nathavong
CODE312	Dengue fever and its association with temperature and multiple factors in Vientiane capital, Lao PDR	Vilakone Thongmala

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CODE119	Correlation analysis of plasma atherogenic index and hyperuricemia in elderly population	Meng qi Li
CODE265	Association of perioperative skeletal muscle index change with outcome in colorectal cancer patients	Mengmei Liu
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CODE310	Pathways of effects of adverse childhood experiences on infectious diseases among border drug-use adults: a structural equation modeling	Mingmei Zhang
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Capturing live stories on MCH, HIV, TB, and malaria Issues

Chanthachone Xayyavong[1][**], Souvanxay Phetchanpheng[1], Pascale Hancart Petitet[1]

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Abstract

Introduction: The HEALTH project was implemented with the overall objective of strengthening an integrated health system to tackle and reduce the burden of HIV, TB,

and Malaria at the village level, particularly by increasing access to health care for remote and hard-to-reach communities.

Methods: The project has two interrelated components: a research component that informs and orients the action component. Among the various research innovations implemented, one was the "Life Stories Collection". The "Life Stories Collection" initiative aimed to identify and pre-select villagers who possessed valuable experiences to share and were willing to collaborate with the project to document their life stories concerning Mother and Child Health (MCH) issues, including delivery concerns, antenatal care (ANC), postnatal care (PNC), and more. This activity was carried out in three designated villages within Phine district, Savannakhet province.

Results: Through this initiative, the project gathered qualitative insights that provided a deeper understanding of the health challenges faced by these communities. The collected stories not only informed the project's interventions but also served as powerful advocacy tools to highlight the needs of these populations.

Conclusion: In the future, the project could facilitated training sessions for local health workers based on the findings from the life stories to improve the quality and cultural relevance of healthcare services.

Improving mother and child health, HIV, TB, and malaria prevention in remoted communities in Laos "an ongoing research action join initiative in Laos"

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Abstract

Introduction: The purpose of this presentation is to disseminate the findings of the HEALTH project, which has an overarching goal of enhancing the effectiveness of an integrated healthcare system in addressing and mitigating the impact of HIV, TB, and Malaria at the village level, with a specific focus on improving healthcare accessibility for remote communities in Savannaket.

Objectives: This objective is accomplished through the development and testing of an intervention model aimed at enhancing access to HIV, TB, and Malaria prevention and treatment services for women, children, and adolescents.

Methods: These efforts are realized through the deployment of mobile clinics and home visits within two designated districts in Savannakhet Province, situated in southern Laos. The project encompasses two closely connected components: the research component led by IRD, which will provide insights and guidance for the implementation of the Action component carried out by HI and CHIAS.

Results: Under the Research component, a first objective was to develop and implement an evidence-based strategy using cooperative engineering research methodology. A strong collaboration with project partners allowed to build a continuum between research findings and interventions in the field.

Conclusion: Regular working sessions between a Research Committee composed of Public Health partners and researchers allowed to develop an evidence-based strategy to increase a better public health decision-making in the integration of the HIV, TB and malaria prevention, screening and management for mother, child, and adolescents into the health system.

The role of biophysical profile and perinatal outcome among high-risk pregnant women at Setthathirath Hospital and Mother and Newborn Hospital, Vientiane Capital, Lao PDR

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Abstract

Introduction: Biophysical Profile is one of the standard protocols to evaluate the infant health among high-risk pregnant women in order to plan the appropriate and timely and help reduce severity and death of infant. Biophysical Profile Score is the criteria for obstetrician whether to end the pregnancy or continue the pregnancy.

Objectives: To evaluate the role of biophysical profile and perinatal outcomes in high risk pregnant women.

Methods: Descriptive Prospective study was used in this study to identify the association Biophysical Profile Score and Newborn outcomes among 84 high risk pregnant women in Setthathirath and Mother and Newborn Hospital. Chi-square test was used.

Results: The results were that: 84.5% of high-risk pregnant women aged 18-35 years old, about 42.9% with ≤ 37 weeks of gestation age, 32.1% had hypertension, 21.4% had diabetes, 4.8% had hyperthyroid, 17.9% experienced Intrauterine Retardation and 48.8% experienced less movement of infant. Almost 92% had Biophysical profile score between 8-10, 53.6% could have normal delivery, 14.3% had less than 37 weeks of gestation age when delivered, 97.6% of newborn with APGAR score between 7-10 at the first minute after birth, 17.8% of newborn had <2,500 g birth weight, 9.5% of new born were admitted in NICU. Pregnant women who experienced Intrauterine retardation associated (p-value<0.001). Biophysical Profile score significantly associated with admission of newborn in NICU with significant level at 95% (p-value<0.001).

Conclusions: Biophysical Profile score significantly associated with admission of newborn in NICU with significant level at 95% (p-value<0.001) newborns with ≤6 of Biophysical profile score were more likely to be admitted in NICU more than newborns with ≥8 of Biophysical profile score and newborns who were born from mothers with intrauterine retardation experience were likely to be admitted in NICU more than newborns who were born from mother without intrauterine retardation.

Key words: Biophysical profile score, Laos PDR, Newborn, Pregnancy

Antibiotic knowledge, attitudes and reported practice during pregnancy and six months after birth: a follow- up study in Lao PDR

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Abstract

Introduction: Antibiotics are important medicines to prevent maternal and child morbidity and mortality. Women's knowledge and attitudes towards antibiotic use influence their practice. When they become mothers, this may be mirrored in the use of antibiotics for their newborn children.

Objective: The current study aimed to assess knowledge, attitudes, and reported practice of pregnant women regarding antibiotic use and antibiotic resistance as well as their approach towards antibiotic use for their newborn babies.

Methods: This was a follow-up study with data collected via structured interviews between September 2019 and August 2020 in Feuang (rural) and Vangvieng (urban) districts in Vientiane province, Lao PDR. We identified and invited all women attending antenatal care in their third trimester of pregnancy in the selected areas. Using a structured questionnaire at third trimester of pregnancy we captured data on knowledge regarding antibiotic use and resistance. We collected information on attitudes and reported practice at two time points: (i) at third trimester of pregnancy and (ii) 6 months after birth. Univariate analysis and frequency distributions were used to study pattern of responses. Chi-square and Mann-Whitney tests were used to compare categorical and continuous variables respectively. P value was considered statistically significant.

Results: We surveyed 539 women with a mean age of 25 years. Two oral antibiotics, i) ampicillin and ii) amoxicillin were correctly identified by 68 and 47% of participants respectively. Only 24% of women (19% in Feuang and 29% in Vangvieng) answered correctly that antibiotics are effective against bacterial infections. The most prevalent response was "I don't know" suggesting the questions were challenging. Significantly less women would use antibiotics from a previous illness for their child than for themselves (16% vs 29%), however they would be more willing to use antibiotics for their baby even in case of mild symptoms (29% vs 17% while pregnant). The majority of antibiotics were prescribed by healthcare providers and 46% of children with the common cold received antibiotics.

Conclusions. Women's knowledge was sub-optimal, still, they manifested appropriate attitudes towards antibiotic use during pregnancy and for their child. Nearly half of children received antibiotics for the common cold. There is a need for context adapted programs aiming at improving women's knowledge, as well as healthcare providers, emphasising rational antibiotic prescribing during pregnancy and for children.

Maternal knowledge and paternal nutrition support are associated with micronutrient outcomes: evidence from case-control study of children under five years in Lao PDR

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Abstract

Introduction: Iron deficiency anemia (IDA) is an important micronutrient deficiency leading to preventable illness in children.

Objectives: We assess mothers' child feeding practices, knowledge on child feeding, food literacy, and fathers' support for mothers of children under five years with and without IDA in Lao PDR.

Methods: A matched case-control design was used in two central urban hospitals and in the Vientiane provincial hospital from December 2022 to July 2023. Cases (n=146) include children aged 6-59 months with suspected IDA (Hb < 11g/dL & Mentzer index > 13), with control children without IDA (n=146) matched on sex and age (±3 months). Respondents were children's mothers. Key information collected included mothers' feeding practices, their child feeding knowledge and food literacy, and fathers' support of child feeding. A structured questionnaire was developed, pretested, and piloted before deployment. Non-parametric testing was used to compare the median scores of key variables between mothers in case and control groups.

Result: Median scores for dietary diversity (7.5/100 in controls vs. 5.0/100 in cases), mothers' food literacy (27/50 vs. 18/50), child feeding knowledge (60/100 vs. 40/100) and father support for child feeding (50/100 vs. 25/100) were all found to be significantly higher among mothers of the control group than mothers of the case group (p<0.001), reflecting knowledge and practices of optimal child feeding among mothers of children without IDA.

Conclusion: Young child feeding knowledge and father feeding was lower among mothers of children with suspected IDA. Potentially useful interventions include increasing diversity of child diets, maternal knowledge and food literacy on child feeding, and father support for child feeding as potential strategies to address IDA among young children in this setting. Extension to other locations and community settings is needed to assess the generalizability of the findings.

Keywords: Case-control, Children under five, Maternal knowledge, Micronutrient outcomes, Paternal nutrition support

Sociocultural influences on early sexual practices: understanding Akha people's trajectories, societal integration, and pathways for progress in Northern Laos

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Abstract

Introduction: This study delves into the trajectories of the Akha community, a minority ethnic group who migrated from Yunnan, China to Laos during the 19th-century Du Wenxiu uprising. Among their enduring cultural practices are pre-pubescent sexual rituals, warranting deeper examination.

Objectives: The study aims to explore the socio-cultural determinants shaping early sexual practices among young Akha people in Laos, with the goal of offering comprehensive insights and recommendations to alleviate social inequities and health disparities within the community.

Methods: Through a thorough assessment, this study employs a case study design and realist approach, integrating diverse methodologies including document review, focus group discussions, key informant interviews, and on-site observations.

Results: The study elucidates upon the nuanced individual and collective experiences articulated by informants residing in both highland and lowland communities of Northern Laos. It delineates the intricate interplay of sociocultural determinants on pre-pubescent sexual practices and the acculturation processes shaping the integration of Akha individuals into mainstream societal frameworks. Moreover, the research underscores the multifaceted challenges encountered by Akha adolescents, encompassing educational access constraints, sexual health intricacies, financial literacy deficiencies, and environmental adversities. These findings underscore the pronounced presence of health disparities and social inequities prevailing within the Akha ethnic demographic.

Conclusion: This study underscores the imperative for comprehensive understanding and targeted interventions regarding the socio-cultural determinants influencing early sexual practices among young Akha people in Laos. The exploration of nuanced individual and collective experiences across highland and lowland communities reveals the intricate interplay of sociocultural factors in shaping pre-pubescent sexual rituals and the integration of Akha individuals into mainstream societal contexts. Furthermore, the identification of multifaceted challenges faced by Akha adolescents, ranging from educational barriers to sexual health concerns and environmental hazards, highlights the urgent need for interventions aimed at addressing health disparities and social inequities within the Akha population.

Keywords: Acculturation, Akha, Health disparities, Pre-pubescent sexual practices, Sociocultural determinants of health

Expansion of non-invasive prenatal screening to the screening of 10 types of chromosomal anomalies: a cost-effectiveness analysis

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Abstract

Introduction: Non-invasive prenatal screening (NIPS) analyzes the fetal deoxyribonucleic acid that circulates in maternal blood. Compared to the conventional screening approaches, NIPS is found to be a more accurate and cost-effective method to screen for the three most common aneuploidies.

Objectives: To determine the cost-effectiveness of the addition of chromosomal anomalies detectable by NIPS, in a prenatal screening program targeting common aneuploidies.

Methods: A simulation study was conducted to study the addition of chromosomal anomalies detectable by NIPS (sex chromosome aneuploidies, 22q11.2 deletion syndrome, large deletion/duplication > 7 Mb, and rare autosomal trisomies) to five basic strategies currently aiming the common trisomies: three strategies currently offered by the public health care systems in Canada, whose first-tier test is performed with biochemical markers, and two programs whose first-tier test consists of NIPS-based methods.

Results: The most effective and the most cost-effective option in almost all prenatal screening strategies is the option that includes all targeted additional conditions. In the strategies where NIPS is used as first-tier testing, the cost per additional case detected by adding all possible additional anomalies to a program that currently targets only common trisomies is $CAD 25,710 (95% CI, $CAD 25,489 - $CAD 25,934) for massively parallel shotgun sequencing and $CAD 57,711 (95% CI, $CAD 57,141 - $CAD 58,292) for targeted massively parallel sequencing (TMPS), respectively. The acceptability curves show that at a WTP of $CAD 50,000 per one additional case detected, the expansion of NIPS-based methods for the detection of all possible additional conditions has a 90% probability of being cost-effective.

Conclusion: From an economic perspective, in strategies that use NIPS as a first-tier screening test, expanding the programs to detect any considered chromosomal anomalies other than the three common trisomies would be cost-effective. However, the potential expansion of prenatal screening programs also requires consideration of societal issues, including ethical ones.

Keywords: Chromosome aberrations, Cost-benefit analysis, Health care economics and organizations, Noninvasive prenatal testing

Risk factors for anaemia among women and their young children hospitalised with suspected thiamine deficiency in northern Lao PDR

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Abstract

Introduction: Anaemia among women and young children remains a major public health concern.

Objectives: This secondary study describes the anaemia prevalence among young hospitalised children and their mothers in northern Lao People's Democratic Republic and explores possible nutritional causes and risk factors for anaemia.

Methods: Hospitalised children (ages 21 days to <18 months) with clinical symptoms suggestive of thiamine deficiency disorders were eligible along with their mothers. Venous blood was collected for determination of haemoglobin, ferritin, soluble transferrin receptor (sTfR), retinol-binding protein (RBP), erythrocyte glutathione reductase activation coefficient (EGRac), thiamine diphosphate (ThDP) and acute phase proteins. Risk factors for anaemia were modelled using minimally adjusted logistic regression controlling for age.

Results: Haemoglobin results were available for 436 women (mean ± SD age 24.7 ± 6.4 years; 1.6% pregnant) and 427 children (4.3 ± 3.5 months; 60.3% male). Anaemia prevalence (Hb < 120 g/L for nonpregnant women and <110 g/L for pregnant women and children) was 30.7% among women and 55.2% among children. In bivariate analyses, biomarkers significantly associated with anaemia in women were ferritin, sTfR, RBP, EGRac and ThDP. Other risk factors for women were lower BMI, mid-upper arm circumference < 23.5 cm, lower education, lower socioeconomic index, food insecurity, Hmong ethnicity, not/rarely having attended antenatal care, not having taken antenatal iron-containing supplements and not meeting minimum dietary diversity. Risk factors for anaemia among children were older age, male sex, stunting, sTfR, ThDP and alpha-1-acid-glycoprotein.

Conclusion: Anaemia was common among women and their hospitalised children and was associated with micronutrient deficiencies and socioeconomic, dietary and health care-seeking risk factors, suggesting that multiple strategies are required to prevent anaemia among women and children.

Keywords: Laos; anaemia; iron deficiency; riboflavin deficiency; thiamine deficiency.

Husband's involvement in taking care of women's health during pregnancy in Kham District Hospital Xieng Khouang Province, Lao PDR

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Abstract

Introduction: Every day pregnant women die from causes related to pregnancy and childbirth. From the current social situation that has changed, resulting in less help and care between family members, lack of adults to help take care of children, causing the husband to take on the role and Be more involved by relieving the burden from the wife. Lao PDR, health promotion has not promoted the importance of husband's participation. Many studies still focus on the target group of mothers and children, there are few studies that focus on the husband's participation in mother and child care.

Methods: This study is a quantitative form at any point in time (Cross-Sectional Analytical Study) studying only a group of husbands whose wives are pregnant in the 3rd trimester and less than 1 year after giving birth. The sample size is 200 people, based on the formula for calculating the proportional value. The random sampling was done by interviewing a group of husbands with pregnant wives, face-to-face interviews and semi-structured interviews about demographics, knowledge, attitudes and awareness of information about maternal health care during pregnancy. All information Entered into the Epidata 3.1 program, analyzed in the STATA 14.2 program and descriptive statistics to find the frequency, percentage, and analytical statistics (Inferential statistic) using Multiple Logistic Regression statistics to determine the relationship factors of each primary variable with the husband's participation in maternal health care during pregnancy and report Adjusted OR (95% CI).

Results: The sample group participating in the study is 200 people, most of the participating husbands are between 21-30 years old 54%, most of them have finished high school level 36.5%, the level of knowledge in health care during pregnancy, childbirth and after birth, knowledge in preparation for childbirth, knowledge in postpartum examination and knowledge in prenatal care is at a low level of 24%, 22% and 22.5% respectively; Attitudes about the husband's role in taking care of the mother during pregnancy more than half have a negative attitude 57.5%, The percentage of husband's participation in taking care of his wife's health during pregnancy is at a low level of 74.0%. Factors that are statistically significantly related to husband's involvement in taking care of the wife's health during pregnancy are the number of people in the family with a large number of members (AOR=1.7; 95%CI:1.02–2.8), family income with low knowledge (AOR=0.5;95%CI:0.3–0.8), number of pregnancies with low knowledge (AOR=0.4; 95%CI: 0.2–0.7) and knowledge about birth preparation with low knowledge(AOR=2.9;95% CI:1.9–4.3).

Conclusion: The husbands participating in this study are still involved in taking care of the health of their wives during pregnancy at a low level. Therefore, the units that provide prenatal services should focus on the participation of husbands and organize activities that facilitate or encourage husbands to see the importance of taking care of their wives' health during pregnancy until birth. They should study the methods of educating husbands, emphasizing the participation of husbands in taking care of their wives' health during pregnancy in the prenatal care units in hospitals. To lead as a way to take care of the health of the wife during the next pregnancy and should study the behavior, environmental factors of the husband about the factors that influence the behavior of the husband in taking care of the health of the wife during the pregnancy, the opinions between the sexes, the differences in raising children.

Keywords: Husband's involvement, Pregnancy, Women's health

Perception and barrier in access to sexual and reproductive health services among youth (aged 18-24) in Xiangkhuang Province: a mixed-method study

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Abstract

Introduction: Sexual activity during youthful age is common in Lao People's Democratic Republic. However, youth insufficiently use the sexual and reproductive health services and subsequently suffer from poor sexual and reproductive health. To stimulate evidence-informed decision-making in health policies, context specific research describing the barriers preventing Lao youth from accessing sexual and reproductive health services is needed.

Objectives: The aim of this study is to explore the barriers in access to sexual and reproductive health services among unmarried young people in Laos.

Methods: Mixed methods, both qualitative and quantitative will be employed. Analytical Cross-sectional Study was carried out at Xiangkhuang province. The study population was 444 youth. The face-to-face interview using questionnaires, accessibility are classifying as: geographical (availability), (affordability) and (approachability, acceptability and appropriateness). And the qualitative part employed IDIs and FGDs to investigate cognitive accessibility, psychosocial accessibility, geographic accessibility, affordability and quality of SRH services for youth people. Data were entered into Epi-data version 3.1 and exported to STATA version 14 for analysis. Univariate and multivariate linear regressions analysis was used to identify predictors of total accessibility and reported as Adjusted OR with confidence level 95%CI and P-value < 0.05.

Results: The results found the mean age of the participants was 19.9 years, gender female was (68.6%). Stay in urban area (66.9%%). Participants ethnicity was Lao (79.9%). The majority of individuals, 93.5%, are single. (86.9%) currently living with their parents, family. Regarding income, 92.3% had an income exceeding 1,500,000 LAK. While the majority (90.8%) rely on their parents. 94.4% did not have any health insurance. Factors associated with perception toward accessibility of SRH. Spiritual individuals have lower odds than Buddhists in perceiving SRH as accessible (AOR = 0.4, 95%CI: 0.2-0.7, p = 0.004), but no significant difference exists among Christians. Those earning over 1,500,000 LAK are more likely than those below this threshold to perceive SRH as accessible (AOR = 2.7, 95%CI: 1.0-7.0, p = 0.041). Additionally, individuals with sexual experience have higher odds of seeing SRH as accessible compared to non-users (AOR = 1.9, 95%CI: 1.2-3.1, p = 0.006). These findings suggest that SRH accessibility views are influenced by sexual history, income, and religious beliefs.

Conclusions: The study on youth's perception and barriers to accessing sexual and reproductive health services reveals unique challenges, including Lao ethnicity and Buddhism, financial obstacles, and family influence. The study suggests targeted interventions should focus on culturally sensitive service delivery, addressing financial barriers, promoting education, and improving internet access to enhance accessibility and overall well-being among youth populations.

Keywords: Accessibility, Barrier, Lao PDR, SRH services, Youth

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Factors associated with self-care efficacy of pregnant women in Vientiane capital

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Abstract

Introduction: Self-care efficay of pregnant women can prevent health problems during pregnancy and childbirth. Inadequate self-care during pregnancy is associated with poor maternal health outcomes; including maternal mortality. Factors of self-care efficacy vary in different settings, or context.

Objectives: This study aims to determine factors associated with self-care efficacy of pregnant women during the third trimester in Vientiane capital.

Method: A cross-sectional analytical study was conducted using face-to-face questionnaires with pregnant women who came to the central and district hospitals of Vientiane capital. The samples were 391 pregnant women of 3rd-trimester-gestational age (GA: 28-40 weeks) from 2 central hospitals and 4 district hospitals (2 inner districts; 2 outer districts). Two-stage random sampling (hospital sampling & pregnant women sampling) was performed for participant recruitment. Associated factors of self-care efficacy were determine by using the multiple logistic regressions analysis, interpretation was based on p-value < 0.05, AOR and 95%CI.

Result: Total 391 pregnant women, mean age was 30 ($\pm$3) years old. Minimum - maximum age was 24 – 43. Gestational age was 28 - 45 weeks. Parity number was 1 - 6. Majority of pregnant women worked as staff (34.5%) and running business (29.4%). Participants reported having irritable feeling (25.3%), low-back pain (32.5%) and difficult sleep (37.3%) in last two weeks. Average self-efficacy (28 items; $\alpha = 0.859$) score was 102.6($\pm$20.2)/140; range 53-138/140. Pregnant women with good self-care efficacy (score > mean) was 50.4%. Factors supporting self-care efficacy were preparedness [AOR: 4.8 (2.5-8.8); p<0.001], peer support [AOR: 5.7 (3.3-9.6); p<0.001], family support [AOR: 2.6 (1.4-4.5); p=0.001], having official/business occupation [AOR: 1.7 (1.1-2.9); p=0.016], and receiving self-care information [AOR: 3.3 (1.9-5.6); p<0.001]. Higher gestational age was found as a distracting factor against self-care efficacy [AOR: 0.4 (0.2-0.7); p<0.001].

Conclusion: Advocacy on pregnancy preparedness and supporting pregnant women's health among general population is essentail for better self-care of pregnant women; especially enhancing health workers to frequently share needed information and health education to motivate their family and peer support health of pregnant women. Women with higher gestational age even need for support on self-care.

Keywords: Childbirth, Pregnancy, Self-care efficacy, Third trimester

Readiness of primary care services towards addressing the health needs of Filipinos: a cross-sectional assessment

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Abstract

Introduction: Breastfeeding (BF) is considered an effective way to provide balanced nutrition, better growth, and development of the infant, prevent stunting as well as protect from infectious and chronic diseases. WHO and UNICEF recommended exclusive BF (EBF) for the first six months of age and giving no other food or drink to the infant, not even a single drop of water in this period. The government Lao PDR, has launched several strategies and policies in an effort to improve exclusive breastfeeding since 2006. The EBF Campaign was strongly promoted during 2009-2010 to improve child survival rates and enhance the development of children by increasing the number of mothers who EBF their new-born for six months.

Objectives: This study aimed to identify the readiness of primary care services towards addressing the health needs of Filipinos

Methods: This study was conducted in two provinces in Lao PDR. A cross-sectional analytical study design was applied in this study to examine the prevalence of EBF duration and identify the factors associated with EBF duration. The sample size estimation is about 710 mothers. Probability random sampling using a multi-stage sample technique was used. Data were collected through a face-to-face interview in the household. The median duration and 95% CI of BF was derived using Kaplan-Meier survival curves, and multivariable Cox proportional hazards (PH) models were performed.

Results: Out of 710 mothers, the age of study participants was between 15 and 45 years; the mean age and SD were 27.3 ± 5.8 years, and almost all of them (97.2%) were married. 75.4% members were Lao Ethno-linguistic group, 50.8% were educated at high school, and 43.1% of participants were house wives. 53.3% of her husbands stayed at high school, and 49.4% of them took on the occupation of farmer or agriculturalist. 57.9% were classified as exclusive breastfeeding; the median duration of breastfeeding was 12 months; 40.1% were breastfeeding for 7–12 months. The results revealed that the mothers who had more one-time pregnancies before, age when they were first pregnant, whether anyone checked their health after discharge from the hospital or birth at home, child's weight, and child's height were significantly associated with breastfeeding duration.

Conclusions: In conclusion, the duration of breastfeeding can be influenced by a variety of factors, including the number of prior pregnancies, the age at first pregnancy, postnatal health check-ups, the child's weight, and maternal knowledge about breastfeeding. Understanding and addressing these factors can be crucial in promoting successful and sustained breastfeeding among mothers, ultimately leading to improved health outcomes for both mothers and children.

Keywords: Breastfeeding, Children, Duration, Survival analysis

Risk factors of preterm delivery in the Lao PDR: hospital-based matched case-control study

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Abstract

Introduction: Few studies in lower-middle income countries have investigated risk factors associated with preterm birth. This study adds to the emerging evidence of preterm birth risk factors in these countries.

Objectives: To describe the risk factors among mothers in four central hospitals and two provincial hospitals in the Lao PDR, a lower-middle-income country in Southeast Asia.

Methods: The study used a hospital-based matched case–control design study. Purposive sampling was used to select 320 mothers (80 cases and 240 controls) from the six hospitals. Cases were mothers who had delivered a live newborn between 28 and 36 weeks and 6 days, while controls were mothers who had delivered a live newborn within 37 and 40 weeks. Data were collected through a review of medical records and face-to-face interviews using a structured questionnaire. Data were entered into EPI info (Version 3.1) then exported to the STATA programme (Version 14) for univariate and conditional multiple logistic regressions to identify risk factors for PTD at $p \leq 0.05$.

Results: The mean maternal age of cases and controls was 25.2 (SD = 5.33) and 25.8 (SD = 4.37), respectively. In the multivariate analysis, factors with statistically significant relationships with PTD were the mother's religion (AOR: 3.01; 95% CI 1.24–7.26), the number of antenatal care visits (AOR: 3.39; 95% CI 1.6–7.18), having a pre-pregnancy maternal weight of less than 45 kg (AOR: 3.05; 95% CI 1.66–10.5), having had a premature preterm rupture of the membrane (AOR: 7.13; 95% CI 2.44–20.8) and vaginal bleeding during pregnancy (AOR: 6.89; 95% CI 3.02–15.73).

Conclusions: Improving capacity of the Laotian health system to provide quality ANC and increasing the number of ANC contacts is critical. This requires context specific strategies that also address the socio-economic factors, such as access to a nutritious diet, that contribute to PTD.

Keywords: Delivery, Lao PDR and case-control, Pre-tern

Prevalence and risk factors of gestational diabetes mellitus among pregnancy women managed at Hai Phong Hospital of obstetrics and gynecology, Vietnam, 2022

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Abstract

Introduction: Diabetes, including Gestational Diabetes Mellitus (GDM), is a growing public health concern. GDM, increasing among pregnant women, parallels the rise of metabolic diseases like obesity and impaired glucose tolerance. It poses significant risks to mothers, such as gestational hypertension, preeclampsia, higher chances of cesarean sections, and to fetuses, including risks for congenital abnormalities and neonatal hypoglycemia. Globally, GDM prevalence varies, with rates between 1% and 14% in the US. In Vietnam, studies show varying GDM rates: a 2016 study reports as 36.8% prevalence, identifying risk factors like a family history of diabetes and obesity at Hai Phong.

Objectives: This study aimed to review the prevalence and risk factors of GDM to improve the prevention and control of this disease.

Methods: This was a cross-sectional study involving 310 pregnant women who were attending prenatal care department from January to June 2022. Data was collected through interviews, medical record reviews, and laboratory tests. The diagnosis of GDM was based on the International Association of Diabetes and Pregnancy Study Groups (IADPSG 2010) criteria.

Results: The prevalence of GDM was 32.3% and found 3 factors related to gestational diabetes including: Maternal age ≥ 30 years old (aOR = 2.1, $p < 0.05$), pre-pregnancy BMI ≥ 23 (aOR = 2.8, $p < 0.05$) and personal history of GDM (aOR = 10.0, $p < 0.05$).

Conclusion: Counseling is needed to increase pregnant women's understanding of screening for early detection of GDM, especially pregnant women at high risk such as over 30 years old, overweight, and obese, and have ever had GDM.

Keywords: Cross-sectional, Gestational diabetes mellitus, Hai Phong Hospital of obstetrics and gynecology, Prevalence of GDM, Risk factors

The relationship between maternal hygiene practices and diarrhea in children under 2 years of age in Khammouan province

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Abstract

Introduction: According to the World Health Organization, as of 2021, the death rate due to diarrhea in children under 2 years of age is 8% worldwide, children under 2 years of age are more than 1 billion people affected by diarrhea, in developing and low-income countries, in terms of health, there are children who die due to diarrhea accounting for about 9% of the number of deaths of children under 2 years of age worldwide, In 2019, which means the death of more than 1,300 children per day or about 484,000 people per year.

Objectives: This study aims to find out what factors are related to diarrhea in Khammouan province.

Methods: This study is a cross-sectional analytical study to determine the factors associated with diarrhea. By using a face-to-face interview form with 331 mothers with children under 2 years old in the community of Khammouan province. Use multistage random method (Multistage Sampling) Data input is using Program STATA 14 Analysis is using descriptive statistics. Then use Multiple Logistic regression and report AOR value (95%CI) based on p-value < 0.05 to consider statistically significant relationship.

Results: From this study, the most important factors (P<0.05) related to diarrhea in children under 2 years of age are mother's occupation (AOR 1.98 95%CI 1.02,3.82), child's age (AOR 7.83 95%CI 1.45,39.56), mother's knowledge of diarrhea (AOR 0.51 95%CI 0.26,1.00), and receiving information About diarrhea of mothers (AOR 0.04 95%CI 0.02,0.72) prevented diarrhea in children under 2 years of age

Conclusion: This study found that mothers who work as farmers and gardeners are at high risk of diarrhea in children between the ages of 7 months and 2 years, so it is necessary to provide knowledge and spread information about diarrhea to the parents of children to prevent diarrhea in children under 2 years of age.

Keywords: Diarrhea in children under 2 years of age, Khammouan province

Factors associated to breastfeeding duration among children aged 0- 24 month in Vientiane Province, Lao PDR

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Abstract

Introduction: The breastfeeding is defined as a child receiving only breast milk without liquids or solids or water, except for oral rehydration solution, or vitamin, mineral or syrup drops.

Methods: The study was cross-sectional analytical study. The study sample is mothers with children under 24 months of age in Vientiane province. The sampling is done using a simple random sampling, including a total of 333 participations, tools using questionnaires, by face-to-face interviews data collection methods. Data analysis using descriptive statistics and Multivariable Cox Regression Model.

Results: It was found that most of the participants was occupation as farmer (41.5%), their education is high school (29.0%), followed by secondary school (22.1%). The participants 56.5% have low-moderate knowledge about breastfeeding, as negative attitudes about breastfeeding (87.4%), high support from her husbands about breastfeeding (48.3%) and breastfeeding duration was more than 6 months (55.9%). The analysis found that the factors associated with duration of breastfeeding with statistical significance more than was mothers with birth assistants who are not doctors (AHR= 1.42; 95%CI= 1.05-1.9), Mother delivered by cesarean section (AHR = 1.45; 95%CI = 1.02-2.1). Also, mothers with children aged ≤6 months (AHR = 17.3; 95%CI = 8.2-36.5) and children aged 7-12 months (AHR= 3.5; 95%CI = 2.4-5.2).

Conclusion: The results of the study indicate that the factors associated to breastfeeding duration among children. Mothers with birth assistants who are not doctors, the mode of delivery by cesarean, the age of children, especially children aged ≤ 6 months and 7-12 months are all factors that influence the period to stop breastfeeding. Therefore, there should be increased attention to disseminate information, knowledge about breastfeeding after delivery and provide regular health education to mothers with children under 2 years old living in the community.

Keywords: Behavior, Breastfeeding duration, Children aged <24 months, Vientiane province

The effectiveness of the Early childhood development promotion by the child and family development team in Mueang Chaiyaphum District

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Abstract

Introduction: In Mueang Chaiyaphum district, 69.0 percent of preschool-aged children exhibit developmental delays. Appropriate stimulation and support of development can decrease the problem effectively.

Objectives: To compare the development of children before and after receiving the Early Childhood Developmental Promotion (ECDP) provided by Mueang Chaiyaphum District's Child and Family Development Promotion Team (CFT).

Methods: The quasi-experimental one-group with pretest-posttest design study measured before and after the experiment. The sample comprised 49 preschool children aged 24-60 months in the early childhood development centers in Mueang District, Chaiyaphum Province. The research instrument used was the Developmental Surveillance and Promotion Manual (DSPM). The assessment of the ECDP's effectiveness involved comparing the developmental rates of children based on the DSPM measurement criteria before and two months after the experiment. The data analysis utilized Descriptive Statistics and the Binomial exact probability test, with a significance level set at 0.05.

Results: Findings revealed that the child developmental rate of the samples that met the DSPM measurement criteria statistically significantly increased. The overall development was 28.57% VS. 65.31% ($p < 0.001$). When considering separate areas of development, it showed that the language comprehension development was 63.26% VS. 93.87% ($p < 0.001$); the language usage development was 75.51% vs. 93.87% ($p = 0.004$); and the self-help skills development was 65.31% vs. 85.71% ($p = 0.002$).

Conclusion: The early childhood development promotion by CFT in Mueang Chaiyaphum District is effective in enhancing the development of preschool-aged children within Mueang District of Chaiyaphum Province. Therefore, it is recommended to have a CFT in each of the other areas later on.

Keywords: Child and family development team, Development promotion, Early childhood

Study on the association between uterine fibroids and tea drinking in premenopausal women in Yunnan Province

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Abstract

Introduction: Studies of green tea extract Epigallocatechin gallate (EGCG) and the treatment of uterine fibroids (UFs) have shown that EGCG can alleviate the severity of uterine fibroid symptoms. But taking green tea extract and drinking tea directly have different effects on the human body. At present, there are few studies on the association between tea drinking and UFs. Generalized propensity score, as an effective method to control confounding bias, has been widely used in observational studies.

Objectives: To explore the association between tea consumption and the prevalence of UFs using Generalized Propensity Score Inverse Probability Weighting (GPS-IPW).

Methods: A cross-sectional study was performed based on the data collected from the baseline of a Chinese multi-ethnic cohort. The subjects of this study were premenopausal women aged 60 years and younger in Yunnan province. Questionnaires were used to collect information on their general demographic characteristics, reproductive history, tea consumption and menstrual status. Whether the subjects suffered from UFs was determined by gynecological B-ultrasonography combined with self-report. Multivariate Logistic regression based on GPS-IPW were used to explore the association between tea drinking and UFs.

Results: A total of 6560 premenopausal women were included, and the prevalence of UFs was 9.0% (95%CI: 8.3%, 9.7%). The results of χ^2 test showed that the prevalence of UFs was different in women of different ages and occupations (P<0.05). Univariate logistic regression analysis showed that there was no statistical association between tea drinking and UFs. The results of multivariate GPS-IPW balanced confounding effect analysis showed that tea drinking was positively correlated with UFs. Compared with the tea consumption of 0g/day, the OR (95%CI) of UFs with tea consumption of 0.01-3g/day, 3.01-6g/day and >6g/day were 0.826(0.586,1.165), 0.702(0.433,1.139), 1.653(1.017,2.686), respectively.

Conclusion: Compared to non-tea drinkers, women who consume more than 6g/day of tea have an increased risk of UFs.

Keywords: Generalized propensity score inverse probability weighting, Tea drinking, Uterine fibroids

CODE: 093

Air pollutant emissions and sources in Lao People's Democratic Republic: a provincial scale analysis for years 2013-2019

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Abstract

Introduction: Recent rapid economic development in Lao People's Democratic Republic (PDR) has increased national fuel consumption, vehicle fleet, industrial output, waste generation, and agricultural production. This has contributed to national average ambient fine particulate matter ($PM_{2.5}$) air pollutant levels that are four times higher than World Health Organisation guidelines. Emission inventories are a key tool in understanding the major sources to these air pollution levels, and provides a starting point to identify where mitigation action can be targeted. A national air pollutant emission inventory has not been developed in Lao PDR and, combined with a limited air quality monitoring network means there is limited capacity to develop and track the effectiveness of mitigation actions.

Objectives: This study describes the first air pollutant emission inventory at the national and provincial scale for Lao PDR, covering 2013-2019.

Methods: Emissions of nine air pollutants, and two greenhouse gases, were quantified using national statistics and international default emission factors.

Results: In 2019, national total $PM_{2.5}$, Nitrogen Oxides (NO_x), Black Carbon (BC), Sulphur Dioxide (SO_2), Non-Methane Volatile Organic Carbons (NMVOCs), and Ammonia (NH_3) were 125, 83, 9.7, 26, 219, and 99 thousand tonnes respectively. Key source sectors include forest fires, residential cooking, agriculture, electricity generation, and transport. However, the contribution of different sources varies across provinces.

Conclusion: Forest fires are the primary source determining the spatial trend of particulate air pollution while residential and agricultural emissions contribute more significantly to rural provinces such as Savannakhet. Key sectors in major urban provinces (Vientiane Capital and Xayaboury) are industry, transport and electricity generation. These sectors are also significant sources of greenhouse gases (CO2 and CH4), demonstrating the potential for identification, evaluation and prioritisation of actions that simultaneously improve air quality and achieve Lao PDR's international climate change commitments.

Keywords: Air pollutant, Air quality, Lao PDR

Detection of heavy metal contamination in organic vegetables from markets and vegetation sites in Vientiane Capital, Laos

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Abstract

Introduction: Vegetables are an essential part of a balanced diet as they contain a variety of nutrients. However, heavy metal contamination in vegetables has become a concern due to various reasons.

Objectives: The aim of this study is to determine the concentration of heavy metals in organic vegetables sold in Vientiane capital's markets.

Methods: A total of 22 samples of organic vegetables were collected from two sites (market and a vegetation site). The heavy metals (As, Fe, Cu, Cd, and Pb) were quantified using atomic absorption spectrophotometer.

Results: The samples collected from the vegetation site had Fe, Cu, and Cd levels in the range of 21.16-57.55, 0.36-13.83, and 0-13.47 mg/kg, respectively. As and Pb were not found in any of the samples, and the copper levels were lower than the acceptable criteria. However, all of the organic vegetables were found to have Fe levels higher than the WHO standard, and the onion and morning-glory samples had a cadmium level higher than the acceptable criteria.

Conclusion: In conclusion, heavy metal contamination in vegetables sold in the Vientiane Capital's markets is a concern, and measures should be taken to reduce heavy metal accumulation in vegetables to ensure food safety for consumers

Keywords: Contamination, Heavy metal, Organic vegetables

Air pollution from charcoal-grill shops and factors associated with respiratory health of grill-workers in Lao PDR: a focus on inequity in exposure and health by gender

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Abstract

Introduction: Charcoal-use grilling emits air pollutants and creates health risks. In Lao PDR, grilled food is popular, but lack of evidence about workers' exposure to combustion pollution and its intersection with social identities.

Objectives: We studied the level of exposure to charcoal combustion among grill workers and factors associated with respiratory symptoms among grill workers.

Methods: This study was conducted in four urban districts of Vientiane Capital. We measured PM 2.5 from charcoal combustion in 14 grill shops/street-carts, using automatic wind-speed air sampler. We surveyed for potential health risks among 362 grill-workers, using multistage sampling. We interviewed face-to-face about daily work, exposures and respiratory symptoms (cough, phlegm, shortness of breath, and wheezing) that disturbed participants within the past three months.

Results: Most grill workers were female, worked 6-7 days a week for at least 8 hours a day and did not use PPE properly. Most participants had limited understanding of potential health effects from grill-smoke exposure. The average PM2.5 concentration was 84.8 $\mu g/m^3$ (21.6 - 254.8 $\mu g/m^3$), or above standard (<50 $\mu g/m^3$). Higher concentrations of PM2.5 was found in the grill-markets rather than grill-restaurants/carts. Female grill-workers were more affected on respiratory health than male, with statistical significance; together with other factors, such as low-income, indoor grilling, years of grill-working, intense of smoke, and carelessness on health.

Conclusion" Grill-workers are likely to be exposed to high levels of air pollutants posing a risk to health. Female workers are worse affected. Grilling contributes to ambient air pollution and become public health concern in Laos. Effective strategies are required to raise awareness, monitoring and informal workers' health insurance.

Keyword: Air pollution, Charcoal burn, Gender, Grill worker, Respiratory, Street food

Determination of fluoride concentration in drinking water resources at Lao P.D.R.

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Abstract

Introduction: Consuming water from different sources might lead to different fluoride intake levels for human health. High or low-concentration contamination can cause risk factors for human health, such as dental cavities, dental fluorosis, and skeletal tissues. Accordingly, there is limited evidence of fluoride contamination in drinking water among Lao people.

Objectives: To estimate the level of fluoride concentration in drinking water sources and describe fluoride water drinking knowledge and behavior among Lao people. Place and Duration of Study: The study was conducted in two areas of Laos, the northern and the southern, from May to December 2023.

Methods: A cross-section was performed. The questionnaires were used in face-to-face interviews to gather information about participants, such as demographics, fluoride knowledge, and drinking water behavior. Testing for fluoride content was conducted using an ExStik FL700 fluoride meter from Extech Instrument. The data analysis was done using SPSS for descriptive analysis.

Results: A total of 496 samples (36% male and 63.10% female; range ages 16–85 years). The study involved contributing fluoride to 118 samples of drinking water that were collected for a criterion. The study found low fluoride concentration levels, a mean of 0.124 ppm, 82.3% of bottled water consumed by drinking more than 2 liters per day, and 91.30% don't know about fluoride.

Conclusion: To prevent dental caries and the risk of dental fluorosis, fluoride concentration levels in drinking water are essential for detection to ensure compliance with recommended fluoride arrangements for routine protocol.

Keywords: Drinking behavior, Drinking water, Fluoride concertation, Fluoride knowledge, Oral health risk factor

Antibiotic use in respiratoty infection among children in Vientiane Capital. Laos

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Abstract

Introduction: Little to known about information about epidemiological data and rationale antibiotic use in respiratory infection among children in Laos. Therefore we need to know the antibiotic use for children with respiratory infection for proper health planning.

Objectives: to determine the proportion of antibiotic use in Respiratoty infection among children in Vientiane Capital. Laos

Methods: Cross sectional descriptive study was carried out . 320 mothers or fathers of ill children were interviewed. Data were collected in the children hospital in May 2023. Descriptive statistics will be used for data analysis.

Results: 99 (30.3%) children were taken antibiotic prior to see doctors. 55.5% were taken amoxicillin. 43.1% and 38.1% were diagnosed for common cold and tonsillitis respectively. Doctors prescribe antibiotic for 156 48.8% and writing unclear suggestion to take medicine 54% , 275 cases (86%) and 45 cases (14%) were diagnosed as upper respiratory infection and low er respiratory infection respectively

Conclusion: Irrational antibiotics use were done in this study. Therefore the rationale antibiotic therapy guideline for respiratory infection must be developed and implemented properly in order to avoid the socio-economic and public health negative effects.

Keywords: Antibiotic use, Children, Laos, Respiratory infection

The relationship between household air pollution and respiratory diseases in children under 2 years of age in Bo Keo Province

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Abstract

Introduction: Air pollution, both outdoor and household (from burning fuels for cooking), is a significant global health concern, causing respiratory illness and premature death. In Lao PDR, household air pollution from solid fuels is a major contributor, with Bokeo province alone reporting 18,408 children under two with respiratory illnesses in 2023 (86% of all such cases).

Objectives: This study investigates the relationship between air pollution and respiratory diseases in children under two years of age in Bokeo province.

Methods: This cross-sectional study employed fact-to-face interview with 355 mothers of children under two years old in 16 villages of Bokeo province. Multistage randon sample was applied. Descriptive statistics was used to demonstrated frequency, percentages, means, standard deviations characterized variables. Logistict regression on the dependent variable, followed by a final multiple logistic regression model reporting AOR(95%CI) with p-value<0.05 for significance.

Results: The avarage mother's age was 28.4 years (SD: $\pm$6.8), with most being farmers (61.4%) and having a high school education (30.6%). Nearly 90% were classificated as low-income, and 58% resided in rural areas. In the past 3 months, 37.4% of children expereinced respiratory illness linked to household air pollution. Mother's occupation as farmers/agriculturists/daily workers as a significant factor (AOR: 2.0; 95%CI: 1.0-3.7; p=0.041). Additionally, factors associated with increased risk included children playing outdoors for more than 3 hours (AOR: 1.9; 95%CI: 1.0-3.5; p=0.035), elevated PM2.5 levels (>50 PM; AOR: 6.1; 95%CI: 2.6-14.0; p<0.001). elevated PM10 levels (>120 PM10; AOR: 8.0; 95%CI:3.8-16.8; p<0.001), and high CO levels (>9.0 CO; AOR: 2.4; 95%CI: 1.3-4.6; p=0.006). While, the large house with air conditioning (AC) had low odds (AOR: 0.4; 95%CI: 0.2-1.0; p=0.048).

Conslusion: This study linked household air pollution (PM2.5>50 $\mu g/m^3$, PM10 > 120 $\mu g/m^3$, CO > 9.0 ppm) to respiratory illnesses in children under two years. Factors included mothers' occupations, large household with AC, and playtime exceeding 3 hours outdoors. Inter-ministerial collaboration (Health, Environment, Transport) is crucial to address this public health concern.

Keywords: Children under two years old, Indoor air pollution, Respiratory diseases

Factors related of vaccine wastage at the district level and Health Center of Luang Prabang province

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Abstract

Introduction: Vaccine wastage can occur in two ways: unopened bottles and open bottles, all vaccines will be lost at temperatures above +8°c, even if exposed to high heat for a short period of time or exposed to low heat for a long period of time. BCG, MR and JE vaccines are the most heat- and light-fast vaccines. Because the vaccine does not contain any preservative, there is a risk of contamination which may cause poisoning symptoms; Therefore, the vaccine should not be used after 6 hours of mixing. Vaccination wastage has a direct impact on failed immunization coverage. The World Health Organization (WHO) estimates that about 50% of vaccines produced worldwide are wasted. Thailand found a high wastage of vaccine at the point of service, the average DTP-HB = 36.07% and DTP = 45.19%, which is higher than 25% according to the Department of Disease Control. Lao PDR also uses vaccines to prevent diseases like other countries, but there is no study on the wastage of vaccines.

Objectives: To describe the rate of vaccine loss of each type, socio-demographic characteristics, evaluate the knowledge, attitudes and practices of the staff working with vaccines and determine the factors related to vaccine wastage at the district level and small hospitals in Luang Prabang province.

Methods: This study is a cross-sectional study, mixed method, which was conducted in 6 districts of Luang Prabang province in April 2024. A total sample group of 210 people. By using a multi-stage randomization method. Data input is using Excel program, descriptive statistics if group data is reported as number, percentage, continuous data is grouped first and then reported as mean value, standard deviation value, middle value, minimum value and maximum value. Then reference statistics are used to identify factors associated with vaccine wastage at the district and small hospital levels to predict the factors in the final model using Multiple Logistic Regressions Analysis and report the value of AOR (95% CI) based on P-value<0.05 to consider a statistical relationship.

Results: the interviewees were 210 health workers who worked with vaccines, the average age was 35.6 years old, the maximum age was 56 years old, specialized classes (58.5%), nursing majors (44.7%), civil servants (74.7%), average years 10.9 years, The average working experience with vaccines is 9 years and they have received vaccine work training (75.2%). Employees have a high level of vaccine knowledge (38.9%), with a positive attitude (39.6%). The rate of vaccine loss is high at the district level from open and closed cameras (46.8%), high vaccine loss at small hospitals from open and closed cameras (49.7%) in the district compared to the vaccine loss rate in Lao PDR.

Conclusion: From the results of the study, it was found that the rate of vaccine wastage at the district level is lower than at the small hospital. The wastage of each type of vaccine from unopened cameras is mostly expired and heat-shocked and discolored to the point of being unusable. Most of the closed cameras have a small number of doses in many target groups, do not arrive on schedule and the shelf life after mixing is short.

Keywords: Destruction and erosion, Point of service, Vaccine supply chain, Vaccine wastage

Knowledge, attitude and practice of separation of infectious waste and contaminated material at the central hospital, skin center and eye center in Vientiane

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Abstract

Introduction: The reason for the importance, the work in the management of public health waste, especially in hospitals around the country, there are still no definite requirements and most of the hospitals in our country still separate the infectious waste according to their behavior The rate of infectious waste per day is 0.8 kilograms per bed per day (Department of Hygiene, 2018). In the management of the separation of infectious waste not according to hygiene standards, it may cause the spread of infectious diseases such as diarrhea, dysentery, hepatitis, tetanus, tuberculosis, Respiratory diseases and injuries from sharp objects among garbage collectors.

Methods: This study is a cross-sectional analytical study conducted at 3 central hospitals, skin center and eye center in Vientiane. The sample group in the study is determined to take 377 Vientiane Central Hospital nursing staff to collect interview data with closed-ended and open-ended questionnaires in face-to-face interviews for ease of inputting data according to the code set into the Commcare program that has been created in the database. The data entered into the Commcare program has been checked for accuracy and completeness again and sent to the Stata Version 14 program to analyze the data. Analyze the relationship between the primary variable and the dependent variable and report the AOR, 95% CI and P-value. Infectious waste refers to various types according to the nature of the components, such as pus, parts of various organs and liquid excretions from the patient's body, bile, pus, sputum, urine, sweat, feces, bone fluid, semen, blood, blood fluid, including equipment and utensils that come into contact with the patient. These include corn, wound dressings, sanitary paper, needles, surgical knives, clothes, laboratory animals.

Results: The results of the study found that there were 89.66% more females than males, the average age of the study participants was 38.25 years, 68.88% were married and 74.01% had worked for less than 20 years, 78.78% were trained in waste separation, and there was a statistical relationship between the factors of knowledge about infectious waste and infectious waste management (AOR=2; 95%CI: 1.1-3.3; P=0.0 16), knowledge about the separation of infectious waste and There is a statistical relationship (AOR=2.1; 95%CI: 1.2-3.7; P=0.05) and the performance factor of infectious waste segregation has a statistical relationship (AOR=2; 95%CI: 1.3-3.4; P=0.01).

Conclusion: The study found that the related factors are gender, knowledge of infectious waste and sharps, practice of sorting infectious waste, sorting sharp and non-sharps waste with a statistical relationship.

Vaccine wastage and associated factor with vaccine wastage in public health facilities, Champasack Province

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Abstract

Introduction: More than 50% of vaccine wastage worldwide, vaccine wastage are related to cold chain, breakage, or expiration. Personnel managing the storage and distribution of the vaccine should be stored at 2–8 °C.

Objectives: The objective is to study the wastage of vaccines and factors related to the wastage of vaccines at health service facilities in Champasak province.

Methods: Mixed Method by a Cross-Sectional Survey, reviewing second data from vaccination statistics 1 year back (from 1-12 months 2023). This study starts from May 2023 to May 2024, sample size is 223 people including 57 vaccine management staff and 166 vaccine staff in 6 districts of Champasak province. A simple random sampling method and analyzed with the Stata Version 13 program.

Results: Most of the participants in the study are female 74.9%, aged between 25-35 years, 71.3% have work experience of 5 years or more, have been through vaccine training 75.8%, 54.4% have a high level of knowledge in vaccine management and 54.2% have a low level of knowledge in vaccination 54.2%. The rate of vaccine wastage in the past year (year 2023) found that the rate of vaccine wastage was higher than the WHO standard JE 5 dose (19.8%), PCV 1 dose (15.8%), BCG 20 dose (11.7%), MR 5/10 dose (8.4%), OPV 10/20 dose (2.9%), IPV 5 dose (1.7%) where the high wastage in vaccine management is mostly due to expiration and vaccination mostly due to small target group and throwing away the remaining dose after completing the vaccination.

Conclusion: Although the rate of vaccine wastage is high, it is in line with the national vaccination target of Champasak province to reach more than 95%. Future research should examine provider practices related to vaccine wastage and the effects of non-vaccination groups.

Keywords: Champasak province, vaccination, vaccine management, vaccine wastage

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Spectrophotometric method for determination of iron (III) using ciprofloxacin as a reagent

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Abstract

Objectives: The objective of our work was, therefore, to develop a simple spectrophotometric and cost-effective method for the determination of iron (III) using a commercial Ciprofloxacin capsule as a reagent. The developed method was applied for the analysis of iron (III) levels in fruit juice samples which was compared the resulting with the flame atomic absorption spectrophotometric method.

Methods: This study was based on the complex formed between iron (III) solution and Ciprofloxacin reagent solution from a commercial Ciprofloxacin capsule characterized by an absorption maximum at 435 nm. The experimental conditions were optimized using the univariate method. The sample preparation of fruit juice was digested by heating under reflux for 1.5 hrs. and was measured iron (III) level.

Results: The linear calibration curve was constructed using the iron (III) standard which contained an iron (III) standard solution in the range of 0.3 - 10.0 µg mL-1. Over the above concentrations range, linear regression of the absorbance of iron (III) (y) and concentration of iron (III) (x) expressed the equation $y = 0.0968x + 0.0336$ ($r2=0.9948, n=3$). The relative standard deviation (RSD) of the proposed method calculated from 7 replications of iron (III) 3.0 and 7.0 µg mL-1 were found to be less than 0.0003 % of each. The percentage recoveries of iron (III) 3.00 and 7.00 µg mL-1 ($n=7$) were found to be 97.86 % and 103.96 %, respectively. The effect of some possible interfering ions (Na^+, K^+, Zn^{2+}, Mg^{2+}, Ca^{2+}, Al^{3+}, Cu^{2+}, Mn^{2+} and Fe^{2+}) on the determination of iron (III) was investigated using the present method. Almost all of the cations tested caused interference $<\pm3$ % for determining the analyte of interest.

Conclusion: The iron (III) level in fruit juice samples obtained from the proposed spectrophotometric method and flame atomic absorption spectrophotometric method were in accordance, as compared by the t-test at 95%confidence level. This proposed method was successful in the determination of iron (III) in fruit juice samples and provides a simple, cost-effective, high-precision alternative to other methods.

Keywords: Ciprofloxacin, Drug reagent, Iron (III), Spectrophotometric method

Impacts of climate change on water access and gender in Phongsaly and Salavan Provinces

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Abstract

Introduction: Lao People's Democratic Republic (Lao PDR) is one of the most climate vulnerable countries in the world, experiencing a rise in extreme weather events in recent years, including floods and droughts. Gender equitable access to water and sanitation remains a persistent challenge in rural communities.

Objectives: Investigate interconnected challenges of climate change, land use, inadequate clean water access, health, and gender inequality, including adverse impacts on women, girls, and disadvantaged groups in Phongsaly and Salavan Provinces.

Methods: Mixed-methods approach; open-ended within quantitative questionnaires, with questions related to: perceptions and attitudes toward climate change and its impacts on water sources, inclusive clean water supply management, gender social norms, and expected coping strategies.

Results: There has been an alarming decline in forest cover, with deforestation exceeding 56%, impacting availability of clean water, reflecting the need to sustain livelihoods with small-scale agriculture. Focus group discussions (FGDs) and key informant interviews (KIIs) revealed two key challenges hindering effective community water supply management by Village Water User Committees (VWUCs): insufficient post-construction support and unclear responsibility allocation. Limited awareness of gender equality restricted women's participation in planning, decision-making, and management of the community water supply system. 70% of respondents were not involved in the process of village water supply development. 74% of women have responsibility for securing and managing water for household needs, including drinking, cooking, washing, sanitation, and subsistence agriculture.

Conclusion: Climate change poses significant challenges to water supply management. Deforestation exacerbates these challenges. Challenges remain in managing water supply at the community level, including insufficient support, unclear responsibilities, and limited participation of women and LGBTQIA+ individuals. Access to sanitation facilities varies among villages.

Keywords: Climate change, Gender equality, Laos

Factors associated with the risk factors of dengue fever among aged of 15 and above in Vientiane Capital: a case-control study

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Abstract

Introduction: Dengue fever, a mosquito-borne illness, is prevalent in tropical and subtropical regions worldwide, with millions of cases occurring annually, primarily in Southeast Asia, including Laos.

Objectives: Therefore, this study aim to investigates factors associated with the risk factors of dengue fever among aged of 15 and above in Vientiane capital

Methods: A matched case-control study was carried out between March and May of 2024, utilizing a face-to-face questionnaire with a general population aged 15 and above in Vientiane, Lao PDR. People who had dengue fever and diagnosis during data collection were matched by sex, age, and living within a radius of 5 kilometers, with up to two control group of people who had no dengue fever during that time. Descriptive statistics will be used to calculate the frequency, percentage, mean, and standard deviation values to describe each variable, and then multiple logistic regression will be used to determine the factors associated with the risk factors of dengue, then reporting the AOR (95% CI) value based on the p-value. < 0.05 is considered a statistically significant relationship.

Result: Among a total of 372 participants, 124 people were identified case and matched with 248 controls. Males and females in the case had 39.52%, 60.48%, and in the control had 38.71%, 61.29%, respectively. Factors associated with risk factors for dengue are overall health status before dengue (OR = 1.98; 95% CI: 1.18–3.33; P-value<0.05), history of disease in the past year (OR = 2.13; 95% CI: 1.18–3.33; P-value<0.05), and drinking alcohol or beer (alcoholic beverages) (OR = 0.50; 95% CI: 0.30-0.84; P-value<0.05).

Conclusion: It was determined that dengue overall health status before dengue, history of disease in the past year, and drinking alcohol or beer (alcoholic beverages) were most likely the risk factors for dengue. It is highly advised to set up surveillance, have an early reporting system, and employ preventative steps to avoid the vector.

Key words: Dengue fever, Lao PDR, Risk factors, Vientiane capital

Exploring One Health Dynamics: Gastrointestinal parasites in Humans, Domesticated Bovines, and Wild Elephants in Nakaï Nam Theun National Park, Lao PDR

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Abstract

Background: Zoonotic disease (re) emergence represents a global health concern, necessitating comprehensive and collaborative strategies for prevention, detection, and response. The transmission of pathogens between animals and humans is facilitated by anthropogenic activity often leading to ecosystems disequilibria and disruption and consequent increased proximity and contact between animals and humans in transformed environments. Of particular concern for zoonotic disease exposure and spread are gastrointestinal parasites (GIPs) such as helminths. Southeast Asia represents a priority context for conducting a One Health study on GIPs prevalence within rapidly evolving development landscapes.

Objectives: Our study objective was to assess the presence of GIP infections across these populations, for which we collected a total of 127 stool/faecal samples.

Methods: We examined a particular situation in Lao PDR, where a hydropower project in the Nakaï District of Khammouane Province has altered the habitat of wild elephants, leading to increased proximity between elephants, humans, and their domesticated cattle.

Results: Using microscopy analysis (formalin ethyl concentration technique), we detected at least one parasite infection in 55.0% of 40 human stool samples, in 90.0% of 40 cattle faecal samples, and in 89.4% of 47 wild elephant faecal samples. Two nematode species were present in all three populations, namely Hookworms (humans: 45.0%, 18/40; cattle: 25.0%, 10/40; elephants: 57.4%, 27/47) and *Strongyloides* spp. (humans: 12.5%, 5/40; cattle: 22.5%, 9/40; elephants: 72.3%, 34/47).

Conclusions: Humans, their domesticated bovines, and wild elephants all carried hookworm and roundworm infections. Based on these findings, we advocate for further studies to comprehensively examine the zoonotic risk factors in environments affected by anthropogenic pressure. Furthermore, there is a need to investigate the evolving potential of pathogens to cross species barriers to achieve a deeper understanding on the health consequences on wildlife and domesticated animals sharing the same territory and feeding sites.

Keywords: Gastrointestinal parasites, helminths, One Health, rural communities, elephants, cattle, Lao PDR

Effects of bisphenol A on the cytoskeleton and apoptosis of saccharomyces cerevisiae cells

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Abstract

Introduction: Bisphenol A (BPA) is a high-volume lipophilic and endocrine disrupting chemical widely used in industrial activities for the production of everyday plastics and packaging, and long-term exposure of organisms to these contaminants has adverse effects on tissues and organs.

Objective: Using *Saccharomyces cerevisiae* BY4742 and knockout strain ΔCdc50 as model organisms to explore the effects of different concentrations of BPA infected on cell growth, cytoskeleton and apoptosis.

Methods: BY4742 and ΔCdc50were respective treated with 0 μg/mL, 50 μg/mL, 100 μg/mL, and 200 μg/mL of BPA, and the survival of the yeast cells was detected by liquid culture method and spotting assay. The cytoskeleton of BY4742 was stained and observed using phalloidin. In addition, BY4742 andΔCdc50 cells were stained for apoptosis by Hoechst. The amount of cytoskeleton and apoptosis-related gene expression changes were detected by qPCR.

Results: Under 0 μg/mL, 50 μg/mL, 100 μg/mL, and 200 μg/mL BPA treatment, the growth of BY4742 yeast strain is inhibited in varying degrees, and the relative growth rate was significantly decrease to 85%, 76%, and 61%. Compared with the control group, the cytoskeleton showed plaque abnormal structure when treatment with 100 μg/mL and 200 μg/mL BPA. Treatment with 200 μg/mL BPA, the levels of arp3, crn1, and arc18 genes were up-regulated to 16%, 27%, and 15%. In addition BY4742, ΔCdc50 apoptotic cells showed an increasing relationship with increasing BPA concentration. Treatment with 200 μg/mL BPA, the levels of yca1, ndi1, and cyc1 genes were decreased to 67%, 65%, and 55% in BY4742. Treatment with 200 μg/mL BPA, the levels of yca1 and cyc1 were decreased to 58% and 95% in ΔCdc50.

Conclusion: BPA inhibited the growth of BY4742 and ΔCdc50, promoted the expression of cytoskeleton-related genes, and inhibited the expression of apoptosis-related genes, leading to their abnormal functions.

Key words: ΔCdc50, Apoptosis, BPA, BY4742, Cytoskeleton,

How to start up a new external quality assessment program for Sars-CoV-2 testing in resource-limited settings: lessons learned from Cambodia

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Abstract

Introduction: The onset of the COVID-19 pandemic prompted Cambodia to scale up its laboratory capacities for SARS-CoV-2 testing. Consequently, National Institute of Public Health (NIPH) initiated development of an External Quality Assessment (EQA) program to ensure the accuracy and reliability of test results.

Objectives: This paper presents a retrospective case study detailing the process of setting up the EQA program in Cambodia and details the lessons learned with the challenges encountered.

Methods: This paper describes in detail, the various steps implicated during the implementation of EQA program, including team formation, procedures development, panel preparation, participant registration process, panels distribution, result reporting, and feedback mechanisms.

Results: The comparison on the critical steps in EQA program with ISO 17043:2010 requirements, identifying areas of compliance and non-compliance, and proposing recommendations for improvement. Challenges encountered during the implementation of the EQA program include limited staff knowledge on EQA panel preparation, difficulties in maintaining the cold chain during panel distribution, and increased responsibilities during the pandemic. Furthermore, the study discusses limitations such as the inability to conduct frequent EQA rounds due to resource constraints. Comparative analysis with ISO 17043:2010 standard revealed areas of non-compliance, such as personnel training, program planning, documentation, and quality management processes. The paper concludes with insights into the importance of staff training, adherence to international standards, and the feasibility of implementing EQA programs in resource-limited settings during public health emergencies.

Conclusion: In summary, even though Cambodia has established an EQA program for SARS-CoV-2 testing successfully, continuous dedication is required to gradually reach ISO accreditation, address logistic issues and improve overall quality management for sustained effectiveness in disease testing and control.

Keywords: Covid-19, EQA

The needs for and use of essental resources for Covid-19 pandemic preparedness in the country: a qualitative study in the central, northern, and southern parts of Lao PDR (Laos)

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Abstract

Introduction: COVID-19 taught us that preparedness is a critical component of global health security. The COVID-19 pandemic is changing rapidly and requires different strategies to maintain clinical preventive services, including immunization.

Objectives: The Lao government needs to understand the needs for and use of essential resources, and perceptions toward COVID-19 pandemic preparation of stakeholders, aims at developing specific strategic plan for pandemic preparation effectively.

Methods: The study was carried out in central, northern and southern parts of Laos. A qualitative study design was applied using in-depth interviews (IDI) with multi-stakeholders, community leaders, and focus group discussions (FGD) with health workers to gather information on the needs for and use of essential resources in the context of COVID-19 pandemic, pandemic preparedness in general, and the willingness to follow the government recommendations for COVID-19 prevention and control in the country. Thematic manual analysis was done to analyze qualitative data.

Results: The findings indicated that the multi-disciplinary and inter-disciplinary approach of the national taskforce, including the participation of non-academic people that we call trans-disciplinary approach, which was a key determinant of the success of the COVID-19 prevention and control strategy in the country. The Lao COVID-19 response clearly utilized eight of the nine components recommended by the WHO. However, we identified needs for and use of essential resources for future pandemic preparedness, especially specific strategy development, continued coordination and using trans-disciplinary approach, capacity building, use of existing essential resources and vaccines, and providing more incentives. Participants clearly stated their willingness to follow government recommendations with specific needs.

Conclusion: This study provides a comprehensive understanding of the Lao COVID-19 response, valuable lessons learned, highlighted strengths, and brought attention to existing challenges. A trans-disciplinary approach was a key to the success of COVID-19 prevention and control in Laos. We recommend applying a trans-disciplinary approach to other pandemic preparedness in the future.

Keywords: Covid-19, Lao PDR, Pandemic, Preparedness

Refeeding syndrome in pediatric patients: clinical manifestations, and outcomes

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Abstract

Introduction: Refeeding syndrome (RFS) refers to the metabolic changes that occur when oral food intake is initiated. or parenteral nutrition This causes prolonged fasting or insufficient feeding. It is the transfer of characteristics to an anabolic state. This results in intracellular demand for inorganic phosphorus, potassium, magnesium, and thiamine, causing intracellular electrolyte disturbances. especially hypophosphatemia, hypokalemia and/or hypomagnesemia. Refeeding syndrome can range from mild electrolyte imbalance to asymptomatic electrolyte imbalance or severe to organ failure

Objectives: the aim of this study is to describe the clinical diagnosis, clinical manifestation, and lab investigation, the frequency of electrolytes changes of refeeding syndrome in pediatric patients.

Methods: A retrospective descriptive study that reviewed the medical records of pediatric patients aged 1month to 18 years old with diagnosed refeeding syndrome (electrolyte disturbances included hypokalemia and hypophosphatemia, and hypomagnesemia) who were treated at Srinagarind Hospital, Khon Kaen University, Thailand, between January 1,2018 and December 31, 2019.

Results: The study enrolled 135 patients with refeeding syndrome, and found that 27 (20%) patients was RFS diagnose. The mean age was 104.6 months. and the majority of patients were in the 60-216 months age group (63.0%), The most common underlying diseases was 45.2% in hematology/oncology patients , the disease category was 68.1% in severe , the mean length of stay was 27.2 days. The nutrition status was stunted, and wasted 31.1% and 28.1% respectively. The patients had clinical presentations was 14.0% , including EKG changes, acidosis, heart failure, seizures, diarrhea, and feeding intolerance. 17.0% of patients received vitamin B1 supplementation to prevent refeeding syndrome. The mortality rate of 10.4%.

Conclusion: Refeeding syndrome is a serious complication with a high mortality rate. Careful monitoring and management of electrolyte disturbances is essential for patients with refeeding syndrome.

Keywords: Electrolyte imbalance/disturbance, Hospitalization children, Hypophosphatemia, Refeeding syndrome

Evaluation of quality measures for colonoscopy in colorectal cancer screening among patients in Mahosot Hospital, Vientiane Capital, Lao PDR: a cross-sectional prospective study

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Abstract

Introduction: Colorectal cancer (CRC) ranks as the third most prevalent cancer worldwide and stands as the second leading cause of cancer-related deaths. Colonoscopy emerges as the gold standard for CRC screening, boasting the ability to detect premalignant lesions and asymptomatic early-stage tumors. The quality of colonoscopy plays a pivotal role in patient outcomes, hinging on factors like accuracy and efficacy in detecting and preventing colon cancer. Key quality indicators include adenoma detection rate (ADR), average withdrawal time (AWT), bowel preparation adequacy, and cecal intubation rate (CIR). Despite its importance, limited data exists on screening colonoscopy in referral centers like ours in Laos.

Objectives: to assess the quality of colonoscopy in CRC screening among patients at Mahosot Hospital in Vientiane, Lao PDR.

Methods: We conducted a cross-sectional prospective descriptive study from July 2023 to February 2024, collecting demographic data, procedure indications, and various colonoscopy metrics.

Results: 288 patients revealed a mean age of 45.57 years, with a near equal gender distribution. Majority of CRC screenings occurred in individuals under 50 years old. Most patients achieved optimal bowel preparation, underwent complete colonoscopy procedures, and had polyps detected primarily in the left-sided colon. Pathological analysis identified non-neoplastic, benign neoplastic, and malignant polyps, with an overall ADR of 27.63%, an advanced adenoma of 5.81%and colon cancer was detected in 5.9 %. Patients over 50 years old exhibited a higher risk of adenoma detection, while good bowel preparation did not significantly affect detection rates. However, longer withdrawal times during colonoscopy correlated with increased adenoma detection.

Conclusion: our study underscores the favorable quality indicators of colonoscopy for CRC screening at Mahosot Hospital, with notable adenoma detection rates and adherence to procedural protocols. Age over 50 emerges as a significant risk factor for adenoma detection, while withdrawal time during colonoscopy warrants attention for its impact on detection rates. These findings contribute to refining CRC screening strategies and enhancing patient outcomes

Keywords: Colonoscopy, Colorectal cancer, Quality measures

The correlation between temperature variation and prevalence of dengue fever in Vientiane Capital, Lao PDR: a retrospective study using 2007 – 2022 secondary database

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Abstract

Introduction: Dengue is a seasonal mosquito-borne disease prevalent in Lao PDR, particularly in slum areas where factors like crowded living conditions can contribute to outbreaks. While temperature and environment are known to influence transmission, understanding the precise contribution of these factors remains a challenge for public health.

Objectives: To improve dengue outbreak prediction and prevention strategies, it's essential to investigate the association between temperature fluctuations and dengue incidence across different time periods throughout the past year.

Methods: This study analyzed existing data on temperature and malaria cases in Laos from 2007 to 2022. Data from the Department of Meteorology and Hydrology and the National Laboratory and Epidemiology Center was extracted and compiled for analysis. Researchers assessed the relationship between temperature and malaria using a Pearson correlation coefficient, which identified the strength and direction of any association between the two variables. The analysis considered the correlation coefficient (positive or negative), its strength (closer to 0 or 1), and the p-value (statistical significance at $p < 0.05$).

Results: A study in Vientiane, Laos (2007-2022) found most Dengue cases (81.2%) occur during the rainy season (June-November) with peaks in 2013 and 2019. The highest caseloads were in Sai Thani (25.1%), Xay Setha (19.5%), and Sikhottabong Districts (13.5%). While dengue showed a statistically significant positive correlation with average and minimum monthly temperatures, no link was found with maximum temperatures. The rainy season saw significantly higher dengue cases (402/month) compared to the dry season (66/month) with p-value<0.001.

Conclusion: This study in Vientiane, Laos, highlights the seasonal nature of Dengue with most cases occurring during the rainy season and a positive correlation with temperature. Rainfall appears to be a stronger predictor of Dengue outbreaks than high temperatures. This suggests that temperature fluctuations, particularly alongside seasonal rainfall patterns, may play a role in Dengue outbreaks. These findings can inform public health strategies for Dengue prediction and prevention in Laos.

Keywords: Dengue fever, Rainfall, Seasonality, Temperature, Vientiane

Dengue fever and its association with temperature and multiple factors in Vientiane capital, Lao PDR

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Abstract

Introduction: To develop more effective intervention strategies against dengue, it is necessary to estimate the threshold effects of temperature on dengue, prevalence, and risk factors associated with dengue virus infection.

Objectives: This study aims to gain insights into the prevalence of dengue fever and its associated factors from environmental and behavioral characteristics.

Methods: A mixed quantitative design (secondary data analysis and a cross-sectional household survey). Secondary data review of temperature change scenarios and dengue fever prevalence in Vientiane Regency in the 2007–2022 period. Use a questionnaire to ask 954 households in the area of 4 districts in Vientiane capital. The clusters, villages, and households were selected by a multi-stage sampling approach and Data analysis uses the Stata 13 program. Source of funding: The Asian Development Bank (ADB).

Result: A total of 954 participants. The prevalence of dengue fever in Vientiane Regency from 2007–2022 fluctuated and increased each year, with the highest prevalence recorded in 2022 with 15,275 cases. The average monthly temperature is 27.5 degrees Celsius (2.3; 20.9 - 32.2). High prevalence of dengue fever among staff and business workers (AOR = 0.45, p < 0.001). Environmental risk factors, such as Living in large, open, and ventilating areas was associated with a lower likelihood of dengue fever infection (AOR = 0.5, p = 0.001) compared to living in limited area/apartments/rented rooms.

Conclusion: The results of this study highlights the importance of integrated vector management approaches and continued research into temperature-dengue relationships to inform adaptive disease surveillance and control strategies. The results provide valuable insights for policymakers and healthcare professionals to develop targeted interventions aimed at reducing the incidence of dengue fever in the region.

Keywords: Dengue fever, Factors, Lao PDR, Prevalence, Temperature change

Factors associated with the use of weight loss supplements among students of two universities, Vientiane

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Abstract

Introduction: Currently, more and more teenagers are taking diet pills to lose weight. 1.5 percent of teenagers aged 15-29 years use diet pills, 5.3 percent of them affect almost 60 percent of adults. It is alarming that the prevalence of weight loss is alarming. Overweight and obesity continue to increase in the European region and Member States to meet the target of stopping the increase in obesity by 2025.

Methodology: This study was a quantitative, analytical, cross-sectional study to study the factors of obesity product use among female students of Vientiane University of Health Sciences. The sample group used in this study were 1st-4th year students studying at University of Health Sciences in 2022-2023, numbering 493 people, used a multi-stage sampling method using a face-to-face questionnaire on demographics and self-care behaviors and asking about the quality of food semi-FFQ. Entry. Data were used with Epi-data version 13. Analysis used descriptive statistics by calculating frequencies, percentages, means, and standard deviations to describe each variable. Reference statistics were then used to look at the nutritional factors of young mothers aged 15-24 years in the final model. Multiple logistic regression was used, and AOR (95%CI) values were reported based on a p-value <0.05, which was considered a statistically significant association.

Results: This study had a total of 493 participants. It was found that the majority of participants were overweight/obese (20.69%), followed by normal nutrition (60.24%) and inadequate nutrition (19.07%). that the majority were female (69.78%), male (28.80%), sexual orientation (1.42%), age group 19 years and over (69.57%), followed by age group < 19 years (30.43%), primary school level 2 (50.51%), followed by year 1 (49.49%), health conditions (46.5%), found that people with chronic diseases (37.73%), people without chronic diseases (62.27%), health behavior found that drinking beverages Alcohol (75.05%)) No alcohol (24.95%) Non-smoker (66.94%) Smoker (33.06%) Knowledge about Weight loss supplements (28.19%), little knowledge (71.81%), bad dietary habits (47.06%), good dietary habits (52.94%), hearing or seeing about weight loss supplements (94.73%) not heard or seen about Weight loss supplements (5.27%). Weight loss supplement advertisements have an effect on increased product use (93.51%). Weight loss supplement advertisements have no effect on product use (6.49%). In the past 1 year, have used Weight loss supplements (24.14%) in the past 1 year have never used weight loss supplements (75.86%).

Keywords: Dietary supplements for weight loss, Related factors, Students

Correlation analysis of plasma atherogenic index and hyperuricemia in elderly population

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Abstract

Introduction: Studies have shown that plasma atherosclerosis index is correlated with uric acid in patients with type 2 diabetes. At present, there are few studies on AIP and hyperuricemia in the elderly.

Objectives: To investigate the relationship between plasma atherogenic index and hyperuricemia in the elderly, and to study its predictive effect on hyperuricemia.

Methods: A cross-sectional study was conducted in patients over 60 years of age. Demographic information, physical measurements, blood biochemical indicators, disease history and other information were collected. The correlation between plasma atherogenic index and hyperuricemia was investigated by multifactor analysis.

Results: A total of 7565 subjects over 60 years old were included in this study, and the detection rate of hyperuricemia was 30.8%. Age, BMI, TG, TC, LDL-C and AIP were associated with hyperuricemia. LDL-C (OR=0.489), AIP (OR=0.147) and BMI (OR=0.92) were risk factors for hyperuricemia. Female (OR=9.266) and FPG (OR=1.1) were the protective factors for the incidence of HUA. Plasma atherogenic index (AIP) was a good predictor of hyperuricemia (AUC=0.83).

Conclusion: There is a significant correlation between plasma atherogenic index and hyperuricemia, and it has a good predictive value, which can provide a basis for the prediction and prevention of hyperuricemia.

Keywords: Atherogenic index of plasma, Correlation analysis, Hyperuricemia, Influencing factors

Association of perioperative skeletal muscle index change with outcome in colorectal cancer patients

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Abstract

Introduction: The association between perioperative changes in the skeletal muscle index (SMI) and colorectal cancer (CRC) outcomes remains unclear.

Objectives: We aim to explore perioperative change patterns of SMI and evaluate their effects on long-term outcomes in CRC patients.

Methods: This retrospective cohort study included Stage I–III CRC patients who underwent curative resection between 2012 and 2019. SMI at the third lumbar vertebra level was calculated using computed tomography scans. Optimal cut-off values for SMI were defined separately for males and females and classified as high or low preoperatively and at 3, 6, 9, and 12 months postoperatively. SMI status was further categorized into different perioperative SMI change patterns: $high_{pre}$-$high_{post}$, $high_{pre}$-low_{post}, low_{pre}-$high_{post}$, and low_{pre}-low_{post}. The association with recurrence-free survival (RFS) and overall survival (OS) was examined using Cox proportional hazards models.

Results: A total of 2222 patients (median [interquartile range] age, 60.00 [51.00–68.00] years; 1302 (58.60%) men; 222 (9.99%) with preoperative low SMI) were evaluated. Multivariate Cox model analysis showed that, compared to patients with $high_{pre}$-$high_{post}$, those with $high_{pre}$-low_{post} (HR = 3.32, 95% CI: 1.60–6.51) had significantly worse RFS and OS at postoperative 6 months (HR = 4.07, 95% CI: 1.55–10.69). The similar result also observed at postoperative 9 and 12 months. Patients with low_{pre}-low_{post} were an independent prognostic factor for worse OS at postoperative 12 months (HR = 3.20, 95% CI: 1.06–9.71, P = 0.040). Patients with low_{pre}-$high_{post}$ had similar risk of RFS and OS compared to those with $high_{pre}$-$high_{post}$ at postoperative 3, 6, 12 months.

Conclusions: Routine measurement of postoperative, rather than preoperative, SMI is warranted. Patients with a high preoperative SMI that decline postoperatively have poor RFS and OS. Consistently low SMI also correlates with worse OS. Patients with low SMI but increased after resection is not an indicator of better prognosis.

Keywords: Colorectal cancer, Perioperative, Prognosis, Skeletal muscle index

Comparative analysis of the mediating role of TyG-BMI in hypertension and metabolic syndrome in Yi and Han Ethnic Group

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Abstract

Introduction: The Yi and Han ethnic groups show significant disparities in hypertension and metabolic syndrome (MetS) trends due to lifestyle and genetic differences. TyG-BMI (Triglyceride glucose-body mass index), as a reliable surrogate for insulin resistance, plays a vital role in developing these diseases.

Objectives: This study aim to analyse the association between hypertension, TyG-BMI and MetS prevalence in Yi and Han ethnic groups, and explore TyG-BMI's mediating effect between hypertension and MetS.

Methods: A multi-stage, stratified whole population sampling method selected 1,051 individuals from the Yi ethnic group and 19,532 from the Han ethnic group in Anning City as subjects. Logistic regression models were used to analyse the association between hypertension, TyG-BMI and Mets, and the OR (95% CI) for the risk of Mets prevalence was calculated. The mediating effect model was used to analyse the mediating effect value of TyG-BMI in the relationship between hypertension and Mets.

Results: Both ethnic groups with hypertensive had higher BMI, TG, TC, UA, and TyG-BMI levels compared to the non-hypertensive group. Regression analyses showed that individuals with hypertension had an increased risk of MetS in both ethnic groups compared to those without hypertension, and TyG-BMI was positively associated with the risk of MetS prevalence. After controlling for variables,, the risk of MetS was greater in hypertensive individuals from the Yi ethnic group than in those from the Han ethnic group, and the increase in the risk of Mets prevalence was greater in Han as TyG-BMI increased. Mediation analysis revealed that TyG-BMI partially mediated the occurrence of hypertension on MetS (mediation percentage: Yi 33.33%, Han: 34.42%).

Conclusion: The contribution of hypertension to the development of MetS was partially mediated by TyG-BMI in both the Yi and Han ethnic groups, with no significant differences in mediation effects between the groups.

Keywords: Hypertension, Insulin resistance, Metabolic syndrome, TyG-BMI

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Pathways of effects of adverse childhood experiences on infectious diseases among border drug-use adults: a structural equation modeling

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Abstract

Introduction: Injection of drug abuse could result in infectious disease, and adverse childhood experiences (ACEs) possibly are associated with infectious disease. However, there is a paucity of literature on a direct or indirect relationship between ACEs, injection of drug use and infectious disease.

Objectives: We thus identified the pathway of influence of ACEs in adulthoods and injection of drug use on infectious disease by structural equation models (SEM).

Methods: A cross-sectional study was conducted by respondent driving sampling and consecutive sampling among people who use drugs in southwest of China in 2021. R software 4.2.1 was used to conduct descriptive, univariate, and SEM analysis.

Results: There were 404 participants in total, with an average age of 34 and most males (98.3%) and minorities (79.6%). 95.5% of respondents experienced ACEs with 46.6% of reporting 4 or more ACEs. Correlations in SEM showed that infectious disease might be directly positively affected by injection of drug use (β=0.184), and directly negatively affected by ACEs (β=-0.188). Age(β=0.029), Ethnic(β=-0.021), Education(β=0.019), Gender(β=0.022), Sex partners (β=-0.017), and ACEs (β=-0.029) might have indirect effects on infectious disease.

Conclusion: ACEs might be a direct or indirect predictor for infectious disease in adulthood, injection of drug use might be a risk factor and moderate other factors of infection of infectious disease. Strategies for creating a positive home environment, minimizing traumatic or stressful childhood experiences, and increasing awareness of the risks associated with drug injection use are all ways to lower the chances of contracting infectious diseases.

Keywords: Adverse childhood experiences (ACEs), Border, Infectious disease, Injection of drug use, Structural equation models (SEM)

An extreme gradient boosting algorithm-based model for predicting risk of metabolic dysfunction-associated steatotic liver disease prevalence

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Abstract

Introduction: The current global trend of increased prevalence of Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD) poses a serious disease burden. After the modification of the definition of MASLD, there are few studies on the risk prediction model of MASLD.

Objectives: To develop and validaty a predictive model for the risk of MASLD in adults based on Extreme Gradient Boosting (XGBoost) algorithm.

Methods: A total of 87,812 respondents from the China Multi-Ethnic Cohort were selected, and data on general conditions, lifestyles, physical examinations, and serum biochemical tests of the respondents were collected. Based on the XGBoost algorithm, the optimal hyperparameters were confirmed by random search and 5-fold cross-validation to construct a prediction model for the risk of MASLD, and the importance of variables in the model was ranked and evaluated using the three indexes of gain, coverage and Area Under the Curve (AUC) value.

Results: A total of 18,536 respondents were diagnosed with MASLD, with a prevalence of 21.11% (95%CI 20.53%-21.69%). Alanine aminotransferase, uric acid, creatinine, hip circumference, low-density lipoprotein were the five important predictors of MASLD. The accuracy of the optimal hyperparametric model on the training set is 0.774, the F1 score is 0.842, and the AUC value is 0.877. The accuracy of the test set is 0.767, the F1 score is 0.837, and the AUC value is 0.862.

Conclusion: We developed a prediction model for the risk of MASLD and found that alanine aminotransferase and waist circumference were important predictors. The model has high robustness and accuracy and helps to predict the prevalence risk of MASLD in the population.

Keywords: Extreme gradient boosting, Machine learning, Metabolic dysfunction-associated steatotic liver disease, Predictive modeling

Intangible burden of common chronic diseases in rural areas of Yunnan province

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Abstract

Introduction: Chronic non-communicable diseases (CNDs) are increasingly recognized as a significant public health issue that detrimentally impacts the quality of life (QoL) of individuals. However, few studies have established quality-adjusted life years (QALYs) losses associated with chronic diseases in rural Yunnan province.

Objectives: The aim of the current study was to estimate the QALYs losses attributed to prevalent chronic diseases in rural Yunnan. The findings intend to illuminate the intangible burden of these diseases, thereby informing the development of targeted chronic disease prevention and management policies.

Methods: The China multi-ethnic cohort study is a prospective natural population cohort study conducted in five provinces (Yunnan, Chongqing, Xizang, Guizhou, Sichuan) in China. Chronic diseases were diagnosed by questionnaire, physical examination and laboratory testing, and the QoL of the subjects was measured by Euro-Qol-5D (EQ-5D). The marginal effect of QoL was used to assess the change of QoL associated with specific disease state.

Results: A total of 23113 subjects were included in the study. The mean QoL score in this population was 0.92, and 10403 (45.0%) respondents had a profile representing perfect health (i.e. 11111). Tobit regression showed that hypertension (-0.016), hyperlipidemia (-0.013), urolithiasis (-0.012), disc disease (-0.076) and gastroenteritis (-0.052) significantly affected Qol after controlling for relevant socio-demographic characteristics and chronic conditions. Disc disease (-1542.8) was associated with the largest loss of QALYs, followed by gastroenteritis (-629.2), hypertension (-534.4), and urinary calculi (-312.0) caused the least loss of QALYs.

Conclusion: QALYs losses associated with disc disease were high, emphasizing the need to pay attention to chronic diseases with obvious physical symptoms and adjust the allocation of health resources appropriately.

Keywords: Chronic diseases, Quality-adjusted life years, Quality of life

Research on the ecological environment epidemiological characteristics and composition of urinary calculi in Kunming

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Abstract

Introduction Although urolithiasis is a global disease, there are significant differences in incidence and pathogenesis in different regions and populations. The ecological and environmental epidemiological characteristics of urinary calculi in Kunming and the analysis of its components have not yet been studied or investigated. The purpose of this study is to examine the relationship between drinking water and the incidence and composition of urinary calculi in Kunming. Our study will also provide the basis for the prevention and treatment of urinary calculi in Kunming.

Objectives To explore the ecological environment and epidemiological characteristics of Kunming's urinary calculi.

Methods A retrospective analysis of clinical data of patients with urinary calculi admitted to Yan 'an Hospital in Kunming City from December 2015 to October 2023 was conducted. Calculi samples were analyzed using an automatic infrared spectrum analysis system. The water quality and annual average temperature of 15 counties and districts in Kunming were studied. Statistical analyses were performed on the patient's gender, age, calculi site, calculi composition, water quality, and environment temperature.

Results The study included 864 patients with urinary calculi in Kunming city, whose age averaged 49.76 ± 14.92. The incidence of males (2.44 : 1) was higher than that of females (613 *vs.* 251). Patients between 40 and 70 years old had the highest proportion of calculi, 64.24% (555/864). Furthermore, the highest proportion of urinary calculi were kidney calculi, which accounted for 54.05% (467/864). Water quality standards in Kunming City are mainly Class II and III at six drinking water reservoirs. A significant difference in the water quality did not occur between the 6 drinking water supply reservoirs ($P>0.05$), nor did there exist a significant difference in the incidence of calculi and calculi composition between the 6 drinking water supply areas ($P>0.05$). Kunming's average annual temperature was 16.3℃, the highest of which was 20.4℃ in Dongchuan District. Correspondingly, the incidence of calculi in Dongchuan District was higher than that in other 14 districts and counties, but it was not statistically significant ($P>0.05$). Based on the analysis of calculi composition, the proportion of mixed component calculi was higher than that of single component calculi [92.13% (796/864) *vs.* 7.87% (68/864), $P<0.05$]. Among single component calculi, the highest proportion (82.35%) was found in anhydrous uric acid calculi. Meanwhile, mixed component calculi containing calcium oxalate monohydrate and dihydrate had the highest proportion (48.74%).

Conclusion Kunming City has a higher incidence of urinary calculi in men than in women, and the peak age for urinary calculi is between 40 and 70 years old. The most common type of urinary calculi is kidney calculi. The quality of Kunming City's drinking water was homogeneous, and urinary calculi are not significantly different across drinking water supply areas. Nevertheless, rising temperatures may increase the likelihood of urinary calculi. Typically, calculi are composed of mixed deposits, and calcium oxalate deposits are the most common.

Key words: Kunming city, urinary calculi, calculi composition, water quality, ecological environment, epidemiology

Determination of total phenolic, flavonoid content, and antioxidant activities of *calostoma insigne* in Cambodia

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Abstract

Introduction: *Calostoma insigne* is the wild mushroom in forest that can be found in Southeast Asia. Cambodian people consume this mushroom as dessert, and they believe it provide benefits to their health. But there is a lack of study exploring its bioactive activities, particularly in Cambodia.

Objectives: This study aims to investigate the bioactive compound and activities present in *C. insigne.*

Methods: Dimethyl sulphoxide extract of *C. insigne*'s powder was utilized to determine the total phenolic content (TPC) using the Folin-Ciocalteu method, total flavonoid content (TFC) using quercetin, and antioxidant activity was screened using ferric reducing antioxidation power assay (FRAP).

Results: The analysis showed significant levels of phytochemical compounds with TPC (10.47 ± 1.68 mg GAE/g of CE), TFC (263.50 ± 33.51 mg QE/g of CE), and antioxidation (1.27 ± 0.18 QE/g of CE). These findings revealed the presence of phenolic, flavonoid, and antioxidation compounds, which indicates in *vitro* antioxidant capacity.

Conclusion: This study confirmed the presence of phytochemical compounds and their potential as antioxidant activities for further development in food products, pharmaceutical and natural health products.

Keywords: Antioxidant, Bioactive compounds, Mushroom

Antiproliferation of three sprouts in colorectal carcinoma (HCT116)

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Abstract

Introduction: The increased interest in nutraceuticals and functional foods consumption is widely acknowledged due to their therapeutic potentials in preventing and treating diseases, particularly those related to oxidative stress and free radicals. Bioactive compounds, found in fruits, vegetables, and plants, demonstrated potential antiproliferative effects on cancerous cell lines.

Objectives: This study aims to investigate the antiproliferative effects of three different sprout extracts on the colorectal carcinoma cell line HCT116.

Methods: Sprouts of Helianthus annuus L. (sunflower), Sesamum indicum L. (black sesame), and Ipomoea aquatica Forssk. (Taiwanese morning glory) were harvested and prepared into methanolic extracts. These extracts were then used to treat human carcinoma cells (HCT116) for 24 hours. Post-treatment, the cells were dyed using the neutral red assay to measure cell viability. The percentage inhibition of cell proliferation was calculated based on the remaining viable cells. Rutin was utilized as a positive control.

Results: Among the three sprout extracts, Taiwanese morning glory exhibited the highest antiproliferative effect on HCT116 cells, with a percentage inhibition of 44.32% ± 4.97 at a concentration of 500 μg/ml. In comparison, rutin showed a percentage inhibition of 76.77% ±11.63 at the same concentration.

Conclusion: Taiwanese morning glory sprouts contain biologically active compounds that exhibit significant antiproliferative effects on colorectal carcinoma cells, suggesting their potential as a source of natural products and dietary supplements for health benefits. Further research is warranted to develop these natural products into effective dietary supplements

Keywords: Antiproliferation, Colorectal carcinoma (HCT116), Sprouts

Knowledge of antibiotics and antimicrobial resistance among general people of two provinces in Lao PDR: a cross-sectional study

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Abstract

Introduction: Antibiotic use and antimicrobial resistance (AMR) are the subject of global efforts to assess public understanding and awareness. In Lao PDR, there is little research assessing health literacy regarding antibiotic use and antimicrobial resistance.

Objectives: This study aims to assess antibiotic use, knowledge of antibiotic use and antimicrobial resistance, and health literacy among the general population in Lao PDR.

Methods: A community-based, cross-sectional survey was conducted to gather data regarding knowledge of antibiotic and antimicrobial resistance, individual health literacy as well as their practice of antibiotic use. All eligible participants were randomly selected from their volunteer. A total of 876 participants were surveyed during home visits from July 2023 to December 2023. Data were analyzed in STATA version 17.0. Crude and adjusted logistic regression models were built to determine factors associated with knowledge of antibiotics and antimicrobial resistance.

Results: The respondents considered as inadequate knowledge of antibiotics use and antimicrobial resistance (70.6% vs. 50.3%), respectively. A little over one-third (33.9%) of the participants possessed sufficient health literacy. The multiple logistic regression model showed some associated factors regard to the knowledge of antibiotic use and antimicrobial resistance including higher education, employment status, household income, receiving antibiotic instruction from healthcare professionals, as well as receiving antibiotics information regarding appropriate use of antibiotics. While, Knowledge of antibiotic use and antimicrobial resistance had significant association with a good behavior antibiotic using Crude OR:1.90 [95%CI: 1.382-2.619] and Crude OR:1.71 [95%CI:1.297-2.279], respectively.

Conclusion: This study showed that participants have an inadequate knowledge of antibiotics and antimicrobial resistance. However, receiving suggestion of antibiotics instruction from health professionals could potentially advantages of reducing inappropriate use.

Keywords: Antibiotic use, Antimicrobial resistance, Health literacy, Knowledge of antibiotic use, Knowledge of antimicrobial resistance

The level of light intensity and the perception of comfort in the eyes in office space case study in Vientiane Capital Lao People's Democratic Republic

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Abstract

Introduction: Light is essential to daily operations and activities such as vision, perception and processing in communication and activities. It is also a factor that is important in relation to the health and safety of the occupational workers. Therefore, for health care professionals therefore, a working environment should be provided with appropriate lighting and that is safe for health. Ministry of Labor and Social Welfare Lao PDR Therefore, a law on labor safety and health law were enacted in Lao PDR to define principles. Regulations and standards related to work safety and health of workers and to prevent accidents and occupational diseases that may occur to know the level of light intensity that affects the perception of eye comfort in office space Case study in Vientiane Lao People's Democratic Republic area, universities, hospitals and enterprises.

Objectives: This present study aimed to explore the level of light intensity and the perception of comfort in the eyes in office space case study in Vientiane Capital Lao People's Democratic Republic

Methods: This study is a Cross-sectional descriptive analysis, the data collection period is from November to December 2022, in the area of offices, universities, hospitals and beverage factories. The sample group is 106 office workers, by calculating the percentage size and dividing the sample size by percentage. The tools used in the interview are divided into 2 levels: 1. eye comfort, 2. eye discomfort, using the spot measurement technique with a light meter (Digital Lux Meter model LX-71) with accuracy calibration and certification. Analysis using Program Stata 15 to describe the level of light intensity on eye perception.

Result: A total of 106 study participants, of which 52.38% are male, 44.59% are 31-40 years old, and 32.90% are 11-20 years old. Sensing the feeling while touching the light of the workers who are sitting and doing the work found that 78.30% of them have eye discomfort in the light intensity range of 26-121 Lux and 21.70% eye comfort in the light intensity range of 124-350 Lux. When the measurement results are compared with the standard of light intensity 2561 of the Ministry of Labor of Thailand, in the area where the workers work using special eyes, the small to medium size of the work can be seen at a level, which is the work using the computer with a value of 400-500 Lux. It can be seen that the number that does not meet the standard is up to 100 percent.

Conclusion: Measurements with light intensity levels that are low or below the specified standards result in workers experiencing eye discomfort while performing work. The amount of light intensity should be increased by increasing the light of the device or cleaning the device. If the device is broken, damaged, out of date, or lacking in quality, it should be adjusted, rehearsed, and replaced. to be suitable for proper use and not lead to occupational diseases.

Keywords: Eyes comfort, Level of light intensity, Office

Student's satisfaction with teaching-learning administration in higher diploma of nursing program Udomxay Public Health School

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Abstract

Introduction: Learning-teaching management is crucial and has a direct impact on students' learning. If course instruction is improperly managed or unsuitable for the students, it will have an inadequate impact on students' learning. On the other hand, a well-executed school-teaching arrangement will make the student happy and improve their learning.

Objectives: This study aims to investigate students' satisfaction with the way courses are administered in the Udomxai Public Health School's Higher Diploma in Nursing Program.

Methods: This study, which examines students' satisfaction with the way learning and instruction are administered, is descriptive study. There were randomly 99 nursing students by using questionnaires. The SPSS is used for data analysis. V. 26. The Independent-Simple T-test was used to compare satisfaction differences after the data were evaluated using descriptive statistics.

Results: The overall student satisfaction with teaching-learning management in the Higher Diploma of Nursing Program at Udomxay Public Health School was at a high level with a mean score of 3.84 and a standard deviation of 0.37, Curriculum, teaching strategies, learning-teaching activities, and measurement and evaluation revealed a high level of satisfaction with the way courses were administered in the Udomxai Public Health School's Higher Diploma in Nursing Program. In the meantime, the administration was determined to have a low level of support for learning and teaching (Mean=2.46, SD=0.22). Furthermore, 60% of respondents stated that the instructors were late to class and quit school early or that the teacher's classroom was not timely. In the same time 30,25% they want to have a male dormitory, and 20,21% want to have school teachers close to the right to teach students more time to practice in the hospital.

Conclusion: Therefore, proposing committees and relevant parties, improving the factor of supporting teaching and learning more may increase the satisfaction of students who are studying.

Keywords: Curriculum, Nurse, Satisfaction, Student, Teaching-learning

Investigation of knowledge and practice related to the Covid-19 pandemic prevention among people in remote areas Vientiane Province

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Abstract

Introduction: Covid is a disease with a transnational epidemic that causes a large number of infections and has a high death rate. Currently, Covid has become a problem for the public health sector.

Objectives: To survey the knowledge and practices related to the prevention of the epidemic of COVID-19 in the remote people of Vientiane province

Methods: a descriptive study at any point in time with a population of 3311 people, collected data through face-to-face interviews, analyzed the data with STATA ver 16 and interpreted the results with descriptive statistics and reference statistics.

Results: 99.4% of people have been vaccinated against covid-19, most of them have received 3 injections with 54.1%, 12.9% have been tested for covid-19, 64.9% female, 33.1% under 20 years old, 62.1% married, 60.1% Lao ethnic group, 59.8% Buddhist, 54.0% middle/high school graduate, farmer occupation There are 62.1% and 54.3% live in Dhan District, 90.7% of the population has never been in the risk group, 94.9% has never been restricted in the area. And soap or alcohol 70c every time after touching things 56.9%, wash hands every time when you come home 55.3%, there are still a small number of practical 30.9%, the results of the study found that those who have been vaccinated against covid-19 3 or more have a behavior to prevent covid-19 disease 1.74 times better than those who have been vaccinated against covid-19 2 or less with statistical significance (COR= 1.74; p-2. 95%CI: 1.85 value=0.029), middle school-high school-university education and above has a behavior to prevent covid-19 disease 2.92 times better than that of those who did not study and finished primary school (COR=2.92; 95%CI: 1.73-4.94; p-value<0.001), farming occupation has a behavior Protection is less than those who are public-private-traders-housewives and students with statistical significance (COR=0.32; 95% CI: 0.20-0.54; p-value<0.001).

Marital status married-widowed-divorced has less protective behavior than those with single marital status (AOR=0.46; 95%CI: 0.23-0.90; p-value=0.024), those with high knowledge of the symptoms of the disease have 1.91 times better protective behavior of Covid-19 than those with low knowledge of the symptoms of the disease (AOR=1.91; 95%CI: 1.02 -3.55; p-value=0.041).

Conclusion: The study, it is known that the people of Laos in rural areas of Vientiane province still have knowledge of the symptoms, contact, risk and prevention of the disease of COVID-19 at a low to moderate level. In addition, there are also wrong beliefs, so it is necessary to increase the intervention of people in remote areas so that they have more knowledge in different aspects.

The concepts of women's empowerment in child malnutrition programs in Luangprabang Province, Lao People's Democratic Republic

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Abstract

Introduction: In several developing countries such as Lao People's Democratic Republic (Lao PDR), the fight against malnutrition is carried out through programs that involve collaboration between internal (national) and external (international) actors. These actors may have different perceptions on what is one of the pillars of these programs: the empowerment of women, especially mothers of young children. Little is known about these differences and the impact of these differences on the empowerment's component of collaborative projects and the perception of its impact on the reduction of malnutrition in the country.

Objectives:

Methods: A multiple case study was performed. Data collection was carried out in Vientiane capital and Luangprabang province. The data were obtained from 1) documents, 2) semi-structured interviews with representatives of internal and external organizations, 3) focus group discussions and individual interviews with mothers of children under five years old. Analysis consisted in characterizing the empowerment component of nutrition program of internal and external organizations, as well as mothers, based on an OXFAM's adapted conceptual framework on Women's Economic Empowerment.

Results: The study revealed a common understanding among government and external organizations regarding the significance of promoting women's empowerment for reducing child malnutrition in Lao PDR. However, variations were observed in the interpretation of specific determinants of women's empowerment, specifically in relation to women's autonomy and the role of social capital.

Conclusion: The perspective of internal actors includes the political ideology and traditions that make Lao PDR a distinct country. This perspective dominates the nutrition programs conducted under the collaboration of internal and external actors. In Lao PDR, the concept of women's empowerment in nutrition programs conducted through collaboration between internal and external actors and targeting young Lao mothers gives prominence to political and socio-cultural factors.

Keywords: Child malnutrition, External organizations, Internal organizations, Lao PDR, Women's empowerment

Associated factors to self-medication with antibiotics among general population in Vientiane Capital, Lao PDR

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Abstract

Introduction: Globally, over 50% of people self-administer antibiotics without consulting a doctor. This practice fuels antibiotic resistance, a major public health threat. The Lao People's Democratic Republic (Lao PDR) faces a particularly high rate of self-medication (85% in 2021), straining the healthcare system and hindering development.

Objectives: Identify factors associated with self-use of antibiotics in Vientiane, Lao PDR.

Methods: A cross-sectional study using face-to-face interviews surveyed 389 individuals aged 18 and over from 12 villages in Vientiane Capital. Descriptive statistics and logistic regression identified factors related to self-medication with antibiotics.

Results: The average participant age was 45.7 years (SD $\pm$ 11.3). Chronic illness prevalence was 38.5%, with high blood pressure being the most common (58.2%). In the past six months, 94.1% of participants used antibiotics, with 72.1% self-medicating. Several factors were significantly associated with self-medication: having a chronic disease (protective, AOR=0.6, 95%CI: 0.4-0.9, p=0.021), positive attitude towards antibiotics (increased risk, AOR=1.9, 95%CI: 1.0-3.5, p=0.038), having health insurance (protective, AOR=0.6, 95%CI: 0.4-1.0, p=0.040), and a history of purchasing antibiotics from pharmacies for personal use (increased risk, AOR=4.2, 95%CI: 1.2-15.2, p=0.027).

Conclusion: This study found a high rate of self-medication with antibiotics in Vientiane Capital. Factors influencing this practice include underlying medical conditions, attitudes towards antibiotics, access to health insurance, and a history of purchasing antibiotics from pharmacies without a prescription. Public health interventions, including education campaigns and stricter regulations on pharmacy antibiotic sales, are needed to address this concerning trend.

Keywords: Antibiotic resistance, Lao PDR, Self-medication with antibiotics

CODE:236

Development of wounds, scalds and burns cream treats mixed with blue changchud (*thunbergia laufolia* L.) leaf extract

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Abstract

Introduction: The objective of this research was to study and development wounds, scalds and burns cream formulation, containing Chang chud leaves extracts, this plant is readily available locally in lao. Locals like to treats locals like to treats as poultice to relieve pain and swelling. It is a poultice to treat wounds, scalds, burns and helps detoxify. It has antioxidant properties due to the presence of compounds in the phenolic and flavonoid groups. It has anti- inflammatory properties.

Objectives: To study antioxidant activity Development formulation and stability test of creams containing anti-inflammatory substances, wounds, scalds and burns.

Methods: The Chang chud leaves were extracted by green solvents, water, and ethanol. The preliminary antioxidant activity was studied by using High performance thin layer chromatography (HPTLC) technique, Select extracts with the best antioxidants to make creams, Use in aqueous extract for create a cream formula, test the stability with Healing Cooling cycle Methods in the accelerated time and Test viscosity with viscometer (TE, 6rpm) 1 minute in the appropriate range 12,000-18,000 cps before and after in the acceleration time test.

Results: Found ability to antioxidant capacity that the composition in aqueous extracts is more than ethanol extract. In addition, the antioxidant capacity test of aqueous extract and ethanol were demonstrated DPPH antioxidant activity 74.14 □g/ml and antioxidant activity of 33.81 □g/ml respectively, The development of three cosmetic formulas, it was found that formulas had high physical stability. The cream's texture remains unchanged, dose not separate layers and spreads well on the skin. while the effect of pH and viscosity was unchanged.

Keywords: Antioxidant, Chang chud (*thunbergia laufolia* L.) leaf, Scalds and burns cream treats, Wounds

The current situation of demand and service level for the community-dwelling integrated medical and health care in Kunming City

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Abstract

Introduction: According to the results of the 7th national population census, the number of elderly people aged 60,65 and above in China accounts for 18.7% and 13.5% of the total population respectively. The degree of aging is further deepened, and the problems of disability, dementia, multiple diseases, advanced age and fewer children are prominent, bringing great challenges to China's social and economic development. As an innovative old-age care mode, the combination of medical care breaks the traditional dual-track separation mode of old-age care and medical service, and realizes the integration of pension and medical resources. It not only meets the actual needs of the elderly, but also contributes to the construction of our national basic elderly care service system.Kunming city is a national pilot of combining medical care and ICOPE pilot of integrated medical care, so it is very important to understand the current demand and service level for the community-dwelling integrated medical and health care in Kunming G community and the coordinated development degree of the two;

Objectives: Based on the prediction of the elderly population, to analyze the current situation of the community-dwelling integrated medical and health care and the coordination degree of their development, so as to provide reference for improving the community-dwelling integrated medical and health care in Kunming;

Methods: Based on panel data and field survey data, the population aged 60 and above is predicted in the next three years by the grey prediction GM (1,1) model; and the coupled coordination evaluation model is used to analyze the demand of home medical care and the development of service level in the G area.

Results: (1) In this pilot, lower medical costs for the elderly.(2) The number of elderly population in Kunming city will continue to increase in the next three years.(3) The coordinated development type of the community home medical care demand and service level system in G area is: the lagging service level of good coordination service institutions;

Conclusion: In the next three years, the number of elderly population in Kunming will continue to increase and the demand for medical care will increase; the demand of community home medical care and services are basically coordinated, but the service level may not meet the needs of the elderly in the future. It is suggested that governments at all levels should pay attention to the changing trend of regional elderly population and improve the precision of resource allocation; combine the function orientation of the institution, evaluate the aging trend and the integration of the region, and improve the coordinated development of home medical demand and service level of the elderly.

Keywords: Community-dwelling, Demand, Integrated medical and elderly Care, Service, The current situation

The calculation and application of quality-adjusted life years in cohort study

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Abstract

Introduction: How to handle the trend of changes in health utility values between multiple assessments during cohort studies and calculate Quality-adjusted life years (QALYs) within the follow-up period has become a focus in the field of health economics.

Objectives: To explore the calculation methods of QALYs in cohort study, and further explore the impact of different chronic diseases on the QALYs of rural residents in Yunnan Province.

Methods: Based on the Yunnan Cohort of China Multi-Ethnic Cohort (CMEC), 10% of the subjects who completed the baseline survey were followed up and measured using EQ-5D scale to obtain the health utility values of the subjects in Yunnan province for two surveys. After defining the relationship between the health utility values from the two surveys as a linear relationship, we calculated the QALYs for each individual during the follow-up period using the area under the curve method. A multiple linear regression was used to explore the impact of hypertension, diabetes, hyperlipidemia, and gallstones on rural residents' QALYs, while controlling for baseline health utility value , gender, age, ethnicity.

Results: Out of the 2320 individuals who completed the follow-up survey, there were 700 males, and 1620 females. On average, hypertension leads to a decrease of QALYs by 0.015 person-years (95%CI:-0.021~ -0.005); diabetes led to a decrease of QALYs by 0.015 person-years （95%CI:-0.026~-0.005); hyperlipidemia caused a decrease of QALYs by 0.010 person-years (95%CI : -0.016 ~ -0.003), while gallstones resulted in a decrease of QALYs by 0.014 person-years (95%CI:-0.024~-0.004).

Conclusion: The patients with hypertension and diabetes experienced the highest reduction in QALYs during the follow-up period among the chronic diseases investigated. Therefore, efforts should be made to enhance early screening and management of chronic diseases with a high proportion of QALY losses.

Keywords: Cohort study, Disease burden assessment, Quality-adjusted life years

Providers' perspective on disparities in health and social care accessibility for older adults in Vietnam: a qualitative study

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Abstract

Introduction: Despite the implementation of various policies and initiatives to support older adults, evidence indicates inequalities in access to these services, especially in low and middle-income countries like Vietnam. There is insufficient evidence on the equitable provision of health and social care services to Vietnamese older adults.

Objectives: To address the gap, this study aims to explore health and social care workers' perspectives on the accessibility of services for older adults in a city in Central Vietnam.

Methods: A qualitative study comprising 29 semi-structured interviews was conducted with health and social care workers involved in providing care for older adults in Thua Thien Hue province, Vietnam. An inductive thematic analysis was performed to identify opinions about current services and perceived health disparities. All transcripts were analyzed using Nvivo 12 software.

Results: In total, 174 health and social care workers including doctors, physical therapies, nurses, staffs at community health centers, community health workers (CHW), social workers and nuns participated. Participants generally perceived inequalities in health and social accessibility across rural-urban settings, community levels, districts, and central care levels. Disparities were observed among older adults when seeking health and social care services based on their social pension schemes, socioeconomic status, gender, and social capital.

Conclusion: From the perspective of health and social care providers, Vietnamese older adults were observed to experience disparities in accessing health and social care services at different levels. These findings are expected to provide relevant stakeholders with the necessary insights to implement appropriate measures, mitigating potential inequities and enhancing the delivery of health and social care for the older adults in Vietnam and similar settings.

Keyword: Equality, Health care access, Health disparities, Older adults, Social care access

Financing and purchasing mechanisms for primary health care in the South-East Asia Region – findings from a scoping review

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Abstract

Introduction: Primary health care (PHC) is recognized as a most cost-effective way to make progress towards universal health coverage. However, challenges remain in financing PHC in the South-East Asia Region (SEAR).

Objectives: This study reviews existing literature on PHC financing mechanisms across 11 SEAR countries: Bangladesh, Bhutan, DPR Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, and Timor-Leste.

Methods: A systematic scoping review was conducted across PubMed, Embase, Scopus, and Google Scholar. Additional grey literature was identified through references of included articles, websites of relevant organizations, and experts in the region. Using the Covidence software, four reviewers independently screened the literature. Data from included documents was then extracted into an excel spreadsheet within a pre-structured framework where thematic analysis was carried out.

Results: 170 out of 2410 database entries and 110 grey literatures were included. PHC financing was challenging to track in many countries. The countries with inadequate budget (Bangladesh and Myanmar) highly depend on OOP payments. However, Bhutan and Maldives benefit from significant government funding, whereas Thailand and Indonesia also incorporate insurance systems. Government and external funding mainly support Timor-Leste and DPR Korea. While some countries (Bangladesh and Myanmar) have a large proportion of PHC financing from OOP payments, others (India, Indonesia, Nepal, and Thailand) rely on multiple pooling levels and mechanisms. The prevalent purchasing method for public facilities is line-item budgeting, with salaries being the main payment method for health professionals. Indonesia, India, and Thailand employ performance linked methods for provider payments.

Conclusions: Limited number of publications that specifically focused on PHC financing in the region were found. This may be partly because PHC financing in most SEAR countries relies on OOP payments or limited line-item budgeting for government facilities. To improve PHC frameworks, policymakers and stakeholders may benefit from further research and implementation of performance-linked payments.

Keywords: Health financing, Primary health care, Scoping review, South-East Asia region

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Evaluation of the implementation effect of urban and rural residents' serious illness insurance in Nanning city

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Abstract

Introduction: Starting from the actual development of urban and rural residents' Serious illness insurance in Nanning City, it aims to clarify the direction of policy development and the focus of work.

Methodology: Application description and analysis method The collected data collected from 2018-2022 Nanning City, medical care， the situation, work experience, actual difficulties, and opinions in the actual operation; use the DEA-MALMQUIST model to use the input-oriented data package analysis model (DEA-BCC) analysis of the static efficiency of the operation of the Serious illness insurance policy in 2018-2022, and use Malmquist to use Malmquist The productivity index model analysis of the entire factor productivity changes.

Results: Most of environmental policy tools (57.5%), followed by supply-type policy tools (57.5%) and demand-type policy tools (57.5%). At the stage of development and sound, focus on the use of strategic tools (29.63%), and standardize and improve the use of price subsidy tools (25.64%). From 2021-2022, the overall efficiency index of Nanning's Disease Insurance operation is 0.839, 0.964, respectively. Among them, the efficiency of pure technical efficiency is 1.000, and the scale efficiency value is 0.839, 0.964, respectively. The scale remuneration is decreasing. The input element reaches a relatively maximum output, but there is a certain gap between the existing scale and the optimal scale. Dynamic efficiency analysis of the efficiency change index of Zhongnanning is 1.148, the technical progress index is 0.925, and the full factor productivity index is 1.062, of which the technical progress index appears backward.

Conclusion: The role of serious illness insurance has a significant role, and the level of guarantee is gradually improved. Over the years, it has achieved superior achievements in the effectiveness of policy design and guarantee, but it still needs to improve the supporting policy system, especially the construction of the interconnection of the information system to meet the requirements of high -quality development in the new era.

Keywords: Evaluation research, Implementation effect, Serious illness insurance, Urban and rural residents

Out patient department system development of Chayangkul primary care cluster, Sunpasitthiprasong Hospital, Ubon Rachathani Province

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Abstract

Introduction: Primary care cluster (PCC) is one of the developments in the primary care system based on the heart of family medicine, which is patient-centered care.

Objectives: This research aims to develop outpatient services of the Chayangkul PCC, Sappasitthiprasong Hospital,Ubon Ratchathani Province.

Methods: It is an action research with 4 steps: 1) Planning 2) Implementation 3) Observation 4) Reflection It was conducted between February and April 2023. The sample group was 21 members of the Chayangkul Executive Committee and 385 recipients of the Chayangkul PCC. Data were collected by using a questionnaire. and an assessment form for quality criteria and standards for primary health care services. Data were analyzed using mean, percentage, standard deviation. Comparison before and after development by Paired t-test dependent and content analysis.

Results: The study found that Outpatient service development process consists of 9 steps: 1). Context and situation analysis. 2) Prepare an action plan. 3) Develop the potential of the Chayangkul family doctor team. 4) Bring information technology to use in family doctor clinics. 5) Proactive implementation in the community 6) Workshop "Infection prevention and control system" 7) Support, follow-up, supervision 8) Assessment of quality criteria and standards for primary health care services 9) Take lessons learned, arrange exchange forums The operational analysis found that service providers had an average level of roles and satisfaction in outpatient services increased from before development at a statistical significance level of 0.05 (P-value <0.001). The service recipients had a high level of satisfaction in receiving the service.

Conclusion: After the development, it was found that Chayangkul PCC passed the quality criteria and standards for primary care services 2023 in all aspects, with success factors as follows: TEAM consists of : T - working together as a team, E-efficiency of work, A-people's access to primary care services, M - having leadership

Keywords: Action research, Outpatient service development, TEAM

The health service development model to reduce waiting time in out-patient department at Namon Hospital, Kalasin Province

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Abstract

Objectives: This research is a Participatory Action Research (PAR) following the principles of Kemmis & McTaggart (1998). It involves four stages: Plan, Action, Observation, and Reflection. The research was conducted in one cycle and employed Lean concepts to enhance the service delivery model aiming to reduce the waiting time in the outpatient department.

Methods: The study sample was divided into two groups. Group 1 consisted of 105 patients from the outpatient department, selected through Simple Random Sampling. Group 2 consisted of 32 interdisciplinary professionals involved in the development process. Research tools used included a satisfaction questionnaire and a service-time recording form. Data analysis was done using descriptive statistics, such as frequency distribution, percentage, mean, standard deviation, and maximum and minimum values. Inferential statistics used the Paired Sample t-test to compare average waiting times and satisfaction levels before and after the service model enhancement.

Results: Research findings are as follows: 1) The existing service problem in the outpatient department showed that the waiting time was 169 minutes, which exceeds the hospital and health service standards of Hospital Accreditation (HA) set at most 120 minutes. 2) The service model development led to the elimination of unnecessary steps and the combination of redundant processes, reducing the number of service steps from 11 to 9. 3) The average waiting time for outpatient services was reduced from 189 minutes to 121.33 minutes ($P\text{-}value$ < 0.001). 4) Comparing satisfaction levels before and after service model development, there was an increase from a moderate level of 3.29 to the highest level of 4.61 ($P\text{-}value$ < 0.001).

Conclusion: The results of this research provide a new service model that can reduce waiting times and enhance the satisfaction levels of service recipients. Relevant organizations can adapt this new service model to fit the context of their specific service units.

Keyword: Health service development model, Out-patient department, Reduce waiting time

Factors driving safely among students of the Faculty of Health and Sports Sciences, Thaksin University

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Abstract

Introduction: Road traffic injury was a public health problem in Thailand. Such problem was the policy of Thaksin University for promoting health and preventing injuries from road accidents. According to the literature, most road accidents occured among youth and motorcyclists.

Objectives: This study was a qualitative reseach which aimed to study and analyze the safe driving factors of students of the Faculty of Health and Sports Sciences, Thaksin University, Phapayom District, Phatthalung Province.

Methods: The data were collected by observe, dialogue, semi-structure interviews, focus groups, and in-depth interviews in students, lecturer, student club, and university student development officer. The study lasted for 5 months from November 2023 until March 2024. Content analysis was using in this study with the triangulation rule.

Results: This study found that, the reasons and factors that inflenced for driving safely among students concist of 3 issues were 1) did not wear helmets because short distances, wearing a helmet makes them lose vision, and makes them feel heavy on their head. 2) Road conditions and traffic signs were factors that affect the occurrence of accidents. 3) Law enforcement.

Conclusion: There were suggestions for organizing activities to build knowledge for safe driving literacy, motivating and empowering safe driving through the mechanisms of student clubs, and student organizations of Phatthalung campus. The university should provide measures to encourage students to wear helmets, there should be driving regulations on campus and strict enforcement, and safe health and environmental communication should be used to create discipline and safe driving for students at both the faculty and Phatthalung campus.

Keywords: Behavior, Driving safely, Road traffic injury

The herbal formula by traditional healers to relieve text neck syndrome

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Abstract

Introduction: In Thailand, Text Neck syndrome is becoming a serious public health concern adversely affecting smart phone users of almost all ages. The long hours spent on using smart phone can cause various musculoskeletal problems. The symptoms of Text Neck syndrome include acute to chronic neck pain, upper back pain, shoulder pain, chronic headaches and increased curvature of the spine caused by a prolonged use of smart gadgets, including smart phones and computers. Thai Traditional Medicine is a cultural system of healthcare that involves distinctive cultural characteristics and learning based on experiential and belief-based foundations. Thai Traditional Medicine is used to promote health, to treat diseases and to restore health in complementary to modern medicine. One of the formulas formulated by Thai Traditional Medicine is used to relieve the symptoms of Text Neck syndrome.

Objectives: Therefore, this study aimed to record the herbal Traditional medicine formula used in treating Text Neck syndrome.

Methods: The researchers conducted interviews with traditional healers on the herbal plants in this formula, the taste of the formula and the therapeutic properties of these plants. The herbal plants were collected to study botanical descriptions.

Results: The main herbal plants in this drinking formula which could relieve neck and back pain caused by Text Neck syndrome included Jewel Vine (*Derris scandens*), *Cryptolepis dubia*, Cumin, Cummin (*Cuminum cyminum*). Their therapeutic properties are to expel carminatives, to relieve pain or aches and to cure fever. The formula containing these herbal plants have pain-relieving and anti- inflammatory effects on the symptoms of Text Neck syndrome.

Conclusion: In conclusion, the formula is proven to be effective in relieving the symptoms of Text Neck syndrome without causing any side- effects. The use of herbal plants based on Thai Traditional Medicine by traditional healers offers an alternative treatment to reduce the symptoms of Text Neck syndrome.

Keywords: Cuminum cyminum, Cryptolepis dubia, Derris scandens, Herbal Formula, Text neck syndrome, Thai traditional medicine

The herbal formula by traditional healers to relieve text neck syndrome

Barokat Yakoh[1], Sakirin Doloh[1], Puangpaka Tankijjanont[1], Benjawan Bua-kwan[1], Nida Nuiden[1*]

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Keywords: Cuminum cyminum, Cryptolepis dubia, Derris scandens, Herbal Formula, Text neck syndrome, Thai traditional medicine

Effects of the behavior modification program on prevention gingivitis of Mathayomsuksa 1 secondary school students, Sri Narong District, Surin Province, Thailand

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Abstract

Objectives: This quasi-experimental research endeavors to investigate the efficacy of a behavioral modification program aimed at preventing gingivitis among Mathayom 1 students in Sri Narong District, Surin Province.

Methods: The participants were divided into two groups: Experimental Group and Comparison Group. Data collection occurred before and after the experiment utilizing a Two Group Pretest-posttest Design over a period of 12 weeks. The sample comprised 66 individuals, with 33 allocated to the experimental group, receiving a researcher-designed behavioral modification program for gingivitis prevention, while the remaining 33 constituted the comparison group, receiving conventional dental health education. Data were collected through questionnaires and oral condition record forms and analyzed using descriptive statistics (e.g., frequency, percentage, mean, and standard deviation) and inferential statistics (e.g., Wilcoxon signed ranks test, Mann-Whitney U Test, and ANCOVA).

Results: The findings revealed that post-experiment, the experimental group exhibited a significantly higher mean score in knowledge regarding gingivitis prevention compared to the comparison group ($P<0.001$). Additionally, the experimental group demonstrated significantly higher mean scores in self-efficacy for gingivitis prevention ($P<0.005$) and attitudes towards gingivitis prevention ($P<0.001$). Conversely, the comparison group exhibited higher mean scores in gingivitis prevention behavior ($P<0.05$), while displaying significantly lower mean plaque levels ($P<0.001$) and gingivitis conditions ($P<0.001$) compared to the experimental group.

Conclusion: In conclusion, the implementation of a behavior modification program for gingivitis prevention among Mathayom 1 students resulted in enhanced knowledge, self-efficacy, attitudes, and behaviors toward gingivitis prevention, ultimately leading to reductions in plaque accumulation and gingivitis incidence. These findings provide valuable insights for relevant stakeholders in promoting behavioral changes to prevent gingivitis and control oral plaque levels.

Keywords: Dental plaque, Effect of the behavior modification program on prevention gingivitis, Gingivitis, Mathayomsuksa 1 secondary school students

Adaptation and vulnerability of elderly in the community repetitive haze area: a case study in Pong District, Phayao of Upper Northern Thailand

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Abstract

Introduction: Air pollution from forest fires, biomass open burning, and cross-border haze has been a continuous concern, particularly in Thailand's northern regions. This has a negative impact on people's health, as well as their social and economic well-being. The objective of this research is to examine the susceptibility and adjustability of citizens in regions that frequently face haze- related issues.

Objectives: This study uses a case study in Pong District, Phayao Province, Thailand, to examine the susceptibility and variables influencing the elderly's ability to adjust in remote areas with ongoing smog issues.

Methods: This was a cross-sectional study among 211 elderly participants. The data were collected using a structured questionnaire and reviewed by experts from June to July 2023. The University of Phayao Human Ethics Committee in Thailand gave its approval to the project. The ethical clearance certificate was issued under the project reference number UP-HEC 1.2/019/65 on May 17, 2022.

Results: The research indicates that, of the elderly population, 57.3% are farmers and earn less than 5,000 baht per month, with an average age of 68.7 years (S.D. = 7.04). 60.7% of the population was female, with the age distribution being young old (63.0%), middle old (29.9%), and very old (7.1%). According to the findings, there is a moderate risk of 54.9%, followed by a low-risk level of 25.3% and a high-risk level of 19.8%, in that order, and it is revealed that the health vulnerability adaptation (HVA) is at a low level of 60.7%, a medium level (37.0%), and a high level (2.4%).

Conclusion: It has been discovered that elderly people with low levels of HVA and moderate levels of risk reside in places that frequently experience smog-related difficulties. Therefore, local public health risk planning and monitoring took into account the adaptation recommendations based on the health vulnerability assessment of smog neighborhoods.

Keywords: Adaptation, Elderly, Haze area, Remote areas, Vulnerability factor, Wildfire

Predicting factors affecting work behaviors among emergency medical responders of public charity organizations in Chiang Rai Province

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Abstract

Introduction: Emergency illness is the leading cause of death in Thailand, capable of striking at any time and place, resulting in injury, severe illness, or loss of life. Consequently, the role of Emergency Medical Responder (EMR) in providing services to injured or emergency patients is crucial.

Objectives: The objectives of this study were to investigate the working behaviors of EMRs in public charity organizations in Chiang Rai Province and to explore factors predicting these behaviors.

Methods: This cross-sectional descriptive study had a sample size of 233 EMRs, selected using simple random sampling. Data were collected through questionnaires and analyzed using descriptive statistics, frequency, percentage, Fisher's Exact Test, and multiple logistic regression.

Results: The study results indicated that the majority of the sample were male (65.2%), aged 20-29 years (66.1%), held a bachelor's degree (41.6%), were single (73.0%), and were students (22.7%). Most had been EMRs for less than 10 years (87.6%). The majority of the sample group had high levels of expectation factors, motivation factors, satisfaction factors, and work behavior. A significant relationship was found between educational level, stimulation, satisfaction, and expectations with the work behavior of EMRs at the 0.05 level. Multiple logistic regression analysis revealed that positive predictive factors included the motivating factor (OR = 1.681, 95% CI = 1.019-2.774) and expectancy factor (OR = 1.629, 95% CI = 1.019-2.774). These two independent variables were able to predict working behaviors among the sample at 44.2%.

Conclusion: Study results suggest that activities should be promoted to enhance the motivation and expectation of EMR to foster positive work behavior in the future.

Keywords: Emergency medical responder, Expectations, Motivation, Working behaviors

Emergency reporting system using LINE OA: a case study of university of Phayao hospital

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Abstract

Introduction: In emergency medical care, prompt response and efficient communication are essential. The University of Phayao Hospital has implemented a LINE Official Account (OA) system to enhance the effectiveness and responsiveness of emergency room services. This system aims to streamline the reporting and handling of emergencies, benefiting ambulance drivers, emergency department nurses, and the general public.

Objectives: The system enables users to register and access services, allowing officials to gather basic details for service planning. Citizens can report emergencies via LINE OA, providing crucial information such as name, contact number, initial symptoms, and location. Emergency room staff can prepare necessary equipment and respond promptly based on the information received. Additionally, the system offers infographic information and help guidelines for users, a video channel with assistance recommendations, and a chatbot for automatic responses to user inquiries.

Methods: The system integrates health service and healthcare management to address community needs and promote health equity. Stakeholders, including healthcare providers, emergency responders, and community members, contributed to ensuring the system's effectiveness and relevance. Comprehensive testing was conducted to ensure functionality, usability, and reliability before deployment.

Results: The LINE OA system received positive feedback from users, with satisfaction rates exceeding 80%. It effectively improved emergency response times and coordination, demonstrating its potential as a valuable tool for hospital administration.

Conclusion: The development of the LINE OA system at the University of Phayao Hospital marks a significant advancement in emergency healthcare management. By facilitating efficient communication and rapid response, the system enhances the quality of emergency services and user satisfaction. Further research and development could expand its functionalities and application to other healthcare settings, contributing to broader public health improvements.

Keywords: Emergency reporting system, Healthcare management, Health service

Health Hazard and risk protection behaviors among scavengers in municipality dump site Nakhon Si Thammarat Province, Thailand: a cross-sectional survey

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Abstract

Introduction: In most cities of developing countries, thousands of people depend on the collection of recyclable materials for their livelihoods. Most of the residents are refugees living in deep poverty and unhealthy conditions.

Objectives: A cross-sectional study to describe the health and occupational health hazard risk protection behaviors and related factors of informal scavengers in the dump site.

Methods: A sample of 108 scavengers was surveyed by filling out a structured questionnaire and observational form designed for this purpose, during individual interviews. Using descriptive statistics and Chi-square test analyses.

Results: Results showed most of them were male average age of more than 30 years their knowledge, attitude, and health protection behaviors for PPEs (Personal Protection Equipment) use are low to moderate levels, and most behaviors in the protection of hazards are at risk level. It was found a relationship between demographic factors and risk protection behavior was not significant.

Conclusion: It was discovered that there was no significant correlation between risk protection behavior and demographic characteristics. The study advises local decision-makers to implement both short- and long-term workplace surveillance to enhance the quality of life, safety, and health of this marginalized social group.

Keywords: Health hazard, Risk protection behaviors, Scavengers

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Demand for home healthcare among the elderly and some risk factors: a cross-sectional study in Northern Vietnam

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Abstract

Introduction: Vietnam is undergoing an unprecedented demographic transition. The proportion of elderly in Vietnam is rising rapidly. This situation leads to an increase in the need for healthcare services, especially home healthcare for elderly people in Vietnam. To date, studies have paid little attention to the need for home health care in rural areas of Vietnam, so we conducted this study to determine the rate of health care need in rural areas of Vietnam and some factors related to this need in two rural districts of Thai Binh province.

Objectives: To date, there is little research on the demand for home healthcare services among the elderly in rural Vietnam. This cross-sectional study aimed to determine demand for home healthcare among the elderly and some risk factors.

Methods: The cross-sectional study was conducted in two rural districts of Thai Binh province with sample size of 384 elderly people from August 2020 to April 2021.

Results: The overall demand for home health care in this study was 34% (131/384). Higher education level had lower odds (aOR=0.45, 029-0.69) for home health care. This trend was the reversal in participants who lived with other family members (aOR=2.56, 1.09-7.14). There was no statistically significant difference of home health care among comorbidities.

Conclusions: We found a high prevalence of demand for health care at home in rural areas of Vietnam. Further research studies need to be conducted on utilization of home health care in rural areas.

Keywords: Elderly, Home healthcare, Vietnam.

Using of treatment services among patients at commune health stations in Quang Ninh District, Quang Binh Province, Vietnam

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Abstract

Introduction: Commune health stations are first places where people approach treatment and primary health care services. However, a proportion of people choose treatment services provided by district health centers or provincial general hospitals even though common illnesses. This makes people spend more time and money. This study finds out appropriate solutions and policies to increase the proportion of people using treatment services at commune health stations.

Objectives: (1) To describe using treatment services among patients at commune health stations in Quang Ninh District, Quang Binh Province. (2) To find out some factors related to using treatment services at commune health stations.

Methods: A cross-sectional survey was conducted on 400 households with someone who is sick in communes in Quang Ninh District, Quang Binh Province. The chi-square test was used to find out factors related to using treatment services among patients at commune health stations with p value < 0.05.

Results: The prevalence of use of treatment services among patients at commune health stations was 24.9%. Age, education level, occupation, family economy, severity of illness and treatment costs were the factors related to using those services at commune health stations (p value < 0.05).

Conclusion: It is necessary to improve treatment services at commune health stations. Strengthening and improving primary health care services should be considered to provide a foundation for implementing improvement actions of those treatment services.

Keywords: Commune health stations, Treatment services, Vietnam

Priority public health policy needs at the intersection of sexual and reproductive health and gender-based violence in Vietnam: a rapid needs assessment and gap analysis

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Abstract

Introduction: Vietnam leads among low-to-middle-income countries in strong laws and policies aimed at gender-based violence prevention. However, implementation and coordination, particularly in health care settings, continues to be a challenge nearly 20 years since introduction of the first legal protections.

Objectives: To identify priority public health needs at the intersection of sexual and reproductive health and gender-based violence in health care settings in Vietnam to inform the design of a collaborative public policy project between Fulbright Vietnam and Hanoi Medical University.

Methods: Interviews (n=8) and focus groups (n=4) were conducted with key informants (n=20) from bilateral and multilateral development agencies and non-governmental, academic, and public and private health sectors. Results were combined with a rapid review of the literature (139 articles) available on PubMed about gender-based violence and health care in Vietnam from inception to March 2024 and grey literature identified by expert consultation.

Results: From articles screened, n=16 met final inclusion criteria. No recent studies (previous 10-15 years) explored in-depth perspectives of health workers or women with experience of abuse who utilize health services. Experienced sexual and reproductive health doctors were unaware of relevant policies, trainings, or clinical enquiry or routine screening in practice at their facilities. They endorsed female patients commonly present with suspected abuse, leading to health worker strain due to a lack of knowledge or confidence to respond. Development agency participants had deep content knowledge and facilitation experience in health worker trainings, noting efforts were limited, project funding bound, and not sustained. Participants described in effect limited to no gender-based violence response within health care settings.

Conclusion: To target health system strengthening efforts in gender-based violence response, in-depth investigation with health workers and service users is warranted. Due to resource constraints, pregnancy and post-partum points of care, periods of high service utilization and risk for violence against women, should be prioritized.

Keywords: Gender-based violence, Health systems, Intimate partner violence, Public policy, Reproductive health, Sexual health

Nutrition diets practice among urban adolescents' girls in lower secondary schools Vientiane Capital Lao PDR

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Abstract

Introduction: The impact of malnutrition on women and adolescent girls has been recognized for decades, but progress in addressing these issues has been slow, with the impact directly affecting girls. Pervious' studies indicates that in LMICs overweight is higher in women compared with men, in urban compared with rural settings. Overweight occurs alongside persistent burdens of underweight (young women).

Objectives: Therefore, this study is to evaluate the dietary practices of urban adolescent girls in lower secondary school in Vientiane.

Methods: This study is a descriptive cross-sectional study by assessing adolescent girl nutrition practice which the Global School-based Student Health Survey (GSSHS) questionnaires was adapted to ask participants. A total of 410 school girls were selected by a systematic random sampling. Those eligible participate volunteered to answer the questionnaire by themselves. Reporting the results was reported as frequencies and percentages.

Results: Total participants who involved in the survey was 410 student girls which 70% was from public school. Mean of age was $13.07 \pm SD = 1.09$. About 5% of the participants were thinness and 12.6% were overweight while obesity covered 9.02%. Mostly, the urban adolescent girls had eaten fruit and vegetable at least once per week (88.78% vs. 96.83%, respectively). However, they also had unhealthy dietary intake especially having soft drink (96.83%) and sweetness beverage (93.90%). The study shows that most of the participants had bad behaviour of consumption.

Conclusion: The survey implies of alert to focus on school girls' healthy dietary intake implementation to prevent the health problem in later life, including promoting healthy school; particularly health dietary practice.

Keywords: Dietary intake, Dietary practice, Lower secondary schools, Nutrition diets practice, Urban adolescents' girls

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Food preferences and consumption among urban and rural adolescents in Central Lao PDR: an online survey

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Abstract

Introduction: Food preferences refer to individuals' attitudes toward food, influencing dietary choices and health risks. Understanding adolescent food preferences helps prevent diet-related non-communicable diseases (NCDs) and aids in strategic health planning. This study investigates food preferences and consumption differences by urban or rural residence and gender among Lao adolescents using an online tool.

Objectives: To identify food preferences and dietary practices related to health risks among Lao adolescents in urban and rural contexts.

Methods: A cross-sectional study was conducted using an online questionnaire among adolescents aged 11-19 years from randomly-selected urban and rural schools in Bolikhamxay province. The questionnaire was available from October 15-31, 2022. After assenting to participate, students indicated their preferences (using 5-point Likert scales) and consumption of 100 foods. Chi-squared tests identified differences in food preferences and consumption across groups.

Results: Among 425 students, the average age was 14 years in rural and 13 years in urban schools. Food preferences and consumption did not substantially differ by gender. Foods highly preferred in rural areas were also highly preferred in urban areas, with a positive relationship between food preference and consumption. Preferences differed between urban and rural areas for vegetables not commonly grown in household gardens, with urban adolescents showing higher preferences. Urban adolescents had greater preference and consumption of imported foods, obesogenic foods, high-salt foods, and sugary foods and drinks. No significant urban-rural differences were found in preferences for alcoholic drinks, local foods, and vegetables that are commonly grown in household gardens or found in the forest between urban and rural areas.

Conclusions: Adolescents prefer and consume obesogenic, high-sugar, and high-salt foods and alcoholic and high-sugar drinks, particularly in urban areas, posing future health risks including NCDs. Campaigns promoting healthy food choices among adolescents in schools and communities are needed.

Keywords: Adolescence, Food preference, Lao PDR, Non-communicable disease, Salt, Sugar

Advocacy coalition by external actors and strategies used to influence the emergence of the national nutrition policy in Lao PDR

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Abstract

Introduction: Nutrition is a determinant of the ability to fully benefit from one's potential at birth. In most low and middle-income countries (LMICs), many children do not receive the food needed to answer their development needs. Consequently, they suffer from malnutrition. Recognizing this challenge, many LMICs have national public policies that cover nutrition issues, particularly undernutrition, infant and young child nutrition, and vitamin and mineral deficiencies. Lao People's Democratic Republic (Lao PDR) or Laos implemented its National Nutrition Policy in 2008.

Objectives: This study delves into the coalition of external actors and their strategies that catalyzed the development of the NNP in Laos.

Methods: A qualitative study was conducted based on the Advocacy Coalition Framework and the conceptual model of Effective Advocacy Strategies for Influencing Government Nutrition Policy. Twenty semi-structured interviews were performed with representatives of national and international organisations involved in addressing malnutrition in Laos. The information obtained from the interviews was complemented by an analysis of relevant documents dating back to 1990. Interviews were recorded and transcribed verbatim. A thematic analysis was performed using NVivo 11 software.

Results: The results showed that the commitment of the government to achieve the Millennium Development Goals (MDGs) and to leave the Least Developed Country status created a favorable condition to support the emergence of the NNP in Laos. This context was a driving force for the building of an effective and convincing coalition of United Nations agencies able to accompany the government in redefining health priorities. Various strategies were used by the coalition to this end, including generating, disseminating, and using scientific evidence, assisting the government with a budget and technical expertise, providing decision-makers with opportunities to learn from other countries, and building relationships with the key actors.

Conclusion: External actors can be a major force in supporting the emergence of a public policy in Laos, but this requires a window of opportunity like what the MDGs have been able to bring.

Keywords: Advocacy Coalition, External Actors, Lao PDR, Nutrition Policy, Strategy influence

Biological activities of *phellinus rimosus* (BerK) extracts

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Abstract

Introduction: *Phellinus* is a fungus in the family Hymenochaetaceae. Traditional Chinese medicine has been used as an ingredient for the treatment of different types of cancers, ischemia and skin diseases for thousands of years in Asian countries.

Objectives: The present studies were to evaluate phytochemistry and biological activities of *Phellinus rimosus* extract.

Methods: The *P. rimosus* was extracted by maceration with 95 % ethanol. The antioxidant activities are using by DPPH, ABTS and FRAP assays and total phenolics, flavonoids were assayed using colorimetric tests, anti-inflammation was evaluation using a Nitric oxide (NO) assay and anticancer activities against cholangiocarcinoma cell line (CCA) was determined by SRB assay. Cell death and mitochondria membrane potential were evaluated by microplate reader analysis.

Results: The ethanol extract of samples showed stronger antioxidant activities (DPPH: IC_{50}= 9.56 ± 0.47 μg/mL, ABTS: IC_{50} =5.04 ± 0.06 μg/mL), the total phenolic, flavonoid content in the mushroom were important for activities (TPC=361.04 ± 5.69 mg GAE/g, TFC=646.55 ± 6.29 mg RE/g). The phytochemical screening founded alkaloid, phenolic, flavonoid and triterpinoid groups. The pure compound isolated from dichloromethane (6-deoxydestigloyswietenine acetate) showed the best NO inhibitory effect (IC_{50}= 8.69 ± 0.08 μg/mL). Five hundred microgram per millets (500μg/mL) of crude extract had a greatest anti-CCA activity in both KKU-100 and KKUM-213A cells with percent cell inhibition at 91.84 ± 0.36 and 95.86 ± 2.61 respectively. The cytotoxicity was correlated with the phytochemical contents and antioxidant activity of *Phellinus* mushroom.

Conclusion: The best NO inhibitory effect of isolated compound was 6-deoxydestigloy swietenine acetate, the cytotoxicity parameters were inversely proportional to the phenolic and flavonoid contents of the extract showed that other mechanisms beyond their antioxidant capacities may contribute to their anti-cancer effects.

Keywords: Anti cholangiocarcinoma, Antioxidant, *Phellinus* mushrooms

Misreporting of energy intake estimated by food records among adolescents in Lao PDR

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Abstract

Introduction: Accurate dietary assessment in adolescents is crucial for understanding their eating habits and associated health outcomes, but self-reported dietary assessments are prone to errors or misreporting. Most research has focused on high-income countries, leaving a gap in understanding this issue in adolescents in low and middle-income countries (LMICs).

Objectives: Our study aims to investigate energy intake misreporting and its determinants among adolescents in Lao PDR, a Southeast Asian LMIC, as well as to compare food group intake between plausible reporters and implausible reporters.

Methods: This study analyzed secondary dietary data obtained from a 7-day estimated food record of 405 adolescents aged 10-18 years attending secondary schools in Vientiane Province, Lao PDR. Energy intake misreporting was determined using the Goldberg cutoff method. Multivariate logistic regression was used to identify factors associated with underreporting of energy intake. The Mann-Whitney U-test was used to compare the disparity in the percentage of energy intake (%EI) from each food group between plausible reporters and under-reporters.

Results: Approximately 61% of participants underreported their energy intake, while only 0.25% overreported. Factors contributing to underreporting included being overweight (in comparison to those with normal weight), younger age group (10–14 years), and reporting less frequent snacking between meals. Energy intake under-reporters consumed a lower %EI from snacks, beverages, and alcoholic drinks, but a higher %EI from meat, fish, and eggs compared to plausible reporters.

Conclusion: The study found a high prevalence of energy intake underreporting among adolescents in Lao PDR. Overweight and younger adolescents are more likely to underreport energy intake, suggesting more attention to these demographics during self-reported dietary assessments. Under-reporters might focus on reporting main meals and overlook non-core food like snacks and beverages. Measures are needed to mitigate and account for energy intake underreporting when using self-reported dietary assessment among Lao adolescents.

Keywords: Adolescent, Dietary assessment, Dietary record, Energy intake, Misreporting, Underreporting

Nutrient intake and adequacy in children aged 12-23 months in Lao PDR: a community-based cross-sectional study

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Abstract

Introduction: Child malnutrition is a significant concern in Lao PDR, with poor feeding practices leading to inadequate nutrient intake and long-term impacts on growth and development. About 38% of infants are introduced to complementary foods too early, and 55% of children aged six months to two years have diets of limited variety.

Objectives: This study aims to assess nutrient adequacy among children residing in urban and rural areas of Vientiane Province, Lao PDR.

Methods: We conducted a cross-sectional study of 189 caregivers with children aged 12-23 months from urban (PhonHong) and rural (MeungFeung) communities in Vientiane Province. We used a two-stage random sampling process and a single 24-hour dietary recall to gather data on nutrient intake. We calculated the children's nutrient intake using INMUCAL software (Version 18.0) and determined the nutrient adequacy ratio (NAR) for each nutrient.

Results: The prevalence of stunting, wasting, and underweight was higher in MeunFeung (9.3%, 11.6%, and 6.9%, respectively) compared to PhonHong (26.2%, 14.6%, and 5.8%). However, there was no significant difference in infant and young children feeding practices across rural and urban areas. The intake of macronutrients was adequate, except for carbohydrates, in both urban and rural areas. On the other hand, the consumption of micronutrients was inadequate (NAR<1) in both urban and rural areas, specifically for iron (NAR 0.43 vs 0.32, respectively), zinc (0.45 vs 0.22), calcium (0.89 vs 0.28), thiamine (0.94 vs 0.67), vitamin A (0.58 vs 0.38), vitamin B6 (0.29 vs 0.23), and vitamin C (0.85 vs 0.42).

Conclusion: Children in rural areas have higher rates of malnutrition and lower intakes of micronutrients than children in urban areas. These findings highlight the need for context-appropriate interventions to improve infant and young child feeding practices and nutrient intakes in Lao PDR.

Keywords: Children, Lao PDR, Nutrient adequacy

Dietary pattern and nutritional status of patients with type 2 diabetes in three referral hospitals, Vientiane Capital, Lao People's Democratic Republic

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Abstract

Introduction: In Vientiane Capital, Lao PDR, referral hospitals manage a significant number of patients with type 2 diabetes. While dietary practices are crucial for managing this condition, the specific dietary patterns and nutritional status of these patients remain unclear.

Objectives: This study aims to describe the dietary pattern and nutritional status of type 2 diabetes patients in three referral hospitals in Vientiane Capital, Lao PDR.

Methods: The study involved 297 type 2 diabetes patients from Mahosot, Setthathirat, and Mittaphab hospitals. The patients were divided into two groups: glycemic controlled and uncontrolled. We collected data through interviews and anthropometric measurements. Descriptive statistics and chi-squared tests were used to analyze differences in dietary patterns.

Results: A study of 297 type 2 diabetes patients found that 72.7% had a healthy diet against NCDs, while 59.4% had an unhealthy diet. The majority were overweight or obese, with 68.3% and 83.5% having abdominal obesity. Most patients had good knowledge and positive attitudes towards dietary habits, but low physical exercise and adherence to home glucose checks. Glycemic controlled patients had better medicine adherence.

Conclusion: Most type 2 diabetes patients had low consumption of healthy foods, while some of them, both in glycemic-controlled and uncontrolled groups, had high consumption of unhealthy foods. As these findings, it is important to emphasize the importance of healthy eating and maintaining a healthy weight for all people with type 2 diabetes, regardless of their glycemic control status.

Keywords: Dietary patterns, Food consumption, Lao PDR, NCDs, Nutritional status, Type 2 diabetes mellitus

Knowledge, attitude and food safety practices of food vendors in the market in Vientiane Capital

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Abstract

Introduction: In 2017, the World Health Organization (WHO) emphasized the critical issue of unsafe food, which often contains harmful bacteria, viruses, parasites, or hazardous chemicals, leading to over 200 types of diseases, ranging from diarrhea to cancer. Approximately 600 million people, nearly 1 in 10 of the global population, fall ill each year after consuming contaminated food, resulting in 420,000 deaths annually. Children under the age of five are particularly vulnerable, accounting for 40% of the foodborne disease burden and 125,000 deaths annually. Diarrhea, the most frequent illness caused by unsafe food, affects 550 million people and results in 230,000 deaths each year. Unsafe food not only causes disease and malnutrition but also significantly impacts infants, young children, the elderly, and those with chronic illnesses. Furthermore, it has adverse effects on economic and social development.

Objectives: This study employs a cross-sectional analytical design to assess the proportion of safe food handling practices among food vendors in markets within Vientiane Capital.

Methods: The study focuses on four districts: Sikhottabong, Chanthabouly, Xaysetha, and Sisattanak. The sample consists of 320 participants, selected through multi-stage random sampling. Data were collected using structured interviews and observational checklists. Data entry and analysis were conducted using STATA version 14, with descriptive statistics used to determine proportions, relationships, and percentages. Logistic regression analysis was utilized to identify predictors, with statistical significance set at P-value < 0.05.

Results: Of the study participants, 83.1% were female, with a mean age of 46.6 years (±9.2 years), ranging from 24 to 72 years. A total of 51.8% of participants demonstrated high knowledge of safe food handling practices, while 49.4% exhibited a positive attitude towards these practices. Observations indicated that 80.3% of the food selling environments were in good condition. Overall, 53.2% of participants practiced good food safety. Factors significantly associated with safe food handling practices included having a family income of more than 5,000,000 Kip per month (AOR=0.3; 95%CI: 0.1-0.5; p<0.001), earning 300,000 Kip or more per day from food sales (AOR=0.4; 95%CI: 0.2-0.7; p=0.004), having additional occupations besides selling food (AOR=0.2; 95%CI: 0.1-0.4; p<0.001), having chronic illnesses (AOR=0.3; 95%CI: 0.1-0.8; p<0.001), and maintaining good environmental conditions around the food selling area (AOR=5.5; 95%CI: 2.8-11.0; p=0.030).

Conclusion: The findings reveal that a significant number of food vendors in Vientiane Capital do not adhere to adequate food safety practices. It is imperative for the public health sector to intensify efforts in monitoring and promoting safe food handling among food vendors. This can be achieved by providing guidance and improving the cleanliness and safety of the food selling environments to ensure that consumers receive safe food.

Keywords: Safe food, Safe food handling practices, Vientiane Capital

Food consumption behavior and nutritional status among patients with chronic kidney disease in Central Hospitals

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Abstract

Introduction: Chronic kidney disease is a condition in which kidney function declines. The prevalence of chronic kidney disease (CKD) is high, and it is gradually increasing. food consumption and Nutritional status behaviors are very important for CKD patients. Patients with kidney damage should limit the intake of certain foods to reduce the accumulation of unexcreted metabolic products and also to protect against hypertension, proteinuria, and other heart problems.

Objectives: This study aims to explain the nutritional status and food consumption behaviors of chronic renal failure patients who come to receive services at the Central Hospital.

Methods: This is a cross-sectional analytical study, and 312 patients with CKD from stage I to IV participated in the study. Data was collected at the OPD and internal medicine wards of 4 central hospitals in Vientiane capital using face-to-face interviews. The instruments consisted of a weight and height scale and the food consumption behaviors of CKD patients. All data were entered into the Excel program and transferred to STATA version 14.0 for data analysis. The descriptive statistics were applied to report frequency, percentage, and mean (SD). Then, inferential statistics was used to identify the association using logistic regression and multiple logistic regression to predict the factors associated with AOR (95%CI).

Results: The study found that 312 people in the sample group were 63.4% female. Patients with chronic kidney disease had comorbidities: 88.1% had diabetes, and 80.1% had hypertension. patients with chronic kidney disease were malnourished. 56.0%. The results showed a moderate level of the total score of food consumption behaviors at 48.4%. The appropriate foods for these patients include white eggs, fish meat, meat/lean, polyunsaturated oil, and drinking water. In addition, the study results showed that food consumption practices were moderate. In contrast, the participants who avoided foods including durian/banana, canned fruit, fresh fruit juices, and canned food who had a good food consumption level of 56.6%. and the prevalence of the patients with CKD was malnourished (56.0%). Therefore, the factors associated with nutritional status was occupation AOR=3.65; 95%CI: 2.25-5.92; p-value <0.22, and knowledge about food consumption (AOR=1.76; 95%CI: 1.08-2.87; p-value <0.000).

Conclusion: These findings could be used as baseline data for planning and promoting nutritional status and food consumption behaviors appropriately for chronic renal failure patients receiving services at the Vientiane Central Hospital.

Keywords: Chronic kidney disease, Food consumption, Nutritional status

Nutritional status and its associated factors among elderly people over 60 years in Vientiane Capital: community based cross-sectional study

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Abstract

Introduction: Malnutrition, a condition resulting from excess or deficiency of nutrients, is a significant issue in the elderly population, leading to functional decline, muscle and bone impairment, immune dysfunction, anemia, poor wound healing, and increased hospital readmissions.

Objectives: So, the aim of this study was to identify nutritional status and its associated factors among elderly people over 60 years in Vientiane capital.

Methods: An analytical cross-sectional study was conducted among 366 elder communities in Vientiane capital from March to May 2024. Those who were seriously ill, could not get around or were on special diets were excluded from the study. Data collection was conducted through pre-tested questionnaire after taking ethical approval and informed consent. Data were entered into Epi-data version 4.2.0 and exported to STATA version 17 for analysis. Multiple logistic regression analysis was used to identify factors associated with nutritional status using odds ratio and 95% confidence interval with P-value of 0.05.

Results: In this study, the majority of participants were female (63.7%), followed by male (33.3%), and the age ranges of the participants were 60-69 years (71.6%), 70-79 years (22.0%), and more than 80 years (6.4%). The prevalence rates of overweight/obesity (68.5%), normal and under weight was, 25.9%, and 5.6% respectively. The following factors were associated with good nutritional status among elderly people over 60 in Vientiane capital: age over 80 (AOR=0.39, 95%CI: 0.1-0.9, p=0.038); age between 70 and 79 years (AOR=0.44, 95%CI: 0.2-0.7, p=0.004); staying with family or relatives (AOR=0.36, 95%CI: 0.1-0.8, p=0.018); regular health check-ups within the last year (AOR=1.70, 95%CI: 1.0-2.7, p=0.029); currently drinking alcohol (AOR=1.42, 95%CI: 1.0-1.8, p=0.014); and ever smoking (AOR=0.49, 95%CI: 0.2-0.9, p = 0.023).

Conclusions: This study demonstrates that elderly people was high prevalence of overweight/obesity. Age below 70 years, not staying with family or relatives, regular health check-ups within the last year, currently drinking alcohol, and ever smoking are associated factors. Interventional research is necessary to reduce the problems associated with malnutrition in the study population.

Keywords: Elderly people over 60 years, Nutritional status, Vientiane capital

Food insecurity and chronic malnutritional status among children aged 2 to 5 years in a rural community, Vientiane capital, Lao PDR

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Abstract

Introduction: Chronic malnutrition in children is also a problem that causes the death of 149.2 million children per year worldwide and affects development and slow growth, resulting in stunted children. In the Lao People's Republic, 33% of children are stunted, especially in community areas where access to food is limited and nutrient intake is insufficient. However, there is limited information on food insecurity and nutrient intake in Laos.

Objectives: Therefore, the purpose of this study is to study the relationship between food insecurity and chronic malnutrition among families with children aged 2 to 5 years in community areas outside the city of Vientiane.

Methods: An analytical cross-sectional study was employed in the community area outside the city of Vientiane, families with children aged 2 to 5 years were enrolled in this study, A multi-stage randomization technique was employed to select a totally 361 families with their children, collecting information from the mother/guardian of the child using a structured questionnaire, then the child's anthropometry of height and weight were measured accordingly. Data were analyzed by Program STATA version 14.0 to describe and explore the relationships between variables using multiple logistic regression analysis.

Results: The prevalence of stunting is 23.8%; factors related to stunting are education level (AOR= 0.43, 95%CI 0.21- 0.91), child's age (AOR= 2.29, 95%CI 1.22- 4.30), birth weight (AOR= 0.38, 95%CI 0.17- 0.84). Severe household food insecurity (AOR=2.57,95% CI 1.31-5.02) and diversity in food consumption (AOR= 0.57, 95%CI 0.33 - 0.99).

Conclusions: This study found that the level of education, children aged 4 to 5 years, birth weight, severe food insecurity in the household and diversity in food consumption are factors related to chronic malnutrition. Therefore, it is necessary to promote the care of children in the group under the age of three including access to food and the ability to eat of food accordingly.

Keywords: Diversity in food consumption, Household food insecurity, stunting

Knowledge about the consumption of sugar and sugary drinks and the nutritional status of high school students in Vientiane's capital

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Abstract

Introduction: Currently, the nutritional status of school-aged children is a global problem, and most of them are found in developing countries in large numbers, especially the consumption of excess sugar that could cause obesity, which causes the body to get more nutrients than it needs. The prevalence of obesity among school-aged children continues to be high and is a significant public health problem worldwide. Overnutrition is a risk factor that causes non-communicable diseases (NCDs), affecting the growth of adults with health problems, up to 39% of the global population with overnutrition.

Objectives: Therefore, this study aims to explore the behavior of young people who consume food, sweets, and drinks with high sugar levels in high schools in Vientiane.

Methods: This Analytical cross-sectional study uses a multi-stage random sampling method to select 324 high school students in grades 5-7 in Vientiane High School. Demographic characteristics and food consumption behavior were collected to participate in this study. This data was analyzed by using Program STATA version 14.0. Descriptive statistics are used to report the frequency, percentage, mean, standard deviation, minimum, and maximum. Moreover, multiple logistic regression was computed to explore an association between variables and reported by OR, 95%CI, with a significant level of P-value < 0.05.

Results: From this study, among the total 324 participants, most of them are female (53.1%). 78.3% are 15-17 years old. Most Buddhists: 93.47%. Number of brothers and sisters: 2 people covering 40.65%. The average amount of money to the school is 40,040 kip, the minimum is 3000 kip, and the maximum is 150000 kip. The average cost of sweets and drinks is 22,851 kip, the minimum is 5000 kip, and the maximum is 600,000 kip. 77.2% are living with their parents. The participants had a medium level of knowledge about consuming sweets and sugary drinks (73.2%). And have the following nutritional status: BMI for age average of the sample group is Normal (79.63%), Overweight (3.70%), Obesity (0.93%). There is also thinness (13.58%) and severe thinness (2.16%). It found that age has a statistically significant relationship with undernutrition P<0.01, knowledge and ethnicity has a statistically significant relationship with overnutrition P=0.03, P=0.000 and P=0.05, respectively. In addition, religion has a statistically significant relationship with undernutrition P< 0.02.

Conclusion: In this study, it is seen that the nutritional status of high school students is both over-nutrition and under-nutrition, so the relevant parties should provide counseling to target groups such as Kao to consume food according to nutritional principles to prevent over-nutrition and under-nutrition together to reduce NCDs in the future.

Keywords: Consumption of sweets, Nutrition status, Sweetened beverages, Vientiane capital

Impacts of inflation on nutrition and food security in Laos

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Abstract

Introduction: Families in Lao PDR have faced multiple challenges in recent years. The COVID pandemic reduced livelihoods and incomes and inflation and currency devaluation have negatively impacted the Lao economy, with inflation reaching 41% in February 2023.

Objectives: The research study aimed to identify the impacts of inflation on nutrition and food security for Lao families, particularly as it relates to their coping strategies and future plans.

Methods: Survey interviews were conducted with 1316 heads of households across 14 provinces using KoboCollect by 14 member organisations of SUN CSA Laos.

Results: Results from the February 2023 SUN CSA Laos Food Security survey found that, over the past 12 months, from the 1316 surveyed households:

- 91% had faced challenges to meet the cost of living
- 11% were moderately or severely food insecure
- 47% had run out of food at least once in the past 12 months
- 31% had skipped a meal
- 56% had been unable to eat healthy or nutritious diets

Respondents attribute their food security challenges to the increase in food costs (67%), insufficient income (66%) and the increase in fuel costs (63%). Respondents said their households have had to use negative coping actions, including buying less food (71%), foraging more (65%), eating less (52%), borrow money (41%) and selling assets (34%).

Conclusion: A large majority of households in Laos are vulnerable to inflation shocks and are currently facing economic hardship due to inflation-related increases in the cost of living, as well as other factors related to climate change and the recent COVID pandemic.

Keywords: Agriculture, Climate, Food security, Health, Nutrition, Inflation

Are dietary intake and nutritional status influenced by gender? the pattern of dietary intake in Lao PDR: a developing country

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Abstract

Introduction: Recognition of discrepancies between men and women in nutritional intake is important to tackle food and nutrition insecurity and the often-double burden of malnutrition. The purpose of this study was to assess nutritional status and dietary intake of the Lao population, with a focus on possible influences of gender.

Objectives: Purpose of this study was to assess nutritional status and dietary intake of Lao population, with a focus on possible influences of gender.

Methods: Dietary intake was assessed in a national cross-sectional study of 1771 randomized participants aged from 1.01 to 89 years, using 24-h dietary recall. Dietary reference intakes were used to assess nutrient insufficiency. Chi-square test was used to evaluate gender differences and multiple univariate logistic regression to examine associations between gender, nutritional status, demographics and nutrient insufficiency.

Results: Nutrient insufficiencies were higher among pregnant and lactating women than other adult men and women, especially for protein and micronutrients such as vitamin B3, B1, C and other vitamins. Dietary intake and BMI were similar between men and women; all had insufficient intake of all types of nutrients, except sodium.

Conclusions: Dietary intakes were alarmingly micronutrient-insufficient. Macronutrient imbalance and double burden of malnutrition was confirmed in both sexes. Gender differences were limited; men and women had similarly insufficient intakes, but pregnant and lactating women were disproportionately affected. Nutritional interventions should also take men and older people into account to solve nutrition problems.

Keywords: 24-h recall, Children, Dietary adequacy, Dietary intake, Gender, Lao PDR, Women

Relationship between intestinal inflammation levels and changes in intestinal flora in mice exposed to microplastics, a novel environmental pollutant

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Abstract

Introduction: Population studies have found that microplastic concentrations in the feces of patients with inflammatory bowel disease (IBD) are significantly higher than those of healthy subjects, and that these concentrations are positively correlated with the severity of IBD; in vitro cellular models have also found that exposure to microplastics may affect the activation and release of pro-inflammatory cytokines, which may lead to inflammation.

Objectives: The aim of this study was to investigate the changes in intestinal flora and inflammatory responses and to investigate the correlation between intestinal flora and inflammatory responses by long-term microplastic exposure in mice.

Methods: Seven-week-old C57BL/6J mice were used in this study, purchased from the SPF Laboratory Animal Center of Kunming Medical University (SCXK (Dian) K2020-0004). 30 healthy mice were randomly divided into three groups, half male and half female, which were the normal control group, 1 μm microplastic-exposed group, and 5 μm microplastic-exposed group; the mice were exposed to microplastics at a daily dose of 2.5 μg/g body weight per day, the mice were gavaged intraperitoneally with 1 μm and 5 μm microplastics every evening. The mice were gavaged for a total of 30 weeks, and their body weights were measured weekly. At the end of the gavage period, small intestine and colon tissues were stained with HE staining, and 1L-1β and TNF-α expression levels were detected in the serum layer of the mice. At the end of the 30-week gavage period, fresh feces were collected from mice and transported on dry ice to Shanghai Meiji Biological Company for subsequent sequencing.

Results: The results showed that compared with the normal control group, microplastics significantly increased the level of inflammatory cytokine 1L-1β in mice, and the inflammatory cell infiltration was obvious in the small intestinal and colon tissues; the α-diversity of the intestinal flora in the exposed group was significantly reduced, and *Actinobacteria* was significantly decreased;the relative abundance of beneficial bacteria such as *Clostridia UCG-014* and *Bifidobacterium* decreased significantly, and *Lactobacillus* showed a significant negative correlation with the inflammatory cytokines TNF-α and 1L-1β.

Conclusion: In summary, long-term microplastic exposure significantly reduced the relative abundance of beneficial bacteria such as *Clostridia_UCG-014* and *Bifidobacterium*, which disrupted the body's function of maintaining intestinal flora homeostasis, which may be associated with the elevation of inflammatory cytokine 1L-1β. And the results of environmental factor correlation analysis showed that *Lactobacillus* was significantly negatively correlated with 1L-1β and TNF-α. Changes in *Lactobacillus* may be involved in the process of inflammatory cytokine changes, but the specific mechanism remains to be further studied. This suggests that microplastics may disrupt the balance of intestinal flora by reducing the diversity of intestinal flora and decreasing the relative abundance of beneficial bacteria, thus providing a favorable intestinal flora environment for the occurrence of intestinal inflammatory responses. The inflammatory mechanism of microplastics may vary with the particle size of microplastics, and the mechanism of exposure and intestinal inflammation needs to be further explored.

Keywords: Chronic toxicity, Gut microbiota, Intestinal inflammation, Microplastics

Ameliorative effects of 1,8-cineole on steatosis based on oxidative stress and inflammatory response

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Abstract

Introduction: Numerous studies have demonstrated that 1,8-cineole has a wide range of pharmacological effects, mainly through anti-inflammatory and antioxidant mechanisms. In previous studies, 1,8-cineole was found to reduce triglyceride and total cholesterol levels in HepG2 cells.

Objectives: After clarifying the lipid-reducing effects of 1,8-cineole, this study investigated its lipid metabolism mechanisms. To investigate the effects of 1-8-cineole on lipid synthesis, oxidative stress and inflammatory response induced by palmitic acid in AML-12 cells and related mechanisms.

Methods: AML-12 cells were used in this study, and the effects of palmitic acid and 1,8-cineole on cell viability were examined by MTT assay. Finally, the intervention of AML-12 with non-toxic concentrations of 250 μm PA and (250 μg/ml, 500 μg/ml, 1000 μg/ml) 1,8-cineole for 24 h was determined, and the effects of 1,8-cineole on the cellular oxidative stress and inflammatory response were determined by ELISA assay and detection of MDA and CAT.

Results: The results showed that 1,8-cineole significantly reduced the elevation of total cholesterol and triglycerides caused by PA intervention compared with the high-fat model group. After PA intervention, the MDA level of the cells was significantly increased and the CAT level was significantly decreased, while 1,8-cineole significantly decreased the MDA level and increased the CAT level.The results of ELISA experiments showed that 1,8-cineole intervention significantly decreased the expression levels of 1L-1β, TNF-α, 11L-6, and 1L-18.

Conclusion: In summary, 1,8-cineole was able to inhibit the oxidative stress and inflammation levels of the organism in PA-intervened AML-12 cells, and inhibited PA-induced lipid synthesis in AML-12 cells. However, it has not been demonstrated whether it can reduce the lipid level of cells by suppressing the oxidative stress and inflammation level of the organism, and its specific mechanism needs to be further investigated.

Keywords: 1,8-cineole, AML-12 cells, Inflammatory response, Lipid metabolism, Oxidative stress

The use and impact of case management in methadone maintenance treatment

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Abstract

Introduction: Heroin users were more likely to have physical and psycho-social problems if they participated in methadone maintenance treatment (MMT). This frequently results in poor treatment outcomes, such as low treatment adherence, a high dropout rate, and difficulties returning into society.

Objectives: To explore the application and impact of case management on heroin users enrolled in MMT.

Methods: Study were conducted in MMT clinic of Yunnan Institute for Drug Abuse. Convenience sampling was used to select 19 participants for a case management study consisting of 5 steps: case evaluation, development of personalized treatment plan, implementation of treatment, supervision and evaluation, and case closure.

Results: The process and work model of case management was explored and finished. Tools for case evaluation and process management was developed. There were 17 subjects who completed the whole process of case management. Individual services were provided in the areas of health, relapse prevention, psychological counseling, and social function. There was 1 subject received referral services, 3 subjects secured new employment after career advisory, 8 subjects were improved in emotion control and communication. 6 subjects received relapse prevention but the impact on their relapse was minimal. The adherence to MMT of subjects were improved after study. Case management was accepted and welcomed by study subjects in the end of study.

Conclusion: case management was an effective intervention by offering individual services. It should be a consideration of psycho-social intervention strategy for the improvement of MMT efficacy.

Keywords: Case management, Heroin, Methadone maintenance treatment

Analysis of factors affecting hospitalization costs of tuberculosis patients

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Abstract

Introduction: The demographic characteristics and hospitalization costs of patients with tuberculosis were analysed to explore the factors influencing the hospitalization costs associated with patients with tuberculosis.

Objectives: To clarify the population characteristics and hospitalization costs of patients with tuberculosis and to explore the factors influencing hospitalization costs.

Methods: A retrospective study was used to collect the information on the front page of the cases of pulmonary tuberculosis inpatients in the Third People's Hospital of Kunming City from 1 January 2019 to 31 December 2019, to describe the median and quartiles of the hospitalization costs, and to analyse the factors affecting the hospitalization costs by using the Mann-WhitneyU test, the Kruskal-WallisH test, and the multiple stepwise linear regression analysis method.

Results: The study population consisted of 6781 patients with a mean age of 44.52 ± 18.08 years, 4155 males and 2626 females. The median (quartiles) of hospitalization cost was 11631.87 (9115.89, 14612.29)RMB.The results of Mann-WhitneyU test showed that the difference in hospitalization cost of TB patients by gender was statistically significant ($p < 0.05$) and the results of Kruskal-WallisH test showed that age, marriage, number of days in hospital, mode of payment for hospitalization and number of other diagnoses were the influencing factors for TB patients（$p < 0.05$）. The results of multiple linear regression analysis indicated that gender, marriage, payment mode, number of days in hospital and number of other diagnoses were significant influencing factors of hospitalization cost.

Conclusion: Hospitalization costs are influenced by a variety of factors, and further attention should be paid to the treatment of TB patients and the factors that affect them, to provide a relevant policy basis for improving patient survival and reducing their hospitalization costs.

Keywords: Hospitalization costs, Influencing factors, Tuberculosis

Study on the emotional and behavioral problems status and related factors of primary and secondary school students in a county in Yunnan Province

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Abstract

Introduction: The community is paying more attention to the gradual increase in mental health problems among people under the age of 18. The consequences of mental health in adolescents can carry over into adulthood and continue to damage physical and mental health, while mood and behavioral disorders are common. Primary and secondary school students are at an important stage of their development, so attention should be paid to their psychological situation and appropriate measures taken against potential psychological problems.

Objectives: To understand the occurrence of emotional and behavioral problems and their possible influencing factors among primary and secondary school students in the county, in order to provide a reference for promoting mental health and developing relevant measures .

Methods: A stratified whole cluster random sampling method was adopted in December 2023 to select school students from grade 4 to grade 3 of elementary school in this County for the survey, and data were collected using the Student Version of the Strengths and Difficulties Questionnaire (SDQ), the MacArthur Scale, and self-administered questionnaires to analyze the current situation of emotional and behavioral problems among students, and binary logistic regression was used to analyze the factors that may be related to this problems.

Results: A total of 876 questionnaires were collected, of which 830 were valid, with a validity rate of 94.75. The abnormal detection rate of emotional and behavioral problems among students was 11.45%, with a critical rate of 15.30%. It was found that relationship with family, family upbringing style and their own physical condition were important factors affecting the detection rate.

Conclusion: The prevalence of emotional and behavioral problems among primary students in this County is in the middle level of similar research studies, and family factors and their own physical condition are important factors affecting the problem.

Keywords: Behavioral and emotional problems, Mental health, SDQ, Students

Exploration of the association between sleep duration and myopia among middle school students in Lijiang City

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Abstract

Objective: To explore the relationship between sleep duration and myopia among middle school students in Lijiang City, and to provide a reference for further improving the sleep quality and preventing myopia among middle school students.

Methods: In 2021, two junior high schools in Lijiang, a Naxi ethnic gathering place, were selected as the research sites, and the schools were determined based on the economy, ethnicity, and number of students.

Results: A total of 296 students were surveyed, and the prevalence of myopia was 73.4% (217/296), and the prevalence of myopia in girls was higher than that in boys, and the difference was statistically significant (x^2=25.241, p<0.001). The prevalence of myopia in rural areas was significantly higher than that in rural areas (x^2=12.008, P<0.05). The father's education level had no effect on the myopia prevalence of students (x^2=4.677, P>0.05), but the mother's education level affected the myopia prevalence (x^2=9.968, P<0.05). Family economic status had no effect on the prevalence of myopia among students (x^2=2.357, P>0.05). The prevalence of myopia with sleep duration of 8-9 hours was higher than that of sleep duration of 9-10 hours and more than 10 hours, and the difference was statistically significant (x^2=10.121, P<0.05). There were statistically significant differences in the daily sleep duration of students of different genders, ethnicity, family residences, time spent playing mobile phones before bedtime and time spent doing homework after school every day (P<0.05).

Conclusion: There is a correlation between sleep duration and myopia in middle school students, and insufficient sleep duration may be a risk factor for myopia in primary and secondary school students.

Keywords: Middle school students, Myopia, Sleep duration

ICPH-GMS14: "Meeting the Sustainable Development Goals through Improved Nutrition, Health Equity, and Climate Change Adaptation"

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The effect of family function on the psychotic-like experience of college students in Qiqihar, Heilongjiang Province, China

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Abstract

Introduction: Family function refers to the roles played by the families play in supporting the growth and daily lives of individuals. It is a comprehensive evaluation of family elements such as family structure, family member contact, family system disorder, and high-quality social support network, especially family support, can be a protective factor against the risk of psychiatric diseases. Psychotic-like experiences (PLEs) is a syndrome similar to clinical psychosis that is widely present in the general population, with experiences of subclinical hallucinations and delusions, but does not bring significantly impact the individual's pain and performance, and does not interfere with normal work life.

Objective: Through the problems reflected in the research, to create a suitable physical and mental health family environment for college students, to provide reference for the prevention of mental diseases, and promote the healthy growth and all-round development of college students to lay a family foundation.

Methods: We assessed family functioning using the Family Function Rating Scale (FAD) and investigated psychotic-like experiences among 715 college students using the Propsychotic Scale (PQ). Higher scores in all dimensions of family function indicate worse family functionality and more severe psychotic-like experiences. Established the decision tree and the path analysis models to identify core factors affecting psychotic-like experiences, and clarify the direct or indirect influence of each factor on the psychotic-like experiences. This study has been approved by the Qiqihar Medical Human Research Ethics Committee.

Results: In this study, there are 40 people with an average score less than 2, accounting for 5.5% of the total number; there are 672 people with an average score greater than or equal to 2 and less than 3, accounting for 91.7% of the total number; and there are 3 people with an average score greater than or equal to 3, accounting for 0.4% of the total number. This indicates that the family function of college students is poor. The scores of the psychotic-like experiences of college students all exceeded the assessed value, and the new experience of mental illness was more serious. Family function overall is a negative predictor of the psychotic-like experiences. Decision tree and path analysis show that the role and emotional involvement dimensions in family function may be the core factors affecting the psychotic-like experiences.

Conclusions: Exploring the extent to which family functioning affects new experiences of psychosis helps to develop and target interventions to mitigate the increased risk of psychotic-like experiences among college students.

Keywords: College students, Family function, Mental health, Psychotic-like experiences, Subclinical

Investigation and analysis on the status of standardized training for residents of rural-oriented tuition-waived medical students of Yunnan Province in China

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Abstract

Introduction: In China, rural areas have long faced challenges in attracting and recruiting healthcare personnel due to various factors, including the state of economic development. The medical and health standards in these regions have remained significantly behind. In response, China initiated and implemented a rural-oriented tuition-waived medical education(RTME) program in 2010. Furthermore, in 2015, the Chinese government mandated that rural medical students who completed their undergraduate medical education must participate in a three-year standardized residency training program.

Objectives: The present study aims to investigate the participation status of rural tuition-waived medical students from Yunnan province, China, in standardized residency training for physicians. It also aims to examine their satisfaction with the training and identify the influencing factors.

Methods: In 2022, this study conducted a survey among 652 rural tuition-waived medical students participating in standardized residency training in six hospitals in Yunnan province, China. Data analysis was performed using descriptive analysis and inferential statistics.

Results: Among the 643 valid questionnaires collected, 91.29% of respondents expressed their support for the standardized residency training system for physicians. 45.37% of respondents believed that the training could effectively enhance their medical skills.55.68% of respondents identified themselves as rural tuition-waived medical students. After completing their contracts, 46.50% of respondents stated that they would not continue working in rural grassroots settings. The two aspects with the lowest satisfaction among rural tuition-waived medical students regarding the standardized residency training were the living conditions at the training base and the salary during the training period. Factors associated with higher satisfaction among rural tuition-waived medical students with the standardized residency training included younger age, support for the training system, positive psychological state during the training, frequent skills training and specialized lectures at the training base, regular team-building activities at the training base, and high teaching competence of the mentoring faculty.

Conclusion: The standardized residency training plays a crucial role in enhancing the medical skills of rural tuition-waived medical students. In order to better cultivate these students and improve the healthcare standards in rural areas, appropriate strategies should be implemented to enhance their participation in and satisfaction with the standardized residency training program. Furthermore, efforts should be made to increase their willingness to work in rural grassroots settings, thereby achieving the objectives of the tuition waiver policy for medical education in rural areas.

Keywords: China, Medical students, RTME, Satisfaction, Standardized training, Working intention

Intimate Partner Violence during Pregnancy: A large-scale survey of pregnant women in Da Nang city

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ABSTRACT

Introduction: Intimate partner violence during pregnancy (p-IPV) is a major public health problem and a serious violation of human rights, with serious consequences for the health of women and children.

Objectives: To determine the prevalence of intimate partner violence **among 1235 pregnant women living with their husbands; and to obtain its determinants.**

Methods: A cross-sectional study was conducted among 1235 pregnant women living with their husbands in Da Nang city, the study used the Revised Conflict Tactics Scales (CTS2).

Results: The prevalence of p-IPV was 32.9%, of which mental abuse (26.9%); physical violence (14.7%); sexual violence (12.5%). Pregnant women's occupation, husband's occupation, husband's alcohol use status, and social support are related to the rate of violence.

Conclusion: Pregnant women experience a concerningly high rate of spousal violence among pregnant period. To address this issue, it is crucial to implement programs and public awareness campaigns that enable pregnant women to identify and seek help for IPV.

Keywords: *Intimate partner violence, pregnant women, p-IPV, CTS-2.*

PREMARITAL SEX AND RELATED FACTORS AMONG COLLEGE'S STUDENTS IN THUA THIEN HUE PROVINCE

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ABSTRACTS
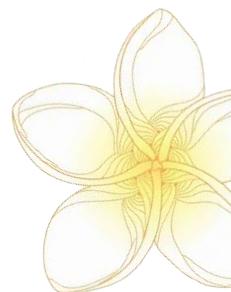
Introduction: Teenagers are seeing an increase in the positive trend of premarital sex as society grows more urbanized. The National Survey on Adolescents and Young People in Vietnam (SAVY2) found that 9,5% of young people had sex before marriage, and then the average age of first sexual encounters for the overall sample was 18,1 years old. To describe the current situation of premarital sex among college's students in Thua Thien Hue Province and identify the related factors to having premarital sex among students.
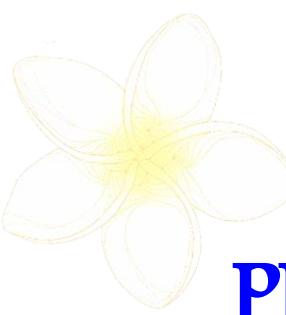
Methodology: A cross-sectional study design was conducted in 693 students among total 5 colleges in Thua Thien Hue Province. Seft-reported questionnaire was included general characteristics, social relationships, knowledge and conception about reproductive and sexual health, sexual behavior, and premarial sex. Multivariable logistic regression model was used to identify associated factors.

Results: The finding revealed that the prevalence of having premarital sex was 12,8%. The average age of first sexual intercourse is $17,84 \pm 1,44$ years old. Factors related to premarital sex among students: watching movies with scenes about sex, smoking, going to entertainment spots; parents' marriage, parents' attention and proportion of friends who had premarital sex; traditional or modern conception about premarital sex ($p<0.05$).

Conclusion: Premarital sex among college's students in Thua Thien Hue Province tends to increase and become increasingly younger. While open communication related reproductive and sexual health within families is crucial, schools must supplement this by offering consistent, accessible sexual and reproductive health education through various learning methods.

Keywords: Premarital sex, Student, College

POSTER
PRESENTATIONS 2, 29 June, 2024

Poster Exhibition 2
Time: 12.30-13.30
Room:

CODE	Title of Abstracts	Authors
Environmental and Occupational Health - One Health – Eco Health. & Global warming and Climate change adaptation (SDG 13), Health Equity to UHC		
CODE070	Impact of nano-plastic particle on glucose and lipid metabolism disorders in mice: insights into environmental influences on metabolic health	YuyangJin
CODE272	Analysis of the transmission characteristics of HFMD in Yunnan province based on TSIR model	Bowei Ma
CODE279	The using way of disposable plastic cutlery and the analysis of gastrointestinal symptoms	Tian Xu
CODE125	Reducing ergonomics risk by workplace improvement based on ILO checkpoints among employee in a laundry factory, Thailand	Paevena Meepradit
CODE137	City footprint of Chantaburi Province, Thailand for assessing city sustainability	Taddao Pahasup-anan
CODE430	The Design of the Device for reducing whole-body Vibration Among Workers in a sewing factory, Thailand	PichitraPatipat
CODE358	A case study on the development of prototype household waste management based on the 3Rs5Ps4 types concept in Nakhon Ratchasima Province, Thailand	Phatcharee Srikuta
CODE074	Age-based health risk due to radon exposure from water sources obtainable in the area along Mae Khong River, Nakhon Phanom Province, Thailand	Vitsanusat Atyotha
CODE392	Environmental health assessment of homestays in the Baan Prasat tourism community, Non Sung district, Nakhon Ratchasima province	Prapat Pentamwa
CODE283	Toothpaste containing Thai traditional herbal extracts: production, physical property and antimicrobial property	Sukanjana Kamlungmak
CODE143	Web Application to rapidly assess silicosis risk scores among stone carving informal workers: a case study in Nakhon Ratchasima, Thailand	RatchapongChaiyadej
CODE148	Prediction model and risk assessment among Khit Pillow informal workers exposed to workplace particles in Yasothon, Thailand	Kantika Samart
CODE145	Fire risk assessment of buildings in Ubon Ratchathani University, Thailand	Taksakorn Wongseeda
CODE386	Employee mood tracking system	Davit Sanpote
CODE313	Knowledge, attitude, practice on drowning prevention and its related factor among pupils at Hien Ninh secondary school, Quang Ninh district, Quang Binh province in 2022	Nguyen Quoc Viet
CODE043	Study on the mechanism of cell proliferation and apoptosis mediated by sodium arsenite through modulation of TMEM30A	Wei Zou
Maternal and Child Health, Sexual Reproductive Health (SDG 3)		
CODE296	Factors associated with cross-border healthcare seeking for childhood illnesses among parents of children under five living along the Mekong River in Khammouane province	Dalaphone douanglaty
CODE297	Factors associated exclusive breastfeeding among children age 6-24 months in Borlikhamxay province, Lao PDR	Bannousone Khammavong
CODE299	Factors associated with the utilization of the 4th postnatal care services among postpartum women in urban community in Vientiane Capital, Lao PDR	Thongsy Vanmany
CODE302	Reproductive health services utilization among young people aged 15-24 years in Vientiane capital community	Thongmanychan Khamsyvolavong
CODE305	Factors associated with spousal violence against women in Vientiane Province, Lao PDR	Khamphouk Phengphimmachan

CODE	Title of Abstracts	Authors
CODE319	Self practice in menstrual hygiene during the period among adolescent girls age 12-15 years old in Vientiane Capital	Phouthong Phommavongsa
CODE320	Impact evaluation of a cash-plus programme for children with disabilities in the Xiengkhouang Province in Lao PDR: baseline survey	Ketmany Chanthakumane
CODE321	Breastfeeding and nutritional status of child age 6-24 months in Oudomxay province	Khamsouk Soutthidavong
CODE337	Why are some children under 24 months still undernourished in urban and peri-urban Vientiane, a mixed-methods study	Phoutdavanh Sihalath
CODE345	Nutritional status of young pregnant women aged less than 25 years in Huaphan province, Lao PDR	Kiengthong miyoth
CODE357	Knowledge and attitude towards sexuality education among secondary school student in Vientiane Capital, Lao PDR	Palivone Khounnolath
CODE381	Exploring the influence of myopic-related environmental and behavioral factors among school-age children in Yunnan minority areas	PeiqianLi
CODE173	Reality of postpartum depression and demand for help-seeking services among mothers of children under one-year: A cross-sectional study in Vietnam	Huyen Đang Anh Tran
CODE415	Describing the rate of early childbearing and abortion in women: results from the Vietnam child and women sustainable development goals survey 2013-2021	Trinh Thi Trang
CODE418	Changes in infant mortality and low birth weight in Vietnam from 2011 to 2021: descriptive results from the multiple indicator cluster surveys on children and women	Ho Le Anh Dung
CODE435	Self care practice regarding vaginal discharge among Lao women in Vientiane Capital , Laos	Vanpaseuth Phioukhampha
Epidemiology of Communicable and Non-communicable Diseases		
CODE406	The relationship between the socioeconomic status and the quality of life in the elderly: parallel mediation between life 's essential 8 and social capital	QianWang
CODE038	Epigallocatechin gallate attenuate metabolic dysfunction-associated steatotic liver disease in zebrafish by regulation of pyroptosis	Jie Zhang
CODE017	Changes in diabetes and pre-diabetes prevalence and diabetes self-management behaviors across socioeconomic spectra in rural southwest China: 2013-2022	XiaWu
CODE387	Identification of respiratory viruses in wildlife contacts: a study from Omkoi district, Thailand	Premmarin Inmonthian
CODE129	Effect of vitamin C with bioflavonoid supplementation on telomere length in pateints with type II diabetes mellitus– a pilot study	Rujira Nonsa-ard
CODE294	Factors related to complications in patients with hypertension in urban areas of Nakhon Ratchasima province	Chatsuda Latsungnoen
CODE393	Knowledge, attitude and behaviors of palliative care of nursing students	Tanida Phatisena
CODE292	The development of seamless health care services system for the elderly at risk of stroke in Yasothon province, Thailand	Thanom Namwong and Dr. Narisara Arrirak
CODE329	Disease status of hypertensive patients: a case study of patients with follow up by Thamiram medical center, Phatalung hospital, Thailand	Supaporn Meksawi
CODE057	Diabetes knowledge, self-care behaviors and glycemic control among type 2 diabetic patients at Pho Hai Sub District, Warin Chamrap District, Ubon Ratchathani Province, Thailand	Chanwit Maneenin
CODE420	Knowledge, attitudes, and self-protective behaviors against COVID-19 infection among students utilizing geographic information	Klarnarong Wongpituk

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	systems for online learning at home: a study from the faculty of Public Health at a university	
CODE293	From hesitancy to hope: transforming COVID-19 vaccine perceptions in Southern Thailand	Nirachon Chutipattana
CODE111	Current palliative care needs of cancer patients received inpatient treatment at Hue Central Hospital	Tran Thi Mai Lien
CODE327	Associations between metorological elements and the daily number of hospitalizations of cardiovascular diseases in Phu Vang district medical center,Thua Thien Hue province in 2018-2022	Ta Tan Bang
CODE404	Study on capacity and readiness in management of hypertension and diabetes diseases at commune health stations in Thua Thien Hue province	Truong ThiNgoc Anh
CODE416	Objective financial toxicity in cancer patients in a referal hospital in Vietnam	Le Duc Huy Hoang
CODE432	Chronic disease drug management system in the COVID-19 context within the Yangchumnoi District Health Service Network, Sisaket Province, Thailand	Tivavun Skulchan
CODE433	Factors Associated with Self-Protective Behaviors Against COVID-19 Among Sub-district Level COVID-19 Comprehensive Response Teams (CCRT) in Thailand: A Cross-Sectional Study	Jinda Khamkaew
Health Literacy and Health Promotion		
CODE196	Prevalence and influencing factors of dyslipidemia in adults in Yunnan Province, 2020	Guitao Li
CODE273	A study on the effect of wechat group-based health education on patients reported outcomes of hypertension	Xiaoqing Zhang
CODE340	Social capital mediates the association between life events and quality of life among adults in a county in Yunnan Province.	Shifan He
CODE198	Factors Related to Health Promoting Behaviors in the Young Elderly, Kalasin Province	MetineeMethane edol
CODE058	Social participation in response to NCDs in the community: Phra Phrom District Health Charter, Nakhon Si Thammarat Thailand	Phruksa Sinluenam
CODE268	The effectiveness of health literacy program for liver fluke prevention among the risk group in Mukdahan, Thailand	Weerapon Huaisai
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Impact of nano-plastic particle on glucose and lipid metabolism disorders in mice: insights into environmental influences on metabolic health

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Abstract

Introduction: Extensive plastic production and low recovery rates lead to significant microplastic pollution, posing environmental and health risks. Current research predominantly examines microplastics, overlooking the critical impact of nano-plastics (NPs). This study emphasizes particle size over exposure dose as a key factor in disrupting glucose and lipid metabolism in mice. By investigating the effects of nano-plastic exposure in drinking water on male mice using sensitive biomarkers, we provide insights into how environmental factors influence metabolic disorders.

Methods: Firty 3-week-old ICR male mice were selected. To emphasize the key role of particle size in the disturbance of glucose and lipid metabolism.t We established four groups, each with ten mice, exposed to nanoparticle sizes of 25 nm, 50 nm, and 100 nm, plus a control group..Mice received 30mg/kg/d via intragastric administration for four weeks. During the exposure period, control received equivalent saline. Post-exposure, blood and liver tissues were collected. and stored at -80℃ low temperature refrigerator. Total cholesterol(TCH),triglycerides(TG),high density lipoprotein cholesterol(HDL-C), low density lipoprotein cholesterol(LDL-C), liver lipase(HL), glycated hemoglobin(HbA1c),serum insulin(INS),C-Peptide, liver glycogen, glucokinase (GCK) were measured using ELISA and biochemical methods. Data analysis was performed with SPSS 26.0 at a 0.05 significance level.

Results: No significant changes were observed in TCH levels.TG levels increased significantly ($p<0.05$), with the most pronounced increase in the 25nm.LDL-C levels decreased significantly ($p<0.05$), demonstrating a particle size effect. HDL-C also increased significantly ($p<0.05$), with the 25 nm group showing the most substantial rise. A significant decrease in HL and an increase in LCAT were only noted in the 25nm group. HbA1c levels rose significantly ($p < 0.05$), indicating a particle size effect. INS levels significantly decreased ($p < 0.05$) with a particle size effect, whereas C-peptide levels remained unchanged. Liver glycogen significantly decreased ($p < 0.05$), and GCK levels significantly increased ($p < 0.05$), with the 25nm group experiencing a notable rise in G6PD levels ($p < 0.05$). All noted differences were relative to the control group.

Conclusion: NPs can disrupt liver lipid metabolism and increase insulin resistance in mice. Notably, particle size influences the effect on specific biomarkers of glycolipid metabolism, including LDL-C, HbA1c, INS, and GCK.

Keywords: Glucose metabolism liver, Lipid metabolism, Mice, Nano-plastics

Analysis of the transmission characteristics of HFMD in Yunnan Province based on TSIR model

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Abstract

Introduction: Hand, foot and mouth disease (HFMD), caused by enterovirus serotype A, is a common infectious disease in children and has been a pandemic in China for more than three decades, driving a heavy disease burden. It is of great significance for the prevention and control of HFMD to accurately analyze the transmission characteristics of HFMD and take intervention measures before its outbreaks.

Objectives: To comprehensively understand the transmission characteristics of HFMD, we studied the important epidemiological parameters such as transmission rate (β) and basic reproduction number (R0) in Yunnan province.

Methods: Time-Series Susceptible-Infectious-Recovered (TSIR) model was constructed to estimate the epidemiological parameters of HFMD based on the weekly data of notifiable cases in Yunnan province from 2009 to 2020. The effects of EV-71 vaccination and COVID-19 non-pharmaceutical interventions (NPIs) on the transmission characteristics of HFMD were comprehensively considered.

Results: The transmission rate of HFMD had complex seasonality with one large major peak in 10-12 weeks and one small peak in 24-26 weeks. R0 of 3.56 implies the herd immunity threshold (HIT) of 72%. The transmission rate before and after EV-71 vaccination were 4.48×10^{-5} and 2.78×10^{-6}, respectively. The COVID-19 NPIs reduced the current cases of HFMD but may increase the risk of future outbreaks of HFMD.

Conclusion: The transmission rate of HFMD in Yunnan province had previous seasonality characteristics and the health departments should carry out precise prevention mesures in advance according to the peak of the incidence of HFMD. The epidemic of HFMD in Yunnan province is still grim, necessitating the implementation of expanded program on immunization (EPI) and other strategies. As NPIs are relaxed, large-scale outbreaks of HFMD are expected, which could increase the burden to healthcare systems.

Keywords: HFMD, Transmission characteristics, TSIR model, Yunnan province

The using way of disposable plastic cutlery and the analysis of gastrointestinal symptoms

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Abstract

Introduction: The using rate of plastic is super high in our life. But the using way may decide the effect of dissolving from plastic production.

Objectives: The research investigated the relevance between the different using way of disposable plastic cutlery and intestinal symptoms.

Methods: The three methods of cold water, boiling water soaking and boiling water with microwave were used to deal with disposable polypropylene lunch box which was usually used in our life. The LDIR (Laser Direct Infrared) technology was applied in analysis the dissolving substances in soak solution. A questionnaire was Given in Chinese and Japanese college students during 2021 about the using rate in six months and intestinal symptoms for plastic products.

Results: There was no microplastic particles detected in the soak solution of cold water treated lunch box. PET were detected in the boiling water treated soak solution. PP and PLA were detected in the soak solution that deal with boiling and microwave. The survey found that Chinese students were more likely to use disposable plastic lunch boxes to serve hot food, but Japanese were not usual. The cumulative score of Chinese students using plastic products was significantly higher than that of Japanese (t=6.55, P<0.01). Among Chinese students, the cumulative use scores of disposable plastic products in those who were prone to gastrointestinal discomfort were higher than those without gastrointestinal symptoms (t=2.84, P=0.01). There was no significant difference about cumulative use score of disposable plastic products between the gastrointestinal discomfort or healthy in Japanese students (t=1.88, P=0.29).

Conclusion: The use of disposable plastic product to serve hot food, may increase the dissolution of microplastics, and frequent use of disposable plastic products may be a risk factor for gastrointestinal diseases.

Keywords: Disposable plastic products, Gastrointestinal symptoms, Microplastics

Reducing ergonomics risk by workplace improvement based on ILO checkpoints among employee in a laundry factory, Thailand

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Abstract

Introduction: Sorting, washing, spinning, ironing, drying, folding clothes into plastic bags, and transporting are the steps involved in doing laundry in a small-scale company. Every stage revealed that the majority of workers were standing for eight hours a day and doing approximately two to three hours of overtime. The problem is concerning posture while working, including reaching out, bending back, twisting the body, and lifting objects which are excessively heavy.

Objectives: To improve the workstation in compliance with the International Labour Organization (ILO) checkpoints to lower ergonomic risks.

Methods: Twenty samples satisfied the inclusion criteria and were evaluated. The Rapid Upper Limb Assessment for sorting workers, the Rapid Entire Body Assessment for workers who wash, spin, dry, iron, and fold products into plastic bags, and the NIOSH lifting equation for moving workers were among the data gathering methods used. This article implemented ergonomic intervention based on ILO checkpoints in seven processes, including worker training on proper lifting and posture, without depending on expensive and extremely complicated technologies.

Results: The findings demonstrated a considerable reduction in the ergonomic risks faced by the workers in five processes including washing, spinning, ironing, folding garments into plastic bags, and transportation.

Conclusion: In order to lower the ergonomic risks, it is advised that the ILO rules serve as the foundation for enhancing the workplace safety in industrial laundry and others.

Keywords: ILO checkpoint, Laundry worker, Reducing ergonomic risk, Workplace improvement

City footprint of Chantaburi Province, Thailand for assessing city sustainability

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Abstract

Introduction: Chanthaburi Province located in eastern of Thailand, represents a microcosm of carbon city footprint (CCF) dynamics in a rapidly developing region.

Objectives: This study investigates the carbon footprint of Chanthaburi City, employing a comprehensive approach to quantify and analyse its emissions.

Methods: Utilising a combination of primary data collection, statistical analysis, modelling techniques and Global protocol for community-scale greenhouse gas inventories method. Research has examined the key sources contributing to carbon emissions within the city boundaries. Factors such as transportation, energy consumption, industrial activities, waste management and agriculture, forestry and other land use are assessed to understand their relative impacts on the carbon footprint. The data activity in 2019 was used as a baseline (a business as usual; BAU).

Results: As a result, the total CCF of Chataburi province is 2,066,922 tCO_2eq. Fossil combustion from the stationary energy sector showed the most significant contribution, 37% of the total. Greenhouse gas emission was BAU to predict city emission in 2030 using mathematical forecasting. The assessment indicated that the CCF of Chantaburi province could reach up to 3,147,647 tCO_2eq.

Conclusion: Consequently, the study explores potential mitigation strategies, adaptation plans and policy interventions to reduce Chanthaburi City's carbon footprint while fostering sustainable urban development. This research provides valuable insights for policymakers, urban planners, and stakeholders to formulate effective strategies for mitigating carbon emissions and promoting environmental sustainability and a smart city in Chanthaburi Province to reach net-zero emission by the year 2065.

Keywords: Chantaburi province, City footprint, Greenhouse gas, Mitigation, Sustainability

The design of device for reducing whole body vibration among workers in a sewing factory, Thailand.

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Abstract

Introduction: There is an opportunity that sewing workers who are exposed to vibration will experience bone and muscular disorders. The feet and ankles have a significant prevalence. This is caused by of prolonged exposure to the sewing machine's vibrations.

Objectives: To design equipment to reduce sewing workers' exposure to whole body vibration and reduce musculoskeletal symptoms.

Methods: Three types of materials are used to create the vibration reduction device: thermoplastic elastomer (230 mm x 280 mm x 15 mm), polypropylene honeycomb (230 mm x 280 mm x 6 mm), and anti-vibration rubber (230 mm x 280 mm x 5 mm). It is also worn with an absorption silicone bag (230 mm x 310 mm x 30 mm.). Put it on the sewing machine's foot pedal. A VR 410 vibration meter can be used to measure the acceleration of vibrations.

Results: Comparing the vibration reduction device's use before and after. Before and after, the average vibration acceleration values were 1.061 m/s2 and 0.494 m/s2, respectively. A substantial difference was discovered ($p<0.05$). Lower limb musculoskeletal symptoms differed considerably ($p<0.05$), and the sample group had the highest level of satisfaction.

Conclusion: Lower body muscular discomfort can be reduced by using vibration reduction devices, which can also lessen the rate of acceleration of the vibration. To minimize exposure to vibration, feet should be equipped with vibration reduction devices.

Keywords: whole body vibration, sewing workers, reduce vibration

A case study on the development of prototype household waste management based on the 3Rs5Ps4Types concept in Nakhon Ratchasima Province, Thailand

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Abstract

Introduction: Waste management at source is an effective way for waste management for waste reduction and its impact. Also, creating participation from the household and community level.

Objectives: 1) To investigated Ban Bu Cha-Om residents' waste management practices. 2) To initiated waste management in prototype household using the 3Rs5Ps4Types concept.

Methods: Action study based on the 3Rs5Ps4Types concept was created to start waste management in prototype households. In order to gather information about waste management practices, a random sample of 120 household representatives was chosen, and volunteer households participated in the development of a household prototype for waste management based on the 3Rs5Ps4Types. With the use of descriptive statistics, data were examined. Using community engagement, the good practice was started.

Results: Most samples have an average amount of household waste at present 1 - 2 kilograms/day, 60.0% (average 1.87 kilograms per day). Types of waste generated in households. Most of them are organic waste (92.0%), general waste (foam/plastic bags) 74.0%, recycled waste (62.0%), hazardous waste (26.0%), respectively. The person responsible for disposing of household waste is mostly everyone in the family, 48%. The frequency of household garbage disposal most eliminate 1 - 2 days/time, 38%. Most of the sample group's most regular practice was collecting waste such as bottles, glass, cans, and scrap metal to sell to buyers of antiques (64.0%), followed by: Buying various products using cloth bags or baskets instead of plastic bags (48.0%) and collecting newspapers Keep unused cardboard boxes and plastic bags inside the house. For other uses, 46.0%. In addition, it was found that the majority of the sample did the least regular practice, namely inviting relatives. Neighbors join in waste management and waste utilization activities and preparation of open-bottom tanks buried in the ground to throw away food scraps equal to 24.0%, followed by reducing the use of plastic and foam by using a lunchbox or food container. and enclosure of trees to dispose of leaves and dry branches, the same amount is 26.0%, and to use waste from vegetables, fruits, and leftover food from households to make biological fermentation/compost for animals, 34.0%. There were 18 volunteer households participating in the development of a household prototype for waste management based on the 3Rs5Ps4Types concept.

Conclusion: The 3Rs5Ps4Types concept could guide households to manage their garbage at the source and encourage involvement from households in community waste management.

Keywords: 3Rs5Ps4Types concept, Prototype household, Waste management

Age-based health risk due to radon exposure from water sources obtainable in the area along Mae Khong River, Nakhon Phanom Province, Thailand

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Abstract

Introduction: Radon, a naturally occurring radioactive gas, poses a threat to the environment by contaminating soil, rocks, air, and water. Classified as a Group 1 carcinogen by IARC, radon is known to be toxic to human health. Despite many countries conducting surveys on radon concentrations and studying its health effects over the past several decades, Thailand has conducted few studies on the health impacts of radon exposure and lacks comprehensive data on radon levels in its water sources. Researchers are aware of this issue and aim to study the age-based health risks associated with radon exposure.

Objectives: This research studied the age-based health risks associated with radon exposure from water sources along the Mae Khong River in Nakhon Phanom Province, Thailand.

Methods: Applied research, that randomly selected 31 samples from water sources, including groundwater and surface water. The research utilized a RAD 7 radon detector to measure radon concentration in the water samples, aiming to assess age-dependent annual effective dose.

Results: The results showed that radon concentrations in water supplies varied from 0.04 to 6.50 Bq/l, with a mean of 0.94 ± 0.31 Bq/l. These levels were below the recommended limit of 11.1 Bq/l set by US EPA. The concentration data were used to calculate age-specific annual effective doses, which were 7.31 μSv/y for infants, 4.18 μSv/y for children, and 4.75 μSv/y for adults. All of these values were below the WHO's recommended limit of 100 μSv/y.

Conclusion: This research indicates that the age-based health risks assessed by radon exposure for infants, children, and adults were within the safe limits recommended by the United States Environmental Protection Agency, and the World Health Organization. Therefore, the data from this study suggest that there is no significant danger from radon concentrations in water sources, and the health risks were within safe limits.

Keywords: Age-based health risk assess, Nakhon Phanom, Radon, Water sources

Environmental health assessment of homestays in the Baan Prasat tourism community, Non Sung District, Nakhon Ratchasima Province

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Abstract

Introduction: Homestays are one of the accommodations that cater to tourists who want to stay overnight and learn about the community at the same time. In addition to comfort and satisfaction with the service, compliance with sanitation and health safety is particularly important for homestays, especially in the post-COVID-19 pandemic era.

Objectives: This study aims to assess the environmental health status of homestays in the Baan Prasat tourism community, Nakhon Ratchasima Province, which is a large archaeological site dating back 1300-1500 years. Ancient human skeletons have been discovered there.

Methods: The assessment criteria were adapted and applied from the Tourism Authority of Thailand and the Department of Health's 20-item standard for safety and health sanitation in establishments under the Amazing Thailand Safety and Health Administration (SHA) category for hotels, accommodations, and meeting venues. The study assessed 15 homestays in the Baan Prasat tourism community in 2 villages. Water quality samples of tap water and drinking water from all 15 homestays were collected using Test kits. The research was conducted from April to September 2023.

Results: Most homestays were two-story wooden houses with a concrete ground floor (9), two-story houses with an open ground floor (4), and single-story houses (2). Interviews with homeowners revealed problems with the management of drinking water and wastewater systems, as well as saltwater intrusion during the dry season. Analysis of the water quality of the 15 homestays showed that the pH, hardness, and residual free chlorine levels in the water did not meet the standard criteria. Assessment of the sanitation and environmental safety standards of the homestays according to the SHA standards in four main categories: 1) Hygiene of buildings and equipment in the building, 2) Provision of cleaning equipment to prevent the spread of germs, 3) Protection for workers, and 4) Accommodation providers, found that all homestays had not yet implemented all 20 sub-items. The homestay that was able to implement the most items according to the assessment was only 8 items, particularly lacking in the protection of workers.

Conclusion: The assessment of the environmental sanitation status in homestays has not yet met the standards. The relevant agencies should conduct regular environmental sanitation and health assessments and provide training to ensure that homestay operators and stakeholders are ready to welcome tourists.

Keywords: Archaeological site, Environmental health, Homestay, Nakorn ratchasima, Thailand

Toothpaste containing Thai traditional herbal extracts: production, physical property and antimicrobial property

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Abstract

Introduction: Herbal toothpaste is a combination of herbal extracts in a toothpaste formula to create herbal toothpaste. The herbs found in oral care products have been an important part of regular oral hygiene practices for centuries.

Objectives: To investigate the possibility of producing dental antimicrobial toothpaste from Thai traditional herbal extracts extract such as *Murraya Paniculate, Ocimum Tenuiflorum, Streblus Asper* Lour*, Curcuma Longa etc.*

Methods: Aquae extract of the Thai traditional herbal materials were obtained. These were then used to prepare various composite combinations for the production of different toothpaste. The physical and antimicrobial properties of the toothpaste were subsequently determined.

Results: From production of toothpaste, all the produced toothpaste has a brown colour and a pleasant smell, with pH from 6.50 to 8.50 and good foamability form. Thai traditional herbal extract has the best antimicrobial activities against the tested bacteria (*Streptococcus mutans*) and fungi (*Candida albicans*). The Thai traditional herbal extract has the lowest minimum inhibitory concentration of 2.5-5 mg/mL against bacteria and fungi.

Conclusion: The study provides information on the production of dental public health by antimicrobial toothpaste from Thai traditional herbal materials.

Keywords: Antimicrobial property, Thai traditional herbal, Toothpaste

Web Application to rapidly assess silicosis risk scores among stone carving informal workers: a case study in Nakhon Ratchasima, Thailand

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Abstract

Introduction: Informal stone carvers are subject to occupational exposure to respirable silica dust, which can lead to silicosis. Using a web application to assess silicosis risk helps to early warning of dangers and reduce occupational risks.

Objectives: The purpose of this cross-sectional study was developed the web application to assess silicosis risk among informal stone carving workers.

Methods: the web application was developed based on a rapid prediction model for assessing silicosis risk among informal stone carvers. This web application was imported the influential factors from statistical analysis. These influential factors included the concentration of respirable silica dust (mg/m^3), working hours per day (hours), underlying diseases and separation of residence from a workplace.

Results: the web application possessed the capability to analyze data and early warnings to informal stone carvers, while also providing advice to mitigate risks. In addition, the silicosis risk information from this web application can be used by medical personnel in risk management planning.

Conclusion: This study indicates success in developing a web application for reducing the risk of silicosis. Therefore, this web application may be recommended for further evaluation of silicosis risk due to its rapid, accurate, less time-consuming nature, and its assistance in risk reduction management. This implementation for predicting the silicosis risk leads to good health and well-being of stone carving informal workers (SDGs 3).

Keywords: Informal stone carvers, Silicosis risk, Web application

Prediction model and risk assessment among Khit Pillow informal workers exposed to workplace particles in Yasothon, Thailand

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Abstract

Introduction: Biological dusts are an undesirable phenomenon that affects human health and can lead to abnormal pulmonary function. The process of making Khit pillows is one of the processes that generates the most respirable dusts.

Objectives: The purpose of this cross-sectional study was to assess the factors relating to risk level from exposure to workplace particles among Khit pillow informal workers who exposed to particles during their work in Yasothon, Thailand.

Methods: The study was conducted between March and April 2023. Data collection involved using questionnaires which were developed by the researchers and used scientific instruments for workplace particles measurement. The questionnaires contained items related to population characteristics and work information, work environment, knowledge, attitude and practice for preventing the workplace particles exposure, risk perception, lung function test, and risk level from exposure to workplace particles. Pearson's correlation coefficient and Chi-square Pearson's correlation were used to analyze data.

Results: The results showed that six factors significantly associated with risk level from exposure to workplace particles while doing their work ($P<0.05$). Apparently, there were five influencing variables which included age (year), working hour per day, job position, workplace and living area, and workplace particles measurement as tested using multiple regression analysis. Multiple regression analysis was run to predict the risk level from exposure to workplace particles of Khit pillow informal workers from the five variables. These variables could significantly predict the risk level from exposure to workplace particles of Khit pillow informal workers with a total of 47.2% ($R^2=0.472$).

Conclusion: Therefore, efforts should be made to manage those variables by drafting policies and creating tools for risk prediction to control the influencing variables related to risk level from exposure to workplace particles in the working area. This implementation leads to good health and well-being of informal workers (SDGs 3).

Keywords: Informal workers, Khit pillow, Prediction model, Risk assessment, Workplace particles

The risk assessment of fire prevention and extinguishment systems in the buildings of Ubon Ratchathani University

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Abstract

Objectives: This study aimed to evaluate fire prevention and suppression systems in buildings at Ubon Ratchathani University.

Methods: Data was collected via a survey of fire prevention and suppression systems in large and extra-large buildings, adhering to the Building Control Act B.E. 2522. The data was analyzed using frequency and percentage.

Results: The results revealed that the risk of fire prevention and suppression systems in both academic and office buildings was generally moderate. However, only 65.2% of departments had implemented structured emergency practice exercises and annual fire evacuation plans. 78.3% of buildings had fire prevention and suppression plans, but large buildings lacked a conspicuously displayed map of each floor and an automated sprinkler system. When arranging training for individuals tasked with formulating fire prevention and suppression plans, a total of seven departments were found to have successfully developed fire prevention and suppression plans. Therefore, Ubon Ratchathani University should actively promote and enhance the growth of every department.

Conclusion: Conduct thorough inspections and address hazardous issues in buildings. Facilitate the advancement of fire prevention and suppression strategies by ensuring that plans are completed and coordinating university-wide fire drills.

Keywords: Building, Fire prevention, Risk assessment, University

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Employee mood tracking system

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Abstract

Introduction: Challenges in work planning, adaptation, and emotional states due to employee stress significantly impact organizational efficiency and well-being. Addressing these issues promptly is crucial for maintaining a productive work environment.

Objectives: This research aims to continuously assess and monitor employees' emotional states to understand their mental well-being and job satisfaction. It seeks to support mental health by providing recommendations or organizing activities to reduce work-related stress. Additionally, it strives to enhance the ability to detect potential problems quickly, allowing for immediate resolution or improvement.

Methods: The research involved collecting requirements from stakeholders, designing a system, conducting comprehensive system testing, and implementing real-world trials. The proposed innovation helps employees plan their work, record their mental state, and monitor emotional states accumulated from work. The system's results assist in processing data from work, including employees' mental states, by providing alerts about potential issues to employees and relevant parties.

Results: The findings indicate that the implemented system effectively supports employees' mental health by providing real-time monitoring and alerts for potential stressors. Employees who used the system reported improved awareness of their emotional states and felt more supported by their organization. Additionally, the system enabled early detection of work-related stress, leading to timely interventions and support measures. Collaboration between employees and management improved, resulting in a more cohesive and supportive work environment. Overall, the system contributed to better mental health outcomes and reduced stress levels among employees. Furthermore, employees expressed satisfaction with the system's usability and effectiveness.

Conclusion: This research addresses various work factors, enabling effective work planning, mental state recording, and emotional state monitoring. Processing and analyzing this data, the system enhances problem detection and capabilities to support mental health and create a positive work environment. The collaboration for employees is improved, promoting understanding and timely intervention to reduce work stress.

Keywords: Healthcare management, Health service, Mood tracking system

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Knowledge, attitude, practice on drowning prevention and its related factor among pupils at Hien Ninh secondary school, Quang Ninh District, Quang Binh Province in 2022

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Abstract

Introduction: Drowning is one of the top ten causes of death for children and young people aged 1-24, drowning is always a high threat of death and tends to increase for the population.

Objective: Aim of study was to describe the knowledge, attitudes and practices on drowning prevention and its related factors among pupils at Hien Ninh Secondary School, Quang Ninh District, Quang Binh Province in 2022.

Methods: Cross-sectional descriptive study was conducted in 260 pupils of Hien Ninh Secondary School, Quang Ninh District, Quang Binh Province from August 2022 to December 2022. Logistic multivariate regression model was used to analysis some potential factors related to knowledge, attitudes and practices on drowning prevention. Variables with $p<0.2$ in univariate analysis will be included in the logistic multivariate regression model.

Results: The findings were 63.8% of pupils do not have good knowledge, 22.3% of pupils do not have good attitude; 92.3% of pupils do not have good practice related to drowning prevention. In terms of first aid when meeting someone who drowns, only 15.8% of pupils said they knew when asked. The percentage of pupils can swim was 59.6%, 9.2% of pupils have been drowned in the past. Regarding the knowledge about drowning prevention, education of parents/guardians being the undergraduate and graduate groups, who have not had access to commincate was significantly related factors($p<0.05$). Boy had 2.81 times more negative attitudes about drowning prevention than girl p (OR = 2.81, 95% CI = 1.35-5.86, p = 0.006). Pupils with poor knowledge have 3.56 times being poor attitude about drowning prevention higher than with good knowledge (OR = 3.56, 95% CI = 1.35-9.36, p = 0.010). The girl was 3.37 times more likely to be bad practice in drowning prevention higher than the boy (OR = 3.37, 95% CI = 1.18-9.62, p = 0.023). Pupils with poor knowledge were 3.42 times more likely to practice poor drowning prevention than the group with good knowledge (OR = 3.42, 95% CI = 1.26-9.32, p = 0.016).

Conclusion: The findings showed that pupils with poor knowledge have significantly related to bad attitudes and bad practice about drowning prevention. It can be seen that just by intervening to improve their knowledge, they can indirectly improve the attitude, also practice related to drowning prevention. Schools should organize surgical activities for students about drowning prevention.

Keywords: Drowning, KAP, Prevention of drowning, Pupils, Secondary school

Study on the mechanism of cell proliferation and apoptosis mediated by sodium arsenite through modulation of TMEM30A

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Abstract

Introduction: Arsenic is a kind of environmental pollutant, which has carcinogenic effect on human lung, kidney and skin. TMEM30A is a conserved intact transmembrane protein, which works with P4-ATPase to maintain the asymmetric distribution of membrane lipids and regulate cell homeostasis. TMEM30A deletion can cause a series of diseases in the nervous system, digestive system and skeletal muscle system, but whether its mutation is related to the diseases caused by arsenic remains unclear.

Objectives: To explore the expression changes of TMEM30A gene in lung adenocarcinoma cells A549 after sodium arsenite exposure, and to explore the related regulatory mechanisms of TMEM30A involved in cell proliferation and apoptosis, so as to provide a basis for the mechanism of arsenic carcinogenesis.

Methods: After treatment with different concentrations of sodium arsenite (0, 10, 20, 30, 40μmol/L), the expression of TMEM30A gene was detected by RT-PCR, and the expression of TMEM30A protein was detected by Western blotting. After interfering TMEM30A gene by siRNA technology, cell proliferation was observed by EdU method, cell apoptosis was observed by Hoechst/PI method, and the expression levels of Bcl-2, Bax, p21, PCNA and CyclinA2 were detected by Western blotting.

Results: The expression level of TMEM30A in A549 cells increased with the increase of sodium arsenite concentration. After siRNA successfully interfered with TMEM30A expression, EdU staining showed increased cell proliferation, Hoechst/PI staining showed decreased cell apoptosis. Western blotting results showed that after interfering with TMEM30A, the expression levels of Bcl-2, PCNA and CyclinA2 proteins increased, while the expression levels of Bax and p21 proteins decreased.

Conclusion: Sodium arsenite exposure can increase the expression of TMEM30A, interfere with TMEM30A to enhance cell proliferation and reduce cell apoptosis.

Keywords: Apoptosis, Arsenite, Cell proliferation, P4-ATPase, TMEM30A

Factors associated with cross-border healthcare seeking for childhood illnesses among parents of children under five living along the Mekong River in Khammouane province

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Abstract

Introduction: A survey study from 2004-2009 found that many Laotian patients cross the Thai-Lao border to access Thai healthcare services due to their perceived severity of illnesses and the quality of Thai services. However, access to care can be difficult due to physical, financial, and other barriers such as poor road networks, lack of identity documentation, high costs, foreign currency, and untransferable health insurance policies. These barriers are often rooted in legal and institutional frameworks and healthcare protocols.

Objectives: Thus, the purpose of this study was to determine factors associated with healthcare seeking for childhood illnesses among mothers of children under five living along the Mekong River in Khammouane province.

Methods: A community based cross-sectional study was conducted was conducted from March to May 2024, in two district along the Mekong river in Khammoun province among randomly, selected 358 parents with children under 5 years. Data were collected through face-to-face interview using pretested structured questionnaire. Data were entered into Epi-data version 4.2.0 and exported to STATA version 17 for analysis. Multiple logistic regression analysis was used to identify factors associated with cross-border healthcare seeking for childhood illnesses using odds ratio and 95% confidence interval with P-value of 0.05.

Results: In the year prior to the survey, over one-third (26.0%) of parents reported cross border seeking healthcare for their children's ailments; 72.0% of them only made one trip to Thailand, and 67.7% of them used private facilities there. Factors that were linked to cross-border healthcare seeking for childhood illnesses included the mother's age (AOR = 0.5, p = 0.036), a high level of trust toward Thai hospitals (AOR = 2.4, p = 0.006), those who ever traveled to Thailand (AOR = 11.6, p < 0.001), the decision to seek treatment independently (AOR = 0.4, p < 0.001), distance from home to nearest healthcare facility in Thailand (AOR = 4.7, p 0.001), and the type of healthcare facility closest to the home (AOR =2.9, p = 0.003).

Conclusion: A study shows Lao people along the Mekong River travel to Thailand for healthcare for childhood illnesses quite high prevalence, influenced by factors like mother's age, trust, ever traveled to Thailand, independent treatment, and distance to nearest healthcare facility and the type of healthcare facility closest to the home. To reduce the need for cross-border health treatment, it is crucial to enhance quality of universal health coverage and build trust in the healthcare system along the Mekong River.

Keywords: Childhood illnesses, Cross-border healthcare seeking, Khammouane province, Lao PDR

Factors associated exclusive breastfeeding among children age 6-24 months in Borlikhamxay Province, Lao PDR

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Abstract

Introduction: Since 2006, the Lao PDR government has implemented strategies and policies to enhance exclusive breastfeeding, a crucial first immunization for children against communicable and non-communicable diseases. Indeed, there exists heterogeneity in the extent to which socioeconomic status, social structures, and geographic location might impact exclusive breastfeeding among children aged 6 to 24 months.

Objectives: Thus, the purpose of this study was to determine the factors associated with exclusive breastfeeding among children age 6-24 months in Borlikhamxay province.

Methods: A community based cross-sectional study was conducted was conducted from August to October 2023, in two district in Borlikhamxay province among randomly, selected 377 mothers with children 6-24 months of age. Data were collected through face-to-face interview using pretested structured questionnaire. Data were entered into Epi-data version 4.2.0 and exported to STATA version 17 for analysis. Multiple logistic regression analysis was used to identify factors associated with exclusive breastfeeding using odds ratio and 95% confidence interval with P-value of 0.05.

Results: 39.8% of the mothers who participated were under 24 years old; their average age was 26 years old; their minimum and maximum ages were 15 and 42, respectively; 32.6% of fathers have a high school degree, while 28.2% of mothers have completed a secondary school and 26.2% have completed a high school. The prevalence of exclusive breastfeeding practice was 59.2%. Mother's occupation (AOR= 0.46; 95%CI: 0.23-0.93; p= 0.032); the presence of a health examiner (mother or child) following hospital discharge or home birth (AOR= 2.40; 95%CI: 1.50-3.84; p= 0.000); and the mother's moderate (AOR = 2.31; 95%CI: 1.23-4.35; p= 0.009) and high (AOR= 2.33; 95%CI: 1.17-4.63; p= 0.016) levels of breastfeeding knowledge shows significant association with exclusive breast feeding practice.

Conclusion: While the study's exclusive breastfeeding prevalence meets the 2025 national goal, a number of factors influence exclusive breastfeeding, such as the mother's occupation, the presence of a health examiner (mother or child) after hospital discharge or home birth, and the mother's level of breastfeeding knowledge. It was recommended that women's education be supported, that follow-up antenatal care be encouraged, and that counseling for exclusive breastfeeding be given during antenatal care in order to improve exclusive breastfeeding.

Keywords: Borlikhamxay Province, Children age 6-24 months, Exclusive breastfeeding, Lao PDR

Factors associated with the utilization of the 4th postnatal care services among postpartum women in urban community in Vientiane Capital, Lao PDR

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Abstract

Introduction: The WHO recommends health professionals examine new mothers within 24 hours of delivery, and the 2016-2030 Global Strategy emphasizes postnatal care. Understanding individual and community-level factors can help design effective strategies and policies.

Objectives: So, the aim of this study was to identify factors Associated with the utilization of the 4th postnatal care services among postpartum women in urban community in Vientiane Capital, Lao PDR.

Methods: An analytical cross-sectional study was conducted among 327 postpartum women who delivered 6 weeks to 3 months prior to data collection. Data collection was conducted through pre-tested questionnaire after taking ethical approval and informed consent. Data were entered into Epi-data version 4.2.0 and exported to STATA version 17 for analysis. Multiple logistic regression analysis was used to identify factors associated with the utilization of the 4th postnatal care services using odds ratio and 95% confidence interval with P-value of 0.05.

Results: A total of 327 postpartum women participated in the study, the average age is 30.11 years, the minimum is 15 years, and the maximum is 56 years, and more than two third (78.3%) were over 25 years, and 94.2% have been pregnant at least once. 22.1% of postpartum women had completed 4th PNC. Receiving information of PNC before delivery (AOR=15.2, 95%CI: 7.9-28.7, p<0.001), age at first pregnancy (AOR=0.2, 95%CI: 0.1-0.5, p=0.001), complications during pregnancy (AOR=0.3, 95%CI: 0.1- 0.8, p=0.031), being with the spouse during the birth (AOR=0.5, 95%CI: 0.2-. 0.9, p=0.045), receiving support from the spouse after the birth (AOR=0.4, 95%CI: 0.2-0.8, p = 0.023), and waiting time longer than 30 minutes (AOR=3.1, 95%CI: 1.4-.6.6, p=0.003) were associated with 4th PNC service utilization.

Conclusion: This study demonstrates that there was low prevalence of the fourth postnatal care services. The use of comprehensive PNC may rise as a result of increased emphasis on supplying PNC information before to delivery, encouraging husbands to participate in PNC information, and raising the standard of treatment in government health facilities.

Keywords: 4th PNC services, Lao PDR, PNC utilization, Postpartum women, Vientiane capital

Reproductive health services utilization among young people aged 15-24 years in Vientiane capital community

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Abstract

Introduction: Reproductive health is crucial for young people, especially during the reproductive year, ensuring a responsible, satisfying, and safe sex life. It also addresses unique physical, psychological, social, and emotional changes in youth and adolescents.

Objectives: The aim of this study was to assess reproductive health services utilization among young people aged 15-24 years in Vientiane capital community.

Methods: A community based cross-sectional study was conducted 198 male and 198 female participants aged 15-24 years between February and April of 2024. A multistage random sampling technique was used to select 366 youths, regardless of their gender status. A pre-tested interviewer-administered questionnaire was used to collect data. Data were entered into Epi-data version 4.2.0 and exported to STATA version 17 for analysis. Multivariable binary logistic regression analysis was used to identify factors associated with the utilization of reproductive health services using odds ratio and 95% confidence interval with P-value of 0.05.

Results: A total of 366 youths participated in the study, the average age is 19.79 years, the minimum is 15 years, and the maximum is 24 years, 41.0% of them were between the ages of 21 and 24. Nearly all of them (87.0%) were unmarried. Reproductive health services were utilized by young people aged 15-24 years in Vientiane capital community was 13.2%. Marital status (AOR= 2.46; 95%CI= 1.16 - 5.23; p-value= 0.018), sexually active (AOR= 0.13; 95%CI= 0.05 - 0.35; p-value <0.001), history of drinking alcohol/beer (AOR= 0.38; 95%CI= 0.15 - 0.95; p-value= 0.039), living near other health services (clinics/youth clubs/youth-friendly health service centers) (AOR= 5.03; 95% CI= 2.26 - 11.18; p-value< 0.001) and received information about reproductive health services (AOR= 2.49; 95% CI= 1.14 - 5.47; p-value= 0.022) were associated with RH service utilization.

Conclusions: The use of reproductive health services among youths in Vientiane capital is found to be low. Youth's use of reproductive health services was influenced by their marital status, sexually active, history of drinking alcohol/beer, living near other health services, and received information about reproductive health services. Prioritizing SRH services for young people is crucial, particularly for those who exhibit health-risky behaviors. SRH information exchange can also help to increase understanding.

Keywords: Reproductive health services, SRH utilization, Vientiane Capital, Young people

Factors associated with spousal violence against women in Vientiane Province, Lao PDR

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Abstract

Introduction: In Lao PDR, many forms of violence against women is still existing. The case records of the counseling and protection center for women and children in 2015-2023 showed that 1,745 women were victims of violence in different forms included physical, domestic violence, rape, and human trafficking. Moreover, it indicates that spousal violence against women (wives) has occurred continuously and increased frequently.

Objectives: This research aims to explore the factors associated spousal violence against women in Vientiane Province.

Methods: This was a cross-sectional study, using a face-to-face interview with 404 women aged 18-59 years who living in two districts in Vientiane province. Multi-stage Random Sampling and descriptive data analysis were applied, reported by frequency, percentages, mean, and standard deviation. Multiple logistic regressions were used to determine the factors association to the spousal violence against women , reported by AOR (95%CI) and p-value.

Results: The results found that the average age of the participants was 36.6 ($\pm$ 9.52) years old; most of them were in the age between 31–45 years old (48.6%), were farmers (62.5%) and Lao-Tai (74.6%) and had completed primary school (33.5%). Over the past year, 68.8% of the women had experience with violence. Factors associated with spousal violence against women were having husband worked as a construction worker/vendor/public or private employee (AOR = 2; 95% CI: 1.08.–3.36; P = 0.025) and the wife who had friends persuaded her to drink alcohol (AOR = 2.41; 95% CI: 1.33–4.34; P = 0.003).

Conclusion: This study found that 68.8% of wives were abused by their husbands. Factors associated with spousal violence against women were having husband who worked as construction worker/vendor/employee and having friends persuade on alcohol drinking. Therefore, raising awareness on anti-spousal violence against women among different sectors is necessary to reduce this problem in the future.

Key words: Spousal violence against women, Vientiane Province

Self practice in menstrual hygiene during the period among adolescent girls age 12-15 years old in Vientiane Capital

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Abstract

Introduction: Self-practice in menstrual hygiene is a challenge for women health around the world. If young women practice personal hygiene improperly during menstruation can lead to many infections, such as in the reproductive system infection, urinary tract infection, Candidiasis and even increasing risk of cervical cancer.

Objectives: The aim of this study to identify self-practice in menstrual hygiene during the period among adolescent girls age 12-15 years old in Vientiane Capital.

Methods: This study was conducted a cross-sectional analytical study with female students aged between 12-15 years old totally 420 students. A structured questionaire was used for face-to-face interview which asked about sociodemographic of adolescente and their parental, knowledge of menstruation, hygiene-pad access and menstruation hygiene practice. Data were entered into Epi-data version 4.2.0 and all data were analyzed in STATA version 13. Bivariate and Multivariate analysis were used to identidy the factors associated with with mentruation hygeine practice. The results of the analysis with P-value <0.05 were considered statistically significant as well as the finding was reported with COR and AOR 95%CI.

Results: The mean age of the participants was 13.8 years, the minimum was 12 years and the maximum was 15 years, of which 65.5% were 14-15 years old; 23.9% of fathers have a vocational degree and 32.3% of mothers have a primary degree. Only 1/3 (32.4%) of girls have proper menstrual hygiene practices. Factors associated with self-practice in menstrual hygiene among girls aged 12-15 years were the education level of the mother with a professional degree increased (AOR=3.4; 95%CI:1.8-6.5; P<0.001), knowledge about menstrual cycle from hormones (AOR=3.1; 95%CI:1.0-9.2; P=0.042) and attitude towards menstruation (AOR=1.06; 95%CI:1.0- 1.1; P=0.038).

Conclusion: Providing knowledge about menstrual hygiene practices is very important, which should be include about menstrual hygiene topic from the secondary school level.

Keywords: Girls, Mentrual health, School adolescent, Self-practice, Vientiane capital

Impact evaluation of a cash-plus programme for children with disabilities in the Xiengkhouang Province in Lao PDR: baseline survey

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Abstract

Introduction: More than 170 countries have implemented disability-targeted social protection programmes, although few have been rigorously evaluated. Consequently, a non-randomised controlled trial is being conducted of a pilot 'cash-plus' programme implemented by UNICEF Laos and the Laos government for children with disabilities in the Xiengkhouang Province in Laos. The intervention combines a regular cash transfer with provision of assistive devices and access for caregivers to a family support programme.

Objectives: The overall aim of this research was to assess the impact of a cash-plus programme among children with disabilities and their households in Lao PDR.

Methods: The non-randomized controlled trial involved 253 children with disabilities (CWD) across three districts identified by programme implementers as eligible for the programme. Implementers had also identified 156 children with disabilities in neighboring districts for the control arm. The trial assessed the impact of the programme on child well-being, as well as household poverty, caregiver quality of life (QOL), and time use. Baseline data was collected from May to October 2023. Analysis was intended to treat. A complementary process evaluation was exploring the implementation, acceptability of the programme, challenges and enablers to its delivery, and mechanisms of impact.

Results: A total of 409 CWDs were recruited. The average QOL of the CWDs was 42.3 (SD=12.9, Range: 15-72). We observed that 71.6% (293) of the CWDs experienced discrimination. We also found that age and ethnicity were the predictors of discrimination. Older children (8-18 years) were 1.26 (95% CI, 1.06-1.5) times more likely to experience discrimination compared to younger children (< 8 years old). In addition, the Hmong and other ethnicities were more likely to experience discrimination (Adjusted RR = 1.17 (95% CI, 1.01-1.34) compared to the Lao-Tai group.

Conclusion: The quality of life of the CWDs was extremely low. Discrimination is a critical issue in CWDs, especially in minority groups. Social prevention programmes in Lao PDR remain needed to improve their well-being.

Keywords: Cash-plus Programme, Children with disability, Discrimination, Evaluation, Lao PDR, Quality of life

Breastfeeding and nutritional status of child age 6-24 months in Oudomxay Province

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Abstract

Introduction: Child malnutrition remains a significant public health problem, with 1 in 3 children worldwide dying from malnutrition. Lao PDR in 2017 found that 33% of children under 5 years of age were stunted, and 21.1% were underweight according to standard weight. In Udomxai Province, 42.7% of children under 5 years of age were chronically malnourished, and 24.2% were acutely malnourished.

Objectives: This study aimed to study the relationship between breastfeeding practices and the nutritional status of children aged 6-24 months in Udomxay Province.

Methods: This study is a cross-sectional analytical study conducted in 2 districts in Oudomxay Province. Between February and March 2024, the sample consisted of 330 children aged 6-24 months. The children's weight and height were measured in kilograms and centimeters, respectively, and their mothers or fathers were interviewed using questionnaires in each section according to the study's objectives. The WHO Anthro program was employed to produce Z scores. Correlation and factor analysis were used in multiple ordinal logistic regression analyses to find relationships between each key variable and the dependent variable. AOR, 95%CI, and p-values were reported at the significant level of 0.05.

Results: Among the 330 participants, the majority of participants were farmers/gardeners (64.2%). Their education was high school (34.2%), followed by middle school (29.8%). 63.1% of the participants had moderate knowledge about breastfeeding and child nutrition. They had negative attitudes about breastfeeding (67.9%) and had high support from their husbands about breastfeeding (11.8%). The relationship between breastfeeding and chronic malnutrition among children aged 6-24 months was children aged 10-15 months (CHR= 0.4; 95%CI= 0.2-0.7; P-value= 0.006), children weighing more than 8 kilograms (CHR= 0.3; 95%CI= 0.2-0.5; P-value= 0.000), and children's height greater than 73 centimeters (CHR= 0.2; 95%CI= 0.4-0.3; P-value= 0.000). Breastfeeding and acute malnutrition had a relationship in children older than 16 months (CHR= 3.1; 95 %CI= 1.0-9.3; P-value= 0.041) and children with a height greater than 73 centimeters (CHR= 5.2; 95%CI= 2.3-11.7; P value= 0.00)

Conclusion: The study found that the parents' occupation was the relationship between breastfeeding and the nutritional status of children aged 6-24 months. Education level, Knowledge about breastfeeding, and providing dietary supplements to children are all factors that influence both chronic and acute malnutrition. Therefore, information and knowledge should be disseminated, and appropriate nutritional supplements and health education should be provided to parents of children.

Keywords: Acute malnutrition, Chronic malnutrition, Malnutrition in children

Why are some children under 24 months still undernourished in urban and peri-urban Vientiane? a mixed-methods study

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Abstract

Introduction: Lao PDR has a high rate of undernutrition Even in urban areas where food is regularly available But, the level of malnutrition in all its forms remain consistently high.

Objectives: This study aims to explore differences, particularly in childcare that could explain the persistently high level of undernutrition among young children in the urban and peri-urban districts where food is available, accessible, and affordable to most families.

Methods: A cross-sectional survey used sequential exploratory mixed methods; 333 pairs of mothers and children from Pakgneum (peri-urban) and Saysetha (urban) were interviewed using a structured questionnaire. Data were analyzed using Stata 17 for descriptive and logistic regression analysis; WHO Anthro software was used to analyze the nutritional status of mothers and children to identify well- and undernourished children. Subsequently, semi-structured interviews took place with 47 pairs of caregivers selected from the quantitative survey; these data were analyzed with Atlas ti.8 software to code for themes and sub-themes based on the aims.

Results: The quality of care and the capacity to translate knowledge to practice were the main differences between caregivers of well- and undernourished children. The former obtained health and nutrition information from multiple sources while the latter received it from limited sources, mainly the health services.

Conclusion: The care provided and caregivers' capacity to translate knowledge into practice appear to be the keys to improving children's nutritional status. Practical examples using videos and demonstrations could help health service communication with caregivers.

Keywords: Infant and young childcare and feeding, Lao PDR, Mixed methods

Nutritional status of young pregnant women aged less than 25 years in Huaphan Province, Lao PDR

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Abstract

Introduction: Adolescent mothers compete with their fetus for nourishment when they become pregnant since they are still growing. In Laos, adjustments to the nutrition of pregnant adolescent are made too slowly and with inadequate attention.

Objectives: So, this study aim to investigate a nutritional status of young pregnant women aged less than 25 years in Huaphan province, Lao PDR

Methods: This study carried out an analytical cross-sectional study of 204 young pregnant women aged less than 25 years in the northern part of Huaphan Province, conducted from February to April 2024. Data were collected on women's nutritional status (indicated by mid-upper arm circumference and BMI) at 19–39 weeks gestation, women's diet quality, and knowledge of diet and nutritional status during pregnancy. Multiple logistic regression analysis was utilized in the factor analysis to determine the association between each independent and dependent variable and to produce the AOR value, 95% CI, and p-value.

Results: The mean age of all participants was 20.4 years, the minimum was 14 years, the maximum was 24 years, and more than two third (70.1%) were less than 18 years. Prevalence rates of severe under-nutrition, moderate malnutrition, and mild, normal were 1.0%, 21.1%, 6.9%, and 75% respectively. Ethnicity (AOR=0.57, 95%CI: 0.37-0.89, p<0.001), Receiving information of the quality of food that pregnant women should get (AOR=2.25, 95%CI: 1.17-4.30, p=0.014) were associated with good nutritional status among young pregnant women aged less than 25 years.

Conclusion: This study concluded that the two third of the young pregnant women had normal nutritional status and nearly one third had under-nutrition, as a result of MUAC. The information received about diet and ethnicities were found to be related factors to nutritional status. Promoting diet-related information during pregnancy, with a special emphasis on adolescent ethnic minorities, may address the issue of adolescent pregnant women's inadequate nutritional status. MUAC can be used to assess adolescent pregnancy complications.

Keywords: Aged less than 25 years, Huaphan province, Lao PDR, Nutritional status, Young pregnant women

Knowledge and attitude towards sexuality education among secondary school student in Vientiane Capital, Lao PDR

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Abstract

Introduction: Sexuality education is crucial for moral consciousness, respect, and abstinence in adolescence. Inadequate information can lead to inappropriate behaviors, unwanted pregnancies, unsafe abortions, and sexually transmitted diseases.

Objectives: So, the aim of this study was to determine knowledge and attitude towards sexuality education among secondary school student in Vientiane capital, Lao PDR.

Methods: A cross-sectional survey based in a school was carried out among 450 secondary school students in the Vientiane capital between March and May of 2024. A pre-tested self-administered questionnaire was used for data collection after taking ethical approval and informed consent. Data were analysed using STATA version 18. Multiple logistic regression was used for test of association among the variables at $p < 0.05$.

Results: Majority of the students 76.8% were between age 14–16 with mean age of 16 ± 3.22, SD=1.20 years. Only one third of the respondents (31.6%) had a good knowledge of sex education. Students between the ages of 17 and 19 had 90% less knowledge than those between the ages of 14 and 16 (AOR=0.1, 95%CI: 0.01-0.9, p=0.043). Knowledge of sexuality education was also associated with students who took a course on the sex education more than three times a month (AOR=6.4, 95%CI: 2.0-20.0, p=0.001), students who took a course on the sex education more than twice a semester (AOR=3.8, 95%CI: 1.1-13.3, p=0.032), and students who currently consume alcohol (AOR=5.5, 95%CI: 1.7-17.9, p=0.004).

Conclusions: The study concluded that the only one third of students had good knowledge of sex education. Age, took a course on the sex education more than three times a month, took a course on the sex education more than twice a semester was significant relationship between students' knowledge of sexuality education. There were significant gaps in student's knowledge of sexuality education. Sex education is necessary and should be extent time and topic in the school curriculum.

Keywords: Attitude towards sexuality education, Knowledge of sexuality education, Lao PDR, Secondary school student, Vientiane capital

Exploring the influence of myopic-related environmental and behavioral factors among school-age children in Yunnan minority areas

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Abstract

Introduction: Myopia of children and adolescents has become one of the most important public health problems in the world. It is urgent to prevent and control myopia among school-age children in China.

Objectives: To explore the influence of myopic-related environmental and behavioral factors.

Methods: A longitudinal study was conducted in Yunnan Province,from October 2020 to May 2023. A total of 992 students in grade 2, 3 and 7were selected for the baseline study. All subjects were subjected to questionnaire survey and visual acuity examination. The influence of factors on myopia onset was analyzed using generalized estimating equations.

Results: The prevalence of myopia was 54.3% in 2020, 65.5% in 2021,and71.9% in 2023, respectively. The overall myopia prevalence increased with time ($P<0.01$). Girls were found to be risk factors for myopia(OR=1.941,$P<0.01$), and had less outdoor activity and more near work ($P<0.01$). Parental myopia was also a risk factor for the occurrence (OR=1.662-3.502, $P<0.01$) of myopia in the offspring. In addition to demography,"often reading/writing in the dark" (OR=1.520), "less than one times of ball sports per week" (OR=1.412),"less than one hours of ball sports per week" (OR=1.318) ,and "reading /writing during break in classroom" (OR=1.326)were the risk factors for children's myopia.While"using only desk lamp for writing at home" (OR=0.598) was a protective factor($P<0.05$).

Conclusion: Myopia occurs early among school-age children in Yunnan minority areas and increases rapidly. Improving key myopic-related environmental and behavioral factors can prevent or slow the progression of myopia.

Keywords: Cohort study, Myopia, Near work, Outdoor activities

Reality of postpartum depression and demand for help-seeking services among mothers of children under one-year: a cross-sectional study in Vietnam

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Abstract

Introduction: Postpartum depression (PPD) is a common mental disorder in women after birth. PPD causes negative effects on physical, emotional, and psychological of the mother and her infant, even endangers their lives.

Objectives: This study aimed to describe the current status of postpartum depression and demand for help-seeking services among mothers of children aged under one year in Viet Nam

Methods: A cross-sectional study was conducted on sample size of 206 mothers with under one year old children in two wards of Hai Phong, Viet Nam from October 2022 to July 2023. The Edinburgh Postnatal Depression Scale (EPDS) was used to measure the proportion of postpartum depression on women. A qualiative research was used to assess the need to seek support services of 10 participants who were diagnosed with postpartum depression by highest EPDS scores.

Results: Among mothers of children under one year, 20,4% was diagnosed with postpartum depression by The Edinburgh Postnatal Depression Scale (EPDS≥10). The help-seeking services for women with postpartum depression included: family (4/10); friend, co-worker (4/10); social netwwork (2/10); themselves (5/10); heathcare staffs (1/10). A large proportion of mothers with under one year old children in Hai phong experienced postpartum depression, so effective intervention methods were needed for this group.

Conclusion: The proportion of postpartum depression on mothers of children under one year was high. Most women with depressive found support from family, friend, co-worker, social network or solved themselves and rarely sought the support or treatment of heathcare staffs.

Keywords: EPDS, Help-seeking services, Mothers of children under one-year, Postpartum depression, Vietnam

Describing the rate of early childbearing and abortion in women: results from the Vietnam child and women sustainable development goals survey 2013-2021

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Abstract

Objectives: Objective: The adolescent birth rate is a global sustainable development goal (SDG 3.7.2) to ensure access to reproductive health care services (Target 3.7). This study aims to describe the trend of early childbearing and abortion rates among adolescents and women from 2013 to 2021.

Methods: Secondary data from the Vietnam Child and Women Sustainable Development Goals Surveys conducted in 2013-2014 and 2020-2021 were utilized. The adolescent birth rate (age-specific fertility rate for women aged 15-19) is defined as the number of births to women aged 15-19 during the three years preceding the survey, divided by the average number of women aged 15-19 (woman-years lived between the ages of 15-19) during the same period, per 1,000 women. The general abortion rate (GAR) is the number of abortions occurring during a two-year period per 1,000 women aged 15-49. To describe the changes and differences between socioeconomic groups, the rates within each period and the socioeconomic differences (region of residence, educational level, household economy) were calculated.

Results: Early childbearing rates among women aged 15-19 have shown a concerning trend. While the national rate in 2021 was 42 per 1,000 women, it has increased since 2013 (3 per 1,000). This issue is particularly prevalent in rural areas (59 per 1,000), the mountainous regions of northern Vietnam (107 per 1,000), and among women with primary education (177 per 1,000) or from the poorest economic backgrounds (108 per 1,000). Notably, the rate has decreased significantly for women with no formal education (change of 100 per 1,000). However, urban areas and wealthier groups have seen a slight increase. This highlights a significant disparity in early childbearing rates between socioeconomically disadvantaged and advantaged groups. Regarding abortion rates, the 2020-2021 survey revealed a concerningly high rate of 68.0 per 1,000 live births. Similar to early childbearing, this rate is highest in rural areas, among women with primary education (64.5 per 1,000) or higher education (81.3 per 1,000), and surprisingly, in the richest economic group (130.5 per 1,000).

Conclusion: Observation of the changes in early childbearing and abortion rates in 2013-2021 shows that although there is a general downward trend, policies need to focus on early childbearing issues for lower socioeconomic groups. In addition, abortion rates are higher among groups with better socioeconomic conditions.

Keywords: Abortion, Disadvantaged, Early childbearing, Socioeconomic

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Changes in infant mortality and low birth weight in Vietnam from 2011 to 2021: descriptive results from the multiple indicator cluster surveys on children and women

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Abstract

Objective: To describe changes in infant mortality rates and low birth weight rates in Vietnam from 2011 to 2021.

Methods: Secondary data from the Multiple Indicator Cluster Surveys on Children and Women conducted in 2010-2011, 2013-2014, and 2020-2021 were used. Infant mortality rate was defined as the number of infant deaths recorded in the first year of life per 1,000 live births. Low birth weight rate was defined as the percentage of babies born weighing less than 2,500 grams. To describe changes and differences between socioeconomic groups, rates were calculated for each period and socioeconomic differences (gender, place of residence, education level, and household wealth) were assessed.

Results: Overall, there was a significant decrease in infant mortality rate from 14/1,000 to 6/1,000 between 2011 and 2021. However, infant mortality rates remained higher in rural areas (7/1,000 live births). While the low birth weight rate was 4% in 2021, it had decreased by 1.7% from 2013-2021. Additionally, compared to the wealthiest group, there were larger reductions in low-birth-weight rates in rural areas (+0.5%), among mothers with no education (+1.8%), and among the poorest households (+3.4%).

Conclusion: Despite reductions in infant mortality and low birth weight rates during the study period, there remain significant disparities among disadvantaged socioeconomic groups.

Keywords: Inequality, Infant mortality, Low birth weight, Socioeconomic

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Self care practice regarding vaginal discharge among Lao women in Vientiane Capital , Laos

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Abstract

Rationale and background:

Vaginal discharge was main symptoms of female genital infection. Little to know the self care in Lao women.

Objectives:

To describe the self care regarding vaginal discharge among Lao women in Vientiane capital , Laos

Methodology:

This is cross sectional descriptive study in Loa women from Vientiane capital. The interviewed was conducted in 2024. The independent variable were sociodemographic characteristics and knowledge about vaginal discharge. The dependent variable was self care regarding vaginal discharge. Descriptive statistics was used to analyzed data by STATA software

Results:

A total Lao women of 300. Means age was 31.57 years old. 201 (67%) Women perceived that vaginal discharge was caused by taking fermented food. 126 (36%) women perceived that vaginal douching can prevent the vaginal discharge, 174 (58%) women having vaginal discharge, they practice self medication. 122 (34.9%) did not know about consequences of vaginal discharge. 292 (83.4%) women perceived that vaginal discharge could not a risk factor of cervical cancer.

Conclusion:

The health education package for vaginal discharge should be developed for provision of health education in order to improve selfcare practice.

Keywords: Vaginal discharge, Self care, reproductive women, Laos

The relationship between the socioeconomic status and the quality of life in the elderly: parallel mediation between life 's essential 8 and social capital

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Abstract

Introduction: The quality of life of the elderly may be related to healthy lifestyle, social capital and socioeconomic status.

Objectives: The purpose of this study is to evaluate the health-related quality of life of the elderly in China, and to explore whether Life's Essential 8 and social capital have parallel mediating effects in the relationship between socioeconomic status and health-related quality of life.

Methods: This study is a cross-sectional analysis based on the Chinese Multi-ethnic Cohort (CMEC). Questionnaires and physical examinations were used to collect and organize the information of social demographic characteristics, diet, and physical examination of 12875 the elderly. Life's Essential 8 score is calculated. EQ-5D-5L scale was used to measure the quality of life. The self-developed social capital simple scale was used to evaluate social capital. The SPSS Process V4.1 program compiled by Hayes was used to verify and evaluate the parallel mediating effect by Bootstrap method.

Results: The average age of the respondents was 69.81 years old, and the mean score of EQ-5D-5L was 6.69 (SD = 2.198). Under the condition of controlling gender, mediation analysis showed that social capital and Life's Essential mediated the relationship between socioeconomic status and quality of life to a certain extent [β= -0.0049,95%CI (-0.0007, -0.0032)]. [β = -0.0021,95%CI (-0.0036, -0.0009)]. The Bootstrap 95% confidence intervals of the two mediation paths do not contain 0, indicating that there is a parallel mediation effect.

Conclusion: Social capital and Life's Essential 8 are considered as partial parallel mediators between socioeconomic status and quality of life. Providing social capital to the elderly or helping the elderly form a lifestyle that is beneficial to cardiovascular disease can improve their quality of life to a certain extent.

Keywords: Life's essential 8, Mediating effect, Social capital, Quality of life

Epigallocatechin gallate attenuate metabolic dysfunction-associated steatotic liver disease in zebrafish by regulation of pyroptosis

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Abstract

Introduction: Metabolic dysfunction-associated steatotic liver disease (MASLD) has become the most common chronic liver disease, with other fat-liver diseases that can progress to cirrhosis and liver cancer. We have found that Epigallocatechin gallate (EGCG) ameliorated high fat-induced inflammatory and lipid accumulation in HepG2 cells, whether EGCG could improve MASLD from the perspective of pyroptsis effect need to be further explored.

Objectives: Our study aimed to alleviate MASLD by EGCG inhibiting pyroptosis in zebrafish.

Methods: Zebrafish were treated with high-fat diet feeding (powdered egg yolk) or 25 μM EGCG for 15 days.

Results: The results suggest that EGCG significantly reduced fatness, the accumulation of lipid droplets, triglyceride (TG) and total cholesterol (TC) levels. EGCG also showed an antioxidant effect by reducing reactive oxygen species (ROS) production malondialdehyde (MDA) and increasing superoxide dismutase (SOD) levels. Moreover, EGCG down-regulated the pro-inflammatory factors like tumor necrosis factor-a (TNF-α), interleukin-6 (IL-6), interleukin-1β (IL-β), and interleukin-18 (IL-18) levels. EGCG indicated a significant upregulation involved in pyroptosis pathway, such as Nrf2 and downregulated the expressions of p53, gasdermin D (GSDMD), NLRP3 as well as caspase-1, caspase-11.

Conclusion: These results validate that EGCG for protection of MASLD in zebrafish induced by high fat, which is closely related to the regulation of p53/Nrf2, NF-κB signaling pathway which relieve pyroptosis.

Keywords: EGCG, MASLD, Pyroptosis, Zebrafish

Changes in diabetes and pre-diabetes prevalence and diabetes self-management behaviors across socioeconomic spectra in rural southwest China: 2013-2022

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Abstract

Introduction: China has one of largest diabetes populations globally, but studies have found that diabetes self-management is lacking in Chinese people with diabetes.

Objectives: To uncover the changing prevalence of diabetes and pre-diabetes as well as diabetes self-management behaviors across socioeconomic gradients in rural southwest China.

Methods: Data were collected from two waves of cross-sectional interviews and examinations among individuals aged $\geq$ 35 years living in rural southwest China. Fasting blood glucose (FBG) was measured for each participant.

Results: From 2013 to 2022, the overall prevalence of diabetes and prediabetes decreased from 8.2% and 18.3% to 7.6% and 15.7% ($P < 0.05$), respectively. Decreasing rates were also observed in subgroups including women, those aged 45-54 years, those of Han ethnicity, those with a high educational level, a high annual household income, and those with good access to medical services and high SEP ($P < 0.05$). The overall rate of compliance to anti-diabetic drugs or insulin injection increased from 76.5% to 95.9%, with the largest relative increase occurring among participants with a low level of education and income, poor access to medical services, and low SEP ($P < 0.01$). The overall rate of those having taken measures to control diabetes decreased from 53.3% to 39.7% ($P < 0.01$). This decreasing rate was also observed among the subgroups categorized by sex, education, and income level, in the Han majority, and among participants with good access to medical services and high SEP ($P < 0.05$). Furthermore, an increasing trend in the overall rate of regular self-monitoring of blood glucose was uncovered among patients with low education level, low annual household income, poor access to medical services, and low SEP ($P < 0.05$).

Conclusions: Socioeconomic differences are associated with temporal trends in the prevalence of diabetes and pre-diabetes as well as diabetes self-management behaviors.

Keywords: China, Diabetes, Diabetes self-management behaviors, Pre-diabetes, Rural Residents, Temporal trend

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Identification of respiratory viruses in wildlife contacts: a study from Omkoi District, Thailand

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Abstract

Introduction: Zoonotic pathogens are more likely to emerge in regions with high biodiversity and intense human-wildlife interactions. In Chiangmai Province, Thailand, rich wildlife and cultural practices involving wildlife, create the conditions conducive to zoonotic spillover events.

Objectives: This study thus aimed to identify respiratory viruses in individuals in close contact with contact in Omkoi district, Chiangmai province, Thailand.

Methods: This study was conducted in five subdistricts of Omkoi district. Individuals in close contact with wildlife, hunters, and forest guards, were recruited. Consenting individuals underwent a nasopharyngeal swab (NPS) and provided demographic and socio-economic data based on a questionnaire. NPS samples were also collected from wildlife. All NPS samples were tested for 21 respiratory pathogens using a respiratory virus panel multiplex RT-PCR (FTD Respiratory Pathogens 21 Kit). Professional face-to-face training on zoonosis prevention was also provided.

Results: Of all 26 villagers participated, 81% were male, aged between 30-40 years, and 69% of Karen ethnicity. Most participants (92.3%) reported previous contact with wildlife, with 53% having direct contact and 40% consuming wildlife products. Post-training evaluations showed that participant were knowledgeable regarding zoonotic diseases: understanding of the zoonosis definition was excellent (92%), knowledge of zoonosis pathogens was excellent (100%), awareness of zoonosis prevention was excellent (95%), and understanding of transmission routes was good (71%). Respiratory viruses detected in human samples included human adenovirus (4%), human parainfluenza virus 2 (4%), and human rhinovirus (4%). Notably, none of 21 viruses were detected in all 10 NPS samples collected from wildlife.

Conclusion: In this small series, the detection of respiratory viruses in individuals in close contact with wildlife contact underlines the ongoing risk of zoonotic infections in the Omkoi district. Continued surveillance and educational initiatives are essential to reduce the risk of zoonotic spillover events and protect public health in this area.

Keywords: Respiratory pathogens, Spillover event, Wildlife contact, Zoonosis

Effect of vitamin C with bioflavonoid supplementation on telomere length in pateints with type II diabetes mellitus– a pilot study

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Abstract

Introduction: Telomere length is a biological aging marker that was found to be rapid shortening in patients with type II diabetes mellitus. Antioxidant supplementation was used as an intervention to protect telomere attrition, but the notions were still controversial.

Objectives: This pilot study investigated the effect of vitamin C with bioflavonoid supplementation on telomere length in patients with poor glycemic control type II diabetes mellitus.

Methods: Twenty-four poor glycemic control patients with type II diabetes mellitus were randomly received 1,000 mg vitamin C with bioflavonoid (n = 8) or placebo supplementation (n = 4) with double-blind control. All participants were assigned to take supplementation once (after breakfast) a day for six-week. Before and after six-week supplementation, blood samples were collected to analyze leukocyte telomere length via an antecubital vein.

Results: After post-supplementation, the telomere length was found no difference when compared between group ($p < 0.086$). Although, the result showed no differences on telomere length, but it was found tend to be longer in the supplementation group after 6 weeks administration.

Conclusion: This preliminary study suggests that vitamin C with bioflavonoid supplementation may be additionally needed to improve telomere length in patients with poor glycemic control type II diabetes mellitus.

Keywords: Antioxidant, Poor glycemic control, Telomere length, Type II diabetes mellitus

Factors related to complications in patients with hypertension in urban areas of Nakhon Ratchasima Province

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Abstract

Introduction: Hypertension, a non-communicable disease, is the leading cause of death in Thailand. Currently, patients are increasingly prone to it. Without proper blood pressure control, it can adversely affect health and lead to various complications.

Objectives: This research aimed to study factors related to the occurrence of complications in hypertensive patients in the urban area of Nakhon Ratchasima Province.

Methods: The sample group consisted of 378 hypertensive patients residing in the urban area of Nakhon Ratchasima Province, selected using multi-stage random sampling. Data were analyzed to find means, percentages, and Pearson correlation coefficients.

Results: The study found that the majority of the sample group were female (56.10%), aged between 46-55 years (Mean = 48.94, SD = 6.63). Most were married (69.00%), had completed primary education (58.20%), and worked as general laborers (49.50%). The majority had normal body mass index (BMI) (51.3%) and experienced complications (50.8%). The average upper blood pressure was 170.21 mmHg. The sample group had moderate self-care knowledge (76.7%) and adequate self-care behavior (64.00%). Statistical analysis revealed a significant correlation between BMI and upper blood pressure and the occurrence of complications ($P < 0.01$).

Conclusion: Recommendations from this study include organizing activities to enhance knowledge and understanding of self-care, such as health promotion activities, to empower the target group with accurate health knowledge and understanding. This can enable them to modify health behaviors, reducing the risk of other complications that negatively impact health and quality of life.

Keyword: Complications, Hypertension, Urban areas

Knowledge, attitude and behaviors of palliative care of nursing students

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Abstract

Introduction: Palliative care for the terminally ill is crucial in managing the patient's symptoms, preparing the patient and their family, and promoting palliative care at home. Therefore, palliative care during a terminal in life is one of the objectives of the health service system, either in the home or community settings

Objectives: To study the level of knowledge, attitude, and behaviors of palliative care and the factors related to palliative care behaviors in nursing students' institutes.

Methods: This study was a cross-sectional analytical research The sample consisted of 127 nursing students, faculty of nursing at rajabhat university. The sample size was determined using a power analysis method with the ready-made program G*Power. The test confidence level was set at .05, and testing power =.80. The study was conducted between February and April 2021. The tool used was a questionnaire. The data were analyzed using descriptive statistics and Pearson's correlation coefficients.

Results: The results showed that nursing students' knowledge was low ($\overline{X}$=6.50, S.D.=1.82), their level of attitude was good ($\overline{X}$=3.69, S.D.=0.35), their palliative care behaviors were at a moderate level ($\underline{\overline{X}}$=2.64, S.D.=0.57). It was found that knowledge was not correlated with palliative care behavior, and attitude had a positive correlation with palliative care behavior at a statistical significance level of.05.

Conclusion: Therefore, when teaching and learning nursing content for terminally ill patients, it may be necessary to emphasize knowledge and application in nursing practice. More nursing students should be well-prepared before they can practice caring for terminally ill patients.

Keywords: Knowledge and attitude, Nursing student, Palliative care behaviors

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CODE:392

Environmental health assessment of homestays in the Baan Prasat tourism community, Non Sung District, Nakhon Ratchasima Province

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Abstract

Introduction: Homestays are one of the accommodations that cater to tourists who want to stay overnight and learn about the community at the same time. In addition to comfort and satisfaction with the service, compliance with sanitation and health safety is particularly important for homestays, especially in the post-COVID-19 pandemic era.

Objectives: This study aims to assess the environmental health status of homestays in the Baan Prasat tourism community, Nakhon Ratchasima Province, which is a large archaeological site dating back 1300-1500 years. Ancient human skeletons have been discovered there.

Methods: The assessment criteria were adapted and applied from the Tourism Authority of Thailand and the Department of Health's 20-item standard for safety and health sanitation in establishments under the Amazing Thailand Safety and Health Administration (SHA) category for hotels, accommodations, and meeting venues. The study assessed 15 homestays in the Baan Prasat tourism community in 2 villages. Water quality samples of tap water and drinking water from all 15 homestays were collected using Test kits. The research was conducted from April to September 2023.

Results: Most homestays were two-story wooden houses with a concrete ground floor (9), two-story houses with an open ground floor (4), and single-story houses (2). Interviews with homeowners revealed problems with the management of drinking water and wastewater systems, as well as saltwater intrusion during the dry season. Analysis of the water quality of the 15 homestays showed that the pH, hardness, and residual free chlorine levels in the water did not meet the standard criteria. Assessment of the sanitation and environmental safety standards of the homestays according to the SHA standards in four main categories: 1) Hygiene of buildings and equipment in the building, 2) Provision of cleaning equipment to prevent the spread of germs, 3) Protection for workers, and 4) Accommodation providers, found that all homestays had not yet implemented all 20 sub-items. The homestay that was able to implement the most items according to the assessment was only 8 items, particularly lacking in the protection of workers.

Conclusion: The assessment of the environmental sanitation status in homestays has not yet met the standards. The relevant agencies should conduct regular environmental sanitation and health assessments and provide training to ensure that homestay operators and stakeholders are ready to welcome tourists.

Keywords: Archaeological site, Environmental health, Homestay, Nakorn ratchasima, Thailand

Disease status of hypertensive patients: a case study of patients with follow up by Thamiram medical center, Phatalung Hospital, Thailand

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Abstract

Introduction: Hypertension is a significant public health challenge in Thailand. Successful hypertension control rates are unacceptable in Thailand including Phatthalung province. However, the progression of hypertension patients in term of its complication has not yet been investigated.

Objectives: This study aims to gain the epidemiologic understanding on the changing of disease status and the factors associated with its complication for hypertension patients with follow up by Thamiram medical center during 2014 to 2017.

Methods: A retrospective study in which data collected from JHCIS database of Thamiram medical center was conducted. Hypertension patients who diagnosed hypertension or hypertension with hypercholesterolemia at 1 October 2014 and subsequently followed through 30 September 2016 were included. Patients with history of retreatment at another health service center or patients with history of paralysis, diabetes, diabetic retinopathy, stroke, cardiovascular disease, kidney, and renal insufficiency before 1 October 2014 were excluded. A total sample size of 481 were analyzed.

Results: The result displays prevalence of complication at 4.78% in 2014 and rise sharply to 12.89% and 28.07% in 2015 and 2016. In 2014, the prevalence of diabetes was highest following with chronic kidney state III while the extremely reverse prevalence was found in 2015 and 2016. Otherwise, the over two complications including diabetes and chronic kidney stage III or chronic kidney stage III and heart has also been reported. This result demonstrated a high incidence of hypertension related diabetes and chronic kidney stage III.The multivariated analysis shows that sex and age was a factors affecting on the complication. Female had higher risk than male and every 1 years of age increased promote the chance of complication at 5%.

Conclusion: This study suggested that the modify lifestyle habits and the strict medication are needed for older pateints.

Keywords: Complication of hypertension, Hypertension, Progression of hypertension

Diabetes knowledge, self-care behaviors and glycemic control among type 2 diabetic patients at Pho Hai Sub District, Warin Chamrap District, Ubon Ratchathani Province, Thailand

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Abstract

Introduction: Diabetes is one of the largest health problems and exhibits a constantly increasing trend in Thailand and worldwide.

Objectives: This study investigated diabetes knowledge, self-care behaviors and glycemic control in patients with type 2 diabetes at Pho Yai Sub-district,Warin Chamrap District, Ubon Ratchathani Province.

Methods: A cross-sectional descriptive study was conducted between June – October 2021 at Ban Sang Mek, Pho Yai Sub-district, Warin Chamrap District, Ubon Ratchathani Province. A total of 41 patients with type 2 diabetes voluntarily participated in the study. Data collections were done using questionnaires, and glycosylated hemoglobin (HbA1c) was measured for glycemic control in all patients. Descriptive statistics were used for data analysis, i.e., percentages, means and standard deviations.

Results: The major patients were females (68.3%) with an average age of 61.2 years. Most patients had diabetes knowledge at the highest level (58.5%) and their self-care behaviors were at the moderate level (82.9%). Conversely, the patients' HbA1c levels indicated that the patients had poor glycemic control (85.4 %).

Conclusion: This study suggested a workshop training to promote self-care behaviors should be provided for type 2 diabetic patients and their care givers. Healthcare personnel in the community networks should have an effective holistic care management of diabetes to promote the physical, mental, social, and spiritual health of the patients. Moreover, health promotion activities, such as the proper diet and exercise regimens, should be conducted to help the patients control blood sugar level effectively.

Keywords: Diabetes knowledge, Glycemic control, Self-care behaviors, Type 2 diabetes

Knowledge, attitudes, and self-protective behaviors against Covid-19 infection among students utilizing geographic information systems for online learning at home: a study from the faculty of public health at a university

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Abstract

Introduction: The COVID-19 pandemic has drastically shifted education to online learning, increasing reliance on GIS tools. This transition poses challenges and opportunities for understanding and mitigating the COVID-19 spread among students. This cross-sectional survey investigates personal factors, knowledge, attitudes, and self-protection behaviors regarding COVID-19. The study focuses on public health students learning from home using GIS. A sample of 216 students was selected through snowball sampling. Data were collected via questionnaires and analyzed using frequency distribution, percentage, mean, SD, Pearson's Correlation Coefficient, and Chi-Square Test.

Results: The study's findings indicated that the average age of participants was 20.18 years, with a predominant representation of females (89.8%). Knowledge about COVID-19 infection was notably high, with 97.2% of participants scoring at a high level. Attitudes towards COVID-19 were positive, with 85.6% exhibiting favorable perspectives, and self-protective behaviors against COVID-19 were also rated positively by 85.6% of the sample. Statistical analysis revealed a significant relationship between gender and self-protective behaviors against COVID-19 ($p<0.05$). Additionally, there was an inverse correlation between monthly expenditures on online learning tools and self-protective behaviors ($p<0.01$). Both knowledge and attitudes about COVID-19 were positively correlated with self-protective behaviors, with statistical significance ($p<0.01$).

Conclusion: This study demonstrates that increased knowledge and positive attitudes towards COVID-19 significantly improve self-protective behaviors among public health students, underscoring the vital role of education in pandemic preparedness.

Keywords: Attitudes, Knowledge, Self-protective behaviors against Covid-19

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From hesitancy to hope: transforming Covid-19 Vaccine perceptions in Southern Thailand

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Abstract

Introduction: The global response to the COVID-19 pandemic has highlighted the essential role of vaccination in controlling the virus's spread. In Thailand, the effectiveness of vaccination campaigns largely depends on the acceptance and uptake of vaccines, especially among vulnerable groups in the southern provinces. This study aims to describe COVID-19 vaccine acceptance among these groups.

Objectives: This research aims to describe the factors influencing COVID-19 vaccine acceptance among vulnerable groups in Southern Thailand, contributing to the discourse on health equity and promoting inclusive healthcare solutions.

Methods: A qualitative study was conducted from October to November 2021, involving interviews with 40 participants, including market vendors, the elderly, chronic disease patients, Myanmar migrant workers, and pregnant women. Content analysis was utilized to identify key themes in vaccine acceptance.

Results: Vaccine acceptance is driven by three primary factors: (1) **Individual Factors:** Motivations for vaccination include travel convenience, job opportunities, and family protection. In contrast, hesitancy arises from health concerns, distrust in new vaccines, and religious beliefs. (2) **Healthcare System Factors:** Positive perceptions of public health services enhance vaccine uptake, whereas skepticism about healthcare providers and the desire for vaccine choice deter it. (3) **Communication Factors:** Support from close contacts such as friends and neighbors encourages vaccination, while negative media portrayals, such as those on television or Facebook, foster fear and reluctance.

Conclusion: Understanding these factors is crucial for developing effective strategies to enhance vaccine acceptance among Southern Thailand's diverse populations. Tailored interventions must address personal motivations, reinforce trust in healthcare services, and neutralize negative media impacts to boost vaccination rates.

Keywords: Hesitancy, Thailand, Vaccine, Vulnerable populations

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Current palliative care needs of cancer patients received inpatient treatment at Hue Central Hospital

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Abstract

Introduction: Cancer causes many painful symptoms, neurological impairment, and negatively affecting the health and life of patients. Palliative care helps patients feel comfortable, improve symptoms, increase treatment effectiveness and improve quality of life.

Objectives: Describe the current situation and identify some factors related to the palliative care needs of cancer patients received inpatient treatment at Hue Central Hospital in 2023.

Methods: Cross-sectional descriptive study on 297 cancer patients aged 18 years and older are received inpatient treatment from 10/2023 to 12/2023 at Hue Central Hospital.

Results: The average age of the study subjects was 56.47 ± 11.96, of which 57.6% were male. The proportion of patients in need of palliative care is 83.8%. The research subjects mainly need support for medical information and psychological (88.2%) and spiritual support (74.1%). The number of patients with low quality of life is 1.881 times higher need for palliative care than that of patients with high quality of life (95% CI = 0.979 – 3.631; $p < 0.05$).

Conclusion: Cancer patients have a high need for palliative care. The patient's current quality of life is related to the need for palliative care.

Keywords: Cancer, Palliative care, Patients, Quality of life

Associations between metorological elements and the daily number of hospitalizations of cardiovascular diseases in Phu Vang District Medical Center,Thua Thien Hue Province in 2018-2022

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Abstract

Introduction: Extreme weather patterns are becoming increasingly common due to climate change. Besides, meteorological elements are reckoned as trigger of cardiovascular disease which is currently the leading cause of death in the world as well as in Vietnam.

Objectives: Describe trends in hospitalizations due to cardiovascular disease and explore the correlations between meteorological elements and the daily number of hospitalizations due to cardiovascular disease in Phu Vang District Medical Center in Thua Thien Hue Province.

Methods: Ecological study design was employed with 1,801 hospitalizations of cardiovascular disease. The data were collected from the medical database of Phu Vang District Medical Center and weather data monitoring system at Phu Bai station from 01/01/2018 to 31/12/2022. Correlation coefficient and Poisson regression analysis are used to assess the association between meteorological elements and the daily number of hospitalizations due to cardiovascular disease.

Results: Patients were most hospitalized due to cardiovascular causes in autumn. Among of those, women accounted for 62.7%, men 37.3%, two-thirds of them aged 60 or older, and 50% of hospitalized patients was due to hypertension. Meteorological elements associated to the number of hospitalizations due to cardiovascular disease are ambient temperature, relative humidity and rainfall ($p<0.05$). There are signs of delayed effects in the associations between meteorological elements and the number of daily cardiovascular hospitalizations.

Conclusion: There are associations between temperature, humidity, rainfall and the daily number of cardiovascular hospitalizations.

Keywords: Cardiovascular, Humidity, Hypertension, Phu vang district medical center, Rainfall, Temperature

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Study on capacity and readiness in management of hypertension and diabetes diseases at commune health stations in Thua Thien Hue Province

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Abstract

Introduction: Vietnam is currently facing a heavy burden of disease and mortality due to the increasing incidence of non-communicable diseases (NCDs), especially hypertension and diabetes mellitus. Controlling hypertension and diabetes mellitus is prioritized at the community health stations (CHSs), in which the capacity and readiness of primary healthcare are important indicators for evaluating the provision of healthcare services for hypertension and diabetes mellitus.

Objectives: Assess the level of readiness of community health stations (CHSs), describe the capacity of medical staff in hypertension and diabetes mellitus management in Thua Thien Hue province, and explore some related factors.

Methods: A cross-sectional study was conducted on 46 CHSs and 218 medical staff. A multivariate logistic regression model was used to identify the related factors.

Results: The average readiness index in the management of hypertension was 79.4% and diabetes was 63.8%. The overall competency in hypertension (HTN) and diabetes mellitus (DM) management was 51.7%. Factors related to the capacity of medical staff in hypertension and diabetes mellitus management included gender and doctor title.

Conclusion: The capacity and readiness to diagnose and manage hypertension and diabetes mellitus at CHSs are not high, many CHSs still lack diagnostic equipment and medication. In addition to improving this situation, the health sector should have appropriate policies to attract and retain doctors working at CHCs.

Keywords: Community Health Station, Hypertension, Medical staff, Diabetes mellitus, Readiness

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Objective financial toxicity in cancer patients in a referal hospital in Vietnam

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Abstract

Introduction: We conducted this study to estimate the objective financial toxicity and identify the associated factors that contribute to the objective financial toxicity among cancer patients.

Methods: A cross-sectional study that included 300 patients was carried out at Hue Central Hospital, Vietnam from 09/2022 to 03/2023. Data was collected using a structured questionnaire through face-to-face interviews and review of medical records. Objetcive financial toxicity was measured by the mean number of times the deficit and catastrophic health expenditure (CHE). A logistic model was used to determine the factors that contribute to CHE in cancer patients.

Results: The deficit was 1.19 times higher than the annual income of the patients' households (ranged from 0.05 to 8.0 times). The prevalence of CHE at cutoff points 25% and 40% was 85.7% and 74.4%, repestively. A multivariate logistic model identified factors associated with more than 40% of household income on cancer treatment (catastrophic expenditure). The higher risk of CHE was significantly associated with age 60 (OR = 2.18, 95% CI: 1.16-4.11); sex female (OR=3.57, 95%CI: 1.32-9.71); unstable occupation / no income (OR=2.88, 95%CI: 1.08-7.70); advanced stage of cancer (III and IV) with OR and 95%CI: 11.99 (1.85-77.70) and 7.16, (1.13-45.51), respectively. Patients with rural residence were marginally associated with an increase in CHE with OR = 1.92 and p=0.059.

Conclusions Our study and existing research highlight the significant financial burden borne by cancer patients, particularly those with lower socioeconomic status and in later stages of the disease.

Keywords: Cancer, Catastrophic health expenditure, Deficit, Objective financial toxicity

Chronic disease drug management system in the COVID-19 context within the Yangchumnoi District Health Service Network, Sisaket Province, Thailand

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Abstract

This action research aimed to develop a chronic disease drug management system for the COVID-19 context within the Yangchumnoi District Health Service Network, Sisaket Province, Thailand. The sample group included multidisciplinary personnel and pharmacy staff, totaling 15 people. The development followed a 4-step quality management process Planning, Action, Observing, and Reflecting over two cycles from 1 October 2020 to 30 June 2021. Data collection involved data copying forms, interviews, and observations. Analysis using descriptive statistics and content analysis revealed issues such as 263 instances of duplicate medication, 39 incorrect medication incidents in patients receiving MT, and five cases each of wrong medication type and patients not taking medicine due to company changes. Initially, 959 patients received NCD medications; after system adjustments, this number increased to 1,987 and then 2,987. The developed model included a three-step drug dispensing check, a system to certify patients' receipt of medicines, stickers for original medicines that changed companies, and guidelines connecting hospitals and health facilities through a risk notification system. Post-implementation, duplicate medication incidents decreased to 56, and MT medication errors were completely resolved. The study emphasizes the need for careful re-examination, clear dosing details, and coordinated referrals to enhance chronic disease management during the pandemic.

Keywords: Chronic disease drug management system/ multidisciplinary/ Sisaket Province/ Thailand

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Factors Associated with Self-Protective Behaviors Against COVID-19 Among Sub-district Level COVID-19 Comprehensive Response Teams (CCRT) in Thailand: A Cross-Sectional Study

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Abstract

This study investigated factors associated with self-protective behaviors against COVID-19 among sub-district level COVID-19 Comprehensive Response Teams (CCRT) in Thailand. A cross-sectional survey design was employed. The study selected an area with the highest prevalence of COVID-19 patients within a sub-district of Mueang District, Sisaket Province. A systematic random sample of 204 participants was recruited. Data were collected through self-administered questionnaires during January and February 2022. The questionnaire demonstrated good content validity, as evaluated by the Institutional Review Board (IRB), and internal consistency, with Cronbach's Alpha (KR-20) coefficients ranging from 0.77 to 0.92. Descriptive and inferential statistics, including Pearson correlation coefficients, were used to analyze the data.

Sample Characteristics: The majority of the sample consisted of females (81.37%), aged 51-59 years (40.69%), with a compulsory education level (86.27%). The predominant marital status was married (72.55%), and the monthly income for most participants was less than 15,000 baht (93.63%).

Results: The mean knowledge score regarding COVID-19 was 6.94 (SD=1.79) out of a possible 10 points. Participants reported high levels of risk perception (mean=25.87, SD=2.68), obstacle perception (mean=18.27, SD=2.83), self-efficacy (mean=18.20, SD=1.81), motivation for preventive behaviors (mean=8.84, SD=1.56), and overall self-protective behavior (mean=4.32, SD=0.76). The analysis of factors related to self-protective behavior revealed a positive correlation between perception and self-efficacy for preventing COVID-19 (r=0.191), followed by a weaker positive correlation with age (r=0.168).

Conclusion: Raising awareness of self-protective measures can contribute to reducing the spread of COVID-19. This aligns with the D-M-H-T-T-A (Distancing, Mask Wearing, Handwashing, Temperature Checking, Testing, Application) measures outlined by the Thai Ministry of Public Health for COVID-19 prevention and control.

Keywords: self-protective behavior, COVID-19, CCRT.

Prevalence and influencing factors of dyslipidemia in adults in Yunnan Province, 2020

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Abstract

Introduction: Dyslipidemia is a common disease caused by abnormal lipid metabolism in the human body and is one of the important risk factors for cardiovascular disease. Effective control of dyslipidemia is of great significance to the prevention and control of cardiovascular and cerebrovascular diseases in my country.

Objectives: Analyze the current status of dyslipidemia among residents aged 18 and above in Yunnan Province in 2020, understand the prevalence characteristics of dyslipidemia and its influencing factors, identify high-risk groups, and provide basis for the prevention and treatment of dyslipidemia.

Methods: A multi-stage stratified random sampling method was used to 40,337 residents aged 18 and above were selected. Questionnaires, body measurements and laboratory tests were conducted, and single-factor and multi-factor logistic regression were used to explore the influencing factors of dyslipidemia.

Results: There were 40,337 study subjects, including 17,806 males and 22,531 females. The total prevalence of dyslipidemia among adults in Yunnan Province in 2020 was 34.7%. The prevalence of dyslipidemia in women (31.4%) is lower than that in men (38.8%), and in urban areas (37.8%) it is higher than in rural areas (34.4%). The prevalence of dyslipidemia is highest among those aged 50 to 59 years (37.8%), and gradually decreases after the age of 70 years. The results of logistic regression analysis showed that age, occupation as operators and related personnel engaged in production and transportation equipment (OR=1.36, 95%CI:1.11~1.67), smoking (OR=1.19, 95%CI:1.11~1.28), sleep More than 9 hours (OR=1.19, 95%CI:1.11~1.27), overweight (OR=3.64, 95%CI: 3.14~4.22), obesity(OR=4.46, 95%CI: 3.80~5.23), abdominal obesity (OR =1.49, 95%CI: 1.41~1.59), hypertension (OR=1.32, 95%CI: 1.26~1.38), and diabetes (OR=1.87, 95%CI: 1.74~2.00) are risk factors for dyslipidemia; women (OR=0.73, 95%CI: 0.68~0.78), housework OR=0.89, 95%CI: 0.83~0.94), married R=0.85, 95%CI: 0.75~0.98), smoking cessation R=0.88,95% CI: 0.78~0.98) is a protective factor for dyslipidemia.

Conclusion: The prevalence of dyslipidemia in adults in Yunnan Province is high. Health knowledge publicity and education should be strengthened and physical exercise should be promoted for people aged 30 to 70 years old, overweight and obese, hypertensive, diabetic, and smokers.

Keywords: Adult, Dyslipidemia, Epidemic characteristics, Influence factor, Prevalence

A study on the effect of WeChat group-based health education on patients reported outcomes of hypertension

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Abstract

Introduction: Health education has been promoted worldwide as an economical and effective means of preventing and treating hypertension. Poor awareness of the disease in patients is one of the reasons of high prevalence rate and low control rate, as well as poor adherence. Thus, health education aims to strengthen awareness of self-management of hypertensive patients so as to prevent diseases.

Objectives: The study as to investigate the effect of health education intervention on patient reported outcomes of hypertension.

Methods: Patients diagnosed with primary hypertension were randomly selected from among those hospitalized in hypertension ward of Fu Wai Yunnan Cardiovascular Hospital from April to August 2022. The participants were randomly divided into WeChat group (usual care with WeChat-based health education) and control group (usual care). The duration of intervention was 3 months, and which questionnaire on Patient Reported Outcomes of Hypertension was completed at baseline, 1 month after intervention, and 3 months after the intervention. The main outcomes were to compare pre- and post-intervention score of PROISCD-HY（V1.0）.

Results: A total of 103 patients initially participated in the study, with a mean age of 40.88 years for intervention group and 44.98 years for control group. There were no statistically differences between groups at baseline for patient's socio demographic and clinical characteristics. In terms of main outcomes, the total scores of PRO, the WeChat group significantly increased gradually compared with the baseline, from 79.71 points to 83.70 points; there was no significant difference in the control group. Besides, there were significant differences in intergroup at 1 month after interventions (the WeChat group was 4.25 points higher than the control group), and 3-month after interventions (the WeChat group was 5.48 points higher than the control group).

Conclusions This trial demonstrated that WeChat-based health education interventions have a certain positive impact on Patient Reported Outcomes. Health education for patients with primary hypertension who are first-time diagnosed is needed.

Keywords: Health education, Patient-reported outcomes, Primary hypertension, WeChat-based

Social capital mediates the association between life events and quality of life among adults in a county in Yunnan Province

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Abstract

Introduction: Quality of life research has received extensive scholarly attention in recent years. While the buffering role of social support has been explored in the literature, there are no reports that have explored the role of social support in the relationship between life events and quality of life in the general population.

Objectives: To test whether social support plays a mediating role in the relationship between life events and quality of life among adults in a county in Yunnan Province.

Methods: A cross-sectional study was conducted based on a baseline survey of the Chinese Multi-Ethnic Cohort (CMEC) in Yunnan Province. A total of 10,492 adults were recruited through multistage stratified whole population sampling. A self-administered structured questionnaire was used to collect information on general demographic characteristics, life events, social support and quality of life of the study participants. Correlation coefficients were calculated to analyze the correlation between life events, social support and quality of life, and structural equation modeling was used to assess whether social support played a mediating role in the relationship between negative life events and quality of life.

Results: Social support had a direct positive effect on quality of life ($\beta = 0.080$, 95% CI [0.051, 0.110]). Life events can directly affect quality of life ($\beta = -0.122$, 95% CI [-0.148, -0.096]) and can also have an indirect negative effect on quality of life through social support ($\beta = -0.013$, 95% CI [-0.020, -0.008]). The results suggest that social support plays a mediating role in the relationship between negative life events and quality of life.

Conclusion: Social support plays a mediating effect between life events and quality of life, and social support mitigates the negative effects of life events. Providing good social support to adults experiencing negative life events can effectively improve quality of life.

Keywords: Life events, Mediation effect, Quality of life, Social capital, Structural equation modeling

Factors related to health promoting behaviors in the young elderly, Kalasin Province

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Abstract

Introduction: Health promoting behavior is a factor associated with disease prevention and the lessening of severity of disease, which leads to reducing dependency in the elderly.

Objectives: This cross-sectional study aimed to investigate factors related to health promoting behaviors in the young elderly.

Methods: This study was used secondary data, obtained from the desirable health behavior assessment (Health For You, H4U Application), Bureau of Elderly Health, Department of Health, Ministry of Public Health during November 2020 to October 2021. Fifty-two thousand one hundred and eighteen young elderly who completed assessment were included in the study. Data consisted of demographic information, underlying disease, consumption behavior, physical activity, oral health care, sleeping behavior and annual health check-up. Data was analyzed descriptive statistic and the statistical test for the relationship between variables was Chi-square test.

Results: The study results revealed that 54.08% of the sample were women, the mean age was 64.27 years. More than 90% of young elderly had avoided in alcohol use and cigarette smoking. A pproximately, 50% of young elderly had inadequate consumption of vegetables and fruits and physical activity. Moreover, only 21% had all the health promoting behavior, including consumption behavior, physical activity, oral health care, sleeping behavior and annual health check-up. Finally, there were age, gender, BMI and underlying diseases related to health promotion behavior, with the statistical significance level of 0.05.

Conclusion: As a result, health promotion programs for the elderly should be organized, especially in physical activity and consumption of vegetables and fruits in order to prevent disease and increase quality of life in young elderly.

Keywords: Elderly, H4U application, Health promoting behavior

Social participation in response to NCDs in the community: Phra Phrom District Health Charter, Nakhon Si Thammarat Thailand

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Abstract

Introduction: Over the past decade, there has been reforming health systems and well-being with participatory social measures. Phra Phrom district of Nakhon Si Thammarat has obviously adopted the concept of area health charter to find a solution of increasing non communicable diseases cases.

Objectives: This study aims to explore if the social participation of Phra Phrom District Health Charter brings down NCDs and how it works?

Methods: The Participatory Action Research (PAR) was conducted during January to December 2023.

Results: The results found that chief of the district is a crucial actor initially collaborating with all sectors i.e., government sector, academic sector, and civil society through the district health charter. This charter process firstly sought common understanding and goals of people in the district. NCDs data and its challenges were presented and discussed. Dialogues among those come up with agreed-measures to reduce NCDs and ensure healthy environment to support the community health literacy. "Balanced eating and Sustainable living" were campaigned to promote healthy behaviors against NCDs. The 120 participants were selected to evaluate their health outcome after the charter implemented. Those of which, 110 samples decreased in fasting blood sugar, 75 samples reduced blood pressure level, and 47 samples brought down their body mass index. It is included that the case study of district health charter demonstrated that social participation measure can be effectively promoted health literacy and health promotion in respond to community health challenges.

Keywords: Health charter, Health literacy, Health promotion, NCDs, Social participation

The effectiveness of health literacy program for liver fluke prevention among the risk group in Mukdahan, Thailand

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Abstract

Introduction: The World Health Organization (WHO) has rated snail fever and biliary tract cancer as major diseases. And the International Institute of Cancer Research (IARC) classifies hepatic leafworms as the first group of biological carcinogens to produce. Pneumococcal cancer, with the liver foliage pathologist *Opisthorchis verrini* as a carrier of the disease. The importance of public health in Thailand and neighboring countries in the northeast of Thailand is as follows: The highest prevalence rate. More than 6 million people have been infected or have been infected with hepatic leafworms, or one-third of the country's population, with a mortality rate of 24.8 per 100,000 people, which occurs in the working-age population. Between 40 and 60 years of age, it is considered a serious disease and causes economic, social, and quality of life problems for people.

Objectives: To study the effectiveness of health literacy program for liver fluke prevention among the risk group in Mukdahan, Thailand

Methods: This research is a quasi-experimental study, a two-group pretest-posttest with a nonequivalent control group design of 48 people per group, studied by the risk group from Kham Cha-i District, Mukdahan Province, Northeast Thailand. Collect data using questionnaires. Data are analyzed by descriptive statistics, chi-square test, Fisher exact test, independent t-test, paired sample t-test, and ANCOVA (analysis of covariance) with a significant level of 0.05.

Results: As a result of the experiment, it was found that the experimental group had a good knowledge of health in preventing liver fluke. In the experimental group, statistically significantly more than the comparative group (F = 270.886, p-value<0.001) over. Self- efficacy of behavior to prevent hepatic parasites in the experimental group rather than the group. Statistically significant comparison (F = 56.44, p-value<0.001) and pathogenic behavior. The liver fluke in the experimental group was statistically significantly greater than that of the comparative group (F = 256.039, p-value<0.001). And the experimental group had stool examination results that did not find liver fluke eggs.

Conclusion: Therefore, developing knowledge and skills and building one's own ability to act to prevent liver fluke disease among people at risk. It was found that when people at risk have health knowledge about preventing liver fluke disease and one's own ability to practice good behavior to prevent liver fluke disease, this will affect appropriate liver fluke disease prevention behavior as a result.

Keywords: Health behavior, Health literacy, Liver fluke, Self-efficacy

Strengthening the network of public health education institutions of Thailand for road traffic injury management: lesson learned and moving forward

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Abstract

Introduction: Road traffic accidents, the leading cause of death by injury and the tenth leading cause of all deaths globally now make up a surprisingly significant portion of the worldwide burden of ill health. Thailand faces road safety challenges. The country has a high rate of road traffic deaths, with 36.2 deaths per 100,000 population per year which the institute of public health is an important role in helping to tackle the problem.

Objectives: This study was a qualitative study which aimed to study strengthening the network of public health education institutions of Thailand for road traffic injury management.

Methods: The data were collected by observation, semi-structure interviews, focus groups, after action review, and in-depth interviews of key informants, member of public health education institutions. The study was conducted for 5 months from January until May 2024. Content analysis was using in this study with the triangulation rule.

Results: As a result, there were 40 public health education institutions nationwide signed memorandum of understanding for road traffic management, they coordinating for research, academic service, produce road safety courses, and develop a model faculty and community for safe driving. In addition, studies have shown that good cooperation will develop a strong network. All members have opened up new perspectives on road accident management and participated and integrating work to make road accident management a core competency of public health students.

Conclusion: Managing a strenthen network requires members to had goals and participated in collective action. Participatory learning will be a key factor in enabling collaboration and outcomes for both faculty and networking.

Keywords: Network, public health education institutions, Road traffic injury

The application of self-efficacy theory in modifying behavior to prevent dental caries among grade 5 students in Mueang Khaen Subdistrict, Rasi Salai District, Sisaket Province, Thailand

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Abstract

Objectives: The purpose of this quasi - experimental research was to study the effects of applying self-efficacy theory in behavioral adjustments to prevent dental caries among Grade 5 students in Mueang Khaen Subdistrict, Rasi Salai District, Sisaket Province.

Methods: The sample group consisted of 64 individuals, divided into an experimental group and a comparison group, each containing 32 people. Data were collected using questionnaires and plaque volume recording forms between June 2022 and August 2022. General data were analyzed using descriptive statistics, and inferential statistics were used to compare differences. Mean scores within the groups were analyzed using paired t-test statistics, and between groups using independent t- test, with the significance level set at 0.05.

Results: The results indicated that, after the experiment, the experimental group showed a significant improvement in knowledge about dental caries, self - efficacy, expectations of positive outcomes, and practices for preventing dental caries, compared to before the experiment and to the comparison group. The improvements were statistically significant at the 0.05 level, demonstrating the effectiveness of the developed program in meeting the set objectives.

Conclusion: It is recommended that all relevant agencies should use strategies that maximize students' potential to ensure sustainability in oral health care and ongoing improvements in dental health.

Keywords: Behavioral change for dental caries prevention, Grade 5 students, Self-efficacy, Sisaket province, Thailand

The current status of knowledge, attitudes, and use of electronic cigarettes among male students at two high schools in Thai Binh City

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Abstract

Introduction: Smoking electronic cigarettes (E-cigarettes) among adolescents, especially male high school students, is becoming an urgent issue that needs societal attention.

Objective: To describe the prevalence of knowledge, attitudes, and consumption of E-cigarettes among male students in high schools, along with associated factors.

Methods: A cross-sectional descriptive study combined with qualitative method was conducted with a sample size including 724 male high school students in Thai Binh city.

Results: The study reveals that 57.2% of male students have adequate knowledge about the harms of E-cigarettes. The prevalence of electronic cigarette use among male high school students over the past 30 days is 9.8%, with the highest usage among 10th graders (13.5%). More than half of the male students (66.1%) disagree with the use of E-cigarettes among peers of the same age, and 65.2% believe that the sale of electronic cigarettes to individuals under 18 should be banned in Vietnam. Factors related to the use of E-cigarettes among students include grade level; weekly pocket money; friends who use E-cigarettes; and the frequency of observing other students using E-cigarettes at school.

Conclusion: The study indicates that the proportion of male students with adequate knowledge and correct attitudes towards E-cigarettes use is limited, and the usage rate among male students is high. The use of E-cigarettes is associated with factors such as grade level; weekly pocket money; friends who use E-cigarettes; and the frequency of observing other students using E-cigarettes at school.

Keywords: Adolescents, Associated factors, Electronic cigarettes, High school students, Thai Binh

An in-depth analysis of the degree of implementation of integrated care for diabetes in primary health care in Cambodia

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Abstract

Introduction: With Sustainable Development Goal 3.4, the international community is committed to reducing premature mortality from non-communicable diseases including type 2 diabetes (T2D). However, care for T2D has remained challenging. In Cambodia, more than half of those living with T2D are not receiving treatment; and only few of those receiving treatment achieve recommended treatment targets. Three care initiatives for T2D are being scaled-up in Cambodia to improve availability and accessibility of integrated care for T2D: (1) hospital-based care, (2) health centre- based care, and (3) community-based care.

Objectives: This study aims to conduct an in-depth analysis of the implementation of the three care initiatives and identify each care initiative's potential contributions towards integrated care.

Methods: Twenty public health facilities in five operational districts were assessed on six integrated care components: (1) early detection and diagnosis, (2) treatment in primary care services, (3) health education, (4) self-management support, (5) structured collaboration, and (6) organisation of care. Two raters independently scored each facility on a 0-5 scale based on multiple sources of data and reached a consensus. Contributions were potentially identified when presence of a particular care initiative consistently increased a particular component score across the selected operational districts.

Results: The in-depth analysis showed that the three care initiatives were not implemented in an integrated manner, with low implementation scores (1 or 2 out of 5) in all selected settings. The presence of health centre-based care was associated with higher scores for early detection and diagnosis and treatment in primary care services, while the presence of community-based care was related to structured collaboration and organisation of care.

Conclusion: The evidence suggests that while each care initiative has its potential contributions towards integrated care for T2D, they should be effectively implemented in an integrated manner in order to potentially produce the desired outcomes.

Keywords: Diabetes care, Innovative care for chronic conditions, Integrated care, Primary health care

Estimating the number of health staff required for providing cardiovascular disease risk screening services at health centers in Cambodia: using the WISN tool

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Abstract

Introduction: In Cambodia, cardiovascular diseases (CVD) were responsible for 24% of all deaths in 2018 and were the leading cause of death. The government recognized the burden and adopted the WHO Package of Essential Non-communicable Disease Interventions (WHO PEN) for primary health care, specifically focusing on preventing cardiovascular diseases in primary care. The function of human resources for health is crucial in providing healthcare services to the population.

Objectives: Hence, this study aimed to calculate the workforce required to deliver CVD screening services in various health centers.

Methods: We used the data from the Workload Indicators of Staffing Needs (WISN) study for health centers in Cambodia in 2019 and 2020. There were 24 public health centers in six provinces with 214 health and non-health staff. The WISN tool was employed to calculate the standard (time) activity for the CVD screening services at the health center.

Results: The findings indicated that a single staff is sufficient to deliver CVD screening services to 60% and 100% of the target population in small and medium health centers, respectively. However, a large health center would require two staff for the same purpose.

Conclusion: Overall, two staff are required to be in charge of the CVD screening services at the health center in addition to the actual workload. However, HC could start with one staff member or use existing staff, while the demand for CVD screening was less than 60% at the start.

Keywords: CVD screening services, Health center, WISN tool

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Readiness of primary care services towards addressing the health needs of Filipinos: a cross-sectional assessment

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Abstract

Objectives: This study aims to assess the quality of primary care services and identify the areas for improvement towards implementation of an integrated noncommunicable disease at the primary care level in the Philippines.

Methods: The Primary Care Assessment Survey Tool was adapted to measure identified key domains of primary health care such as access and first contact of care, comprehensiveness, quality and continuity of care, coordination of care, and community participation regarding NCD care delivery through Likert Scale measurement. All cities and municipalities within Tarlac, Cebu, and Zamboanga del Sur in the Philippines were covered and represented by selected doctors or nurses for public and private primary health facility. An electronic survey questionnaire was sent through e-mail address of the respondents. Analysis of data was done using STATA software.

Results: Capability for providing primary health care showed that Tarlac was better than Cebu in terms of coordination and quality of care. However, both areas were observed to have poorer performance on community participation, access, and comprehensiveness. Overall, Zamboanga del sur has the best scores in all primary care domains and observed that coordination of care, access, and quality were relatively higher in Zamboanga del Sur, despite being a disadvantaged province. Community participation has been the lowest in all of the three provinces. Infirmaries provide the most robust primary care similar with rural health units. Several health facilities showed weakness in cultural competence and community participation. Physicians from private primary care clinics were weaker provider of primary care, also in terms of community participation and community orientation.

Conclusion: Health care facilities in the Philippines tasked to deliver primary care services are yet to improve community participation, affecting the quality of care delivery. This informs policy making for reforms on primary health care service delivery at the local and national levels.

Keywords: Integrated care, Noncommunicable diseases, Philippines, Primary care, Readiness

Factors associated with confidence to access health care service among youths, adults and elders in Lao PDR: a lesson learnt after covid pandemic

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Abstract

Introduction: The COVID-19 pandemic had given global public health threat and lesson learnt. The health care access and provision for all age groups were affected due to serious situation of mitigation against disease outbreak.

Objectives: With limited literature on such impact in Lao PDR, this study aims to investigate the confidence of community individuals in accessing health care service; looking back to before, during and after the locally restricted situation.

Methods: A cross-sectional study was conducted in three provinces (Vientiane, Luangprabang and Champasak), through multi-stage household sampling. Total participants were 2300; including youth (15-24 years old), adults (25–59 years old) and elderly people (60–75 years old). A face-to-face structured questionnaire was used for mining information about health care access before, during and after pandemic situation, together with characteristics of individual, household, community and policy related factors. Descriptive and multiple logistic regression analysis was performed to determine factors associated with the confidence to access health service among individuals.

Results: The study recruited 545 youths, 1370 adults and 385 elderly people (female 51.7%, 54.2% and 55.1% respectively). Nearly half of participants had poor covid literacy (48.4%). Nearly three-forth (71.3%) had a high level of depression-anxiety-stress scale (DASS) related to covid. More than one-third of participants (36.7%) had a reduction of confidence to access health care (youth: 36.3%, adult: 36.4% and elders: 38.2%). Factors associated with confidence reduction varied from individual to public level and differently among age groups. Dominant factors were about covid-related DASS, difficulty in care seeking, insufficient information, lack of supportive person, and having chronic-illness person in family.

Conclusion: Maintaining confidence to proper care access should be prepared through sufficiently information provision, with focus on community with poor accessibility and households with ill persons. Further investigation should consider the health system preparedness and community participation regarding to possible outbreaks.

Keywords: Ability in access, Confidence in access, Covid impact, Health care access, Lao PDR

Outcomes of a multidisciplinary team care for epilepsy management at Setthathirat Hospital in Lao PDR

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Abstract

Introduction: Only 10-20% of all PWE receive suitable treatment. Numerous studies have indicated that patients achieve improved therapeutic outcomes when their AEDs therapy is managed by a multidisciplinary team (MDT) care.

Objective: To assess the outcomes of a MDT care for epilepsy management receiving usual care at the OPD clinic department, Setthathirat Hospital, Lao PDR.

Methods: 68 PWE receiving MDT care at the OPD clinic of the Department of Neurology were assessed. Medication adherence was evaluated using pill counts. Patient knowledge was measured through a questionnaire, and seizure frequency was calculated every 3 months. We identified four main categories of DRPs, covering both actual and potential issues associated with drug interactions, overdosage, failure to receive drugs, and adverse drug reactions. Quality of life (QOL) was assessed using the QOLIE-10 questionnaire.

Result: Prior to receiving MDT care at visit 1 (month 0), the patient's adherence was 58.15 ± 27.3 (p=0.001) which subsequently increased to 95.24 ± 2.03 at visit 3 (month 6), respectively. Knowledge of epilepsy scores were 29.72 ± 3.6 at pre-visit 1 (month 0) and improved to 37.63 ± 1 at post-visit 1 (month 0). Additionally, knowledge about AEDs increased from 6.00 ± 0.45 at pre-visit 1 (month 0) to 9.58 ± 1.12 at post-visit 1 (month 0). The percentage of patients experiencing seizures three times in three months decreased from 29.4% to 8.8% at visit 2 (month 3). The total number of DRPs decreased from 24 at pre-visit 1 (month 0) to 15 at visit 3 (month 6) following the administration of MDT care. QOL showed significant improvements (p<0.001).

Conclusion: MDT practice demonstrated potential benefits, enhancing adherence, knowledge, and QOL, while decreasing seizure frequency and DRPs among epileptic patients.

Keywords: Adherence, Epilepsy, Knowledge, Multidisciplinary team, Quality of life, Seizure frequency

Antibiotic use in normal delivery at Central Hospitals, in Vientiane Capital, Laos

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Abstract

Introduction: Antibiotic use in normal delivery is public health major concern. The antibiotics is routinely used will make negative medical and socioeconomic effect as well.
Objectives: to describe to situation of antibiotic use in central hospitals n Vientiane Capital, Laos.
Methods: Retrospective cross sectional study was used to review 450 medical records of the normal delivery. Data were collected in the 4 central hospitals in December 2024. Descriptive statistics will be used for data analysis.
Results: Antibiotics were used in all normal delivery (100%). Cephalexin, injectable ceftriaxone plus cephalexin, injectable Ampicillin plus oral amoxycillin were used 72%, 13.6%, 13.5% respectively. The indications for antibiotic use are:

N	Indications	Frequency	Percentage
1	Term premature rupture of membrane	94	20.9
2	Preterm premature rupture of membrane	13	2.9
3	Antepartum routine use	19	4.3
4	Postpartum routine use	290	64.4
5	Maternal fever	6	1.3
6	Others	28	6.2
	Total	450	100

Conclusion: Irrationale antibiotics use were done in this study. Therefor the rationale antibiotic therapy guideline for normal delivery must be developed and implemented properly in order to avoid the socio-economic and public health negative effects.

Keywords: Ampicillin, Amoxycillin, Antibiotic

Availability and readiness of utilization for integrated MCH/Malaria/TB/ HIV services in remote districts of Savannakhet Province

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Abstract

Introduction: Savannakhet province continues to face challenges in prevention and management of emerging and re-emerging diseases, with a particular focus on HIV/AIDS, tuberculosis, and malaria. We surveyed three district hospitals of Thapangthong, Phin and Atsaphone to see if each facility has its service component in place.

Objectives: We observed the availability and readiness of the infrastructure, work force and utilization for integrated MCH/Malaria/TB/ HIV services.

Methods: A facility participatory observation was conducted, as part of HEALTH Project by Expertise France, in February – March, 2022, in rural area of three districts in Savannakhet (Phin, Thapangthong, and Atsaphone). We used an observation guide (SARA) for observing service availability and readiness of three rural hospitals and 15 health centers. The observation guidelines include the review of availability and functioning of facility structure and environment, human resource, medical equipment, necessary drugs for HIV, TB and Malaria, care providing guideline, and other medically supportive equipment.

Results: Staffing at the health facilities is important factor of the services availability of the health facility. Improving the standard of clinical (process) care among health staff is a priority for improving the health of the Lao PDR. This is important to measure and track current structural elements of care, such as staffing levels and infrastructure. The study revealed a few medical doctors working at the district health facilities as most of the health staff are health workers with high and middle levels of diploma. While, workers at HC consisted of mainly medical assistants and nursing professionals with mid-level degrees.

Conclusion: Service availability and readiness among rural health facilities is still poor. The supply of human and supply resources for health care facility was lower than WHO recommendation (1.23 doctors, nurses, and midwives per 1,000 population). Human and supply resources is a key building block of any health system which requires further investment and supports from intra and extended partners.

Keywords: Facility observation, HIV, Malaria, Service availability, Service readiness, Tuberculosis

Stability study of oseltamivir extemporaneous suspension

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Abstract

Introduction: Oseltamivir phosphate (OSEL) is prescribed to manage influenza virus A, influenza virus B, and H1N1. OSEL capsule (75mg) was manufactured by GPO, Thailand under the trade name of A-Flu™. Some patients such as children cannot take oral solid dosage forms and need oral liquid preparations. In those cases, pharmacists prepare OSEL extemporaneous suspensions (OSEL ES). However the stability of OSEL ES in a tropical country such as Thailand has not been investigated.

Objectives: To evaluate the physical and chemical stability of OSEL at room temperature, refrigerated temperature (7 $\pm$ 3 °C) and accelerated temperature (45 $\pm$ 5 °C). Triplicate samples were periodically taken for 12 weeks.

Methods: Then the stability of OSEL ES used in Queen Sirikit National Institute of Child Health (QSNICH), Bangkok Thailand was investigated. Solution of10 mg/ml OSEL ES were compounded and stored in three different temperature conditions; room temperature, refrigerated temperature (7 $\pm$ 3 °C) and accelerated temperature (45 $\pm$ 5 °C). Triplicate samples were periodically taken for 12 weeks and assayed by high-performance liquid chromatography.

Results: All of the samples stored under room temperature and refrigerated conditions showed more than 90% of their initial concentrations of OSEL remained throughout the course of the study. For the accelerated temperature 62.91% of the initial concentration of OSEL remained at 12thweek, which was significantly lower than the other conditions (p <0.05).

Conclusion: In addition, samples stored at 45 $\pm$ 5 °C showed changes in color and reductions in pH over the course of the experiment. In conclusion temperature above room temperature should be included for stability testing of extemporaneously prepared suspensions in tropical climates.

Keywords: Extemporaneous suspension, Oseltamivir phosphate, Physicochemical tests, Stability test

The quality of life of patients with chronic kidney disease in Vientiane capital, Lao PDR

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Abstract

Introduction: A good quality of life is important for the patients with chronic kidney disease (CKD) such as physical, psychology and other domains of quality of life.

Objectives: The aims of this study to identify the factors associated with the quality of life of chronic kidney disease patients in Vientiane, Lao PDR.

Methods: This is a cross-sectional analytical study, 321 patients with CKD stage I to III were participated in the study. Data collection was carried out at the OPD and internal medicine wards of 4 central hospitals in Vientiane capital by using face to face interview. The assessment of QOL was using KDQOL-36. All data were entered to the Excel program and transfer to STATA version 14 for data analysis. The descriptive statistics was applied to report frequency, percentage, mean(SD)... Then the inferential statistics was used to identify the association by using logistic regression and multiple logistic regression was used to predict the factors associated with the QOL and AOR (95%CI) were reported. The ethical clearance was approved by the ethic committee from the University of Health Sciences.

Result: Out of 321 patients 53.3% were male and mean of age is 56.8 years ($\pm$11.9 years), the minimum to maximum age is 23-80 years, 68.2% were good health conditions, while 96% were moderate of anxiety and 43% were less attention to seeking care, the proportion of quality of life among CKD patients 82.2% were moderate. Factors associated with QOL included of overall health (AOR=0.07; 95%CI: 0.04-0.1; p<0.001), chronic kidney disease stage III (AOR=0.2; 95%CI: 0.06-0.7; p=0.013), spouse (husband or wife) brought to the hospital (AOR=3.4; 95%CI: 1.8-6.2; p<0.001).

Conclusion: Most of the CKD' patients have a poor quality of life. The health sector should emphasize on improving the quality of life of patients with CKD especially whom with underlying diseases, and encouraging society to pay attention to help in taking care of the patients.

Keywords: CKD, Lao PDR, Quality of life, Vientiane

Facilitators and barriers regarding to palliative care services in tertiary care hospitals in Vientiane Capital Laos

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Abstract

Introduction: Palliative care is specialized medical care for people living with a serious illness Palliative care improves the quality of life of patients and that of their families who are facing challenges associated with life-threatening illness, whether physical, psychological, social or spiritual. Palliative care Medicine is recently initiated newly in Lao PDR

Objectives: To identify the facilitators and barriers regarding the palliative care services in central hospitals in Vientiane capital

Methods: This is qualitative rapid survey; Focus Group Discussion is carried out. 14 Key informants participated in this FGD including physicians and nurses from 4 tertiary care hospital in Vientiane Capital (Mahosot, Mother and newborn, Mittaphab and Sethathisath hospitals)

Results: Improving the pre-service medical education, medical curriculum was reformed and modified to include the Palliative Care topics in 6th year, 1 month Block rotation focusing to Home based care, Residency training program in Family Medicine also modified and reformed. Both doctors and nurses are confident to provide PC services. Lao patients need the palliative care services but did not know where to go. **Barriers:** National policy and regulation regarding the Palliative Care services are not available. Department of Unit was not yet established (Just only network group in Sethathirath is available). No OPD for palliative care. Care provider should demonstrate the Palliative Care skills. Morphine is inadequate especially oral morphine (Tablet). Sometimes, Morphine is stocked out. Equipment's related to PC service is limited. Home based care for PC is not done routinely, even patient's relative request. Financial constraint. Health insurance is not covered for palliative care services

Conclusion: This information should be references to write policy brief and disseminate to policy makers in different levels

Keywords: Barriers, Facilitators, Laos, Palliative care

The impact of overactive bladder on health-related quality of life among women in Vientiane Capital. Laos

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Abstract

Introduction: Overactive bladder (OAB) was common disorder which occurred in women in all ages. The impact of OAB were direct and indirect including medical, mental and socio economic.

Objectives: To assess health related quality of life regarding the OAB among women in Vientiane capital, Laos.

Methods: This is the cross-sectional descriptive study by using the ICIQ-OAB questionnaire interview, The data collection was 3 months from July to September 2023.

Results: Overall participants in this study were 540 participants which contains 62 participants of Overactive bladder (20%). There are 4 mains symptoms of OAB been found: Urgency 23 participants (37%), Urge incontinence 3 participants (5%), Frequency 2 participants (3%) and Nocturia 4 participants (7%). Besides, there were 30 participants (48%) had all 4 mains symptom. As a result, out of 109 participants the minimum score was 27 and the maximum was127 which compare to ICIQ-OAB only said score between 25-125 will have affect quality of life. In addition, the convenience of severity estimation we had divided severity into 3 subgroups: Mild (score: 26-50) 3 cases (5%), Moderate (score 51-100) 49 cases (79%) and severe (score: 101-160) 10 cases (16%)

Conclusion: Overactive bladder is a common condition that affects patient physical and mental health. In addition, also affect patient life expectancy so it's indispensable for medical personnel to understand cause, clinical feature, diagnosed or management. Besides, medical staff must have sympathy or give encouragement to the OAB patient, which takes an important part in OAB management. In this study shown OAB patient weren't had treatment due to many different reasons such as though it's natural condition, travel difficulties, economic reason, or place to take services.

Keywords: Lao women, Over active bladder, Quality of life

Factor associated with clinical competencies among medical students' Faculty of Medicine University of Health Sciences at Vientiane Capital

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Abstract

Introduction: Clinical competence is an important and necessary basis for the medical profession to provide quality and appropriate treatment to patients in order to reduce the morbidity and mortality of people all ethnic groups. After learning the theory and practice in the classroom and apply the clinical skills at the hospital in the appropriate manner and adapt to the actual situation.

Objectives: Therefore, this study was designed to assess the clinical competence of final year medical students at the University of Health Sciences, Lao PDR.

Methods: This research is a cross-sectional analytical study by face-to-face interviewing 130 sixth-year medical students at the Faculty of Medicine with a one-week data collection period in September 2020. All 6th year medical students for the academic year 2019-2020 were recruited into the study. Tools used to collect data using the questionnaire form, which includes socio-demographic characteristics, internship location information, staffing facilities at the internship facility, UHS teacher facility, ethical awareness and medical professionalism. Data entry was performed using Program Epidata 3.1 and data were analyzed with Program Stata 11. A validity test of the knowledge (KR20) was 0.82, descriptive statistics were applied in terms of frequency and percentage and inferential statistic such as logistic regressions analysis were employed by reporting Adjusted OR ແລະ 95%CI, P-value<0.05.

Results: The results of the study showed that 55.4% were male, with an average age of 25, the minimum age was 21 and the maximum was 48 years old, 68.5% were Lao, 93.9% were students from the high schools, 73.1% were provincial students. 60% of the student's parents had the level education of high school, 50% of their parents were government staff. 20% of the final year medical students had enough the clinical competence. Factors related to the clinical competence of final year medical students were male gender (AOR=3.11; 95%CI: 1.04-9.23, p=0.04), parent of education (AOR=3.97 & 95%CI: 1.30-12.04, p=0.01), ethical awareness and professionalism (AOR=9.73; 95%CI: 3.35-28.19, p<0.001).

Conclusion: The result of this study shows that medical students have a low level of clinical competence. There is a need to improve the teaching-learning process, especially the emphasis on medical student to practice more with patients by having teachers to supervise, monitor and evaluate the practice and focus on the teaching medical ethics and medical professionalism to students in order to enable to apply into practice.

Keywords: Clinical, Clinical training ability, Medical student ability

Study on health utility values and influencing factors of six Zhiguo ethnic minorities in Yunnan Province

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Abstract

Introduction: Health utility value is an important indicator for measuring the burden of disease, yet there is limited research on the health utility values of the *Zhiguo* ethnic minorities in China.

Objective: To explore the health utility values and influencing factors of six *Zhiguo* ethnic minorities in Yunnan province, and to provide a basis for the development of health promotion and health equity measures for ethnic groups.

Methods: From July to December 2022, a multi-stage random cluster sampling method was used to select individuals aged 15 and above from the Va, Lisu, Nu, Jinuo, Laku, and Blang ethnic groups in three counties in Yunnan province. Health utility values were measured using the EQ-5D-5L scale and the Chinese population health utility scoring system. The Andersen model and Tobit regression model were used to analyze the influencing factors of health utility values among six ethnic groups.

Results: A total of 1921 participants were included in the study, with 293 (15.25%) Va, 378 (19.68%) Lisu, 300 (15.62%) Nu, 398 (20.72%) Jinuo, 280 (14.58%) Laku, and 272 (14.16%) Blang individuals. The health utility value was 0.958 ± 0.092 for all participants. Va had the highest health utility value (0.966 ± 0.059), while Lisu had the lowest health utility value (0.950 ± 0.093). The results of Tobit regression showed that depression was a barrier to health utility values for six *Zhiguo* ethnic minorities. Over 60 years old (Va, Nu, Jinuo, Blang), being sick in the last two weeks (Va, Nu, Jinuo), having chronic disease (Lisu, Nu, Laku), and having sleep disorder (Va, Lisu, Jinuo) were risk factors of having lower health utility values; while exercise (Lisu, Nu), primary education and above (Jinuo Laku), alcohol consumption (Laku) are facilitators of health utility values for some of them.

Conclusion: The health utility of the *Zhiguo* ethnic minorities in Yunnan Province is close to the level of Chinese urban residents in 2018 and higher than that of Yunnan residents in 2019. The impact of depression on the health utility of *Zhiguo* ethnic minoritie should be emphasized, and targeted measures should be taken to improve the health utility and health level of the elderly, the chronical ill, and people with sleep disorders.

Keywords: EQ-5D-5L, Health-related quality of life, Health utility values, Influencing factors, Zhiguo ethnic minorities

Exploring the mechanism of conjugated linoleic acid-enriched fermented milk in treating nonalcoholic fatty liver disease based on multi-omics analysis

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Abstract

Introduction: Non-alcoholic fatty liver disease (NAFLD) is a metabolic stress-induced liver injury closely related to insulin resistance as well as genetic susceptibility. The estimated global prevalence of NAFLD is 29.4%, and the prevalence of NAFLD in China has reached close to 30% of the total population. Animal experiments have indeed demonstrated that conjugated linoleic acid (CLA) has a beneficial lipid-lowering effect on the liver, yet there are only a very few population intervention validation trials.

Objectives: Exploring the mechanism of CLA-enriched fermented milk in treating nonalcoholic fatty liver disease based on multi-omics analysis.

Methods: This study was a 120-day, randomized, double-blind, placebo-controlled pilot clinical trial. Participants with NAFLD (N = 60) were randomly and equally assigned to receive either zero added fermented milk (Group P) or CLA-enriched fermented milk (Group T). Samples were collected both before and after the intervention. Stool samples were analyzed using 16S rRNA high-throughput sequencing technology, while serum samples were analyzed through non-targeted metabolomics. Subsequently, multi-omics combined methods were employed for further exploration. This study was supported by the National Natural Science Foundation of China (Grant No. 32160551), the Yunnan Revitalization Talent Support Program 'Young Talent' Project (XDYC-QNRC-2022-0299).

Results: (1) There was no significant difference in baseline data between Group P and Group T. (2) ALT, γ-GT, hs-CRP, and Cr were significantly decreased in the T group compared to the P group (P < 0.05), but TC decreased more than in the P group, though the decrease was not significant (P > 0.05). (3) 16S rRNA high-throughput sequencing revealed that CLA-enriched fermented milk markedly increased gut microbiota diversity and abundance of Lachnospiraceae, Fusicatenibacter, norank_f_Oscillospiraceae, Faecalibaculum_rodentium, and Bacteroides_coprocola. (4) The KEGG analysis revealed altered metabolic pathways in butanoate, propanoate, tyrosine, phenylalanine, tryptophan biosynthesis, as well as valine, leucine, and isoleucine biosynthesis. (5) The correlation analysis showed that ALT and γ-GT were closely related to the metabolic pathways of valine, leucine and isoleucine biosynthesis and lysine degradation.

Conclusion: CLA-enriched fermented milk has an effect on the reduction of ALT, γ-GT, and TC in patients with NAFLD, and the underlying mechanism may be a significant increase in the abundance of Lachnospiraceae, Fusicatenibacter, Faecalibaculum_rodentium, and other bacteria that are high producers of SCFAs, as well as alteration of metabolic pathways related to those SCFAs and amino acid metabolism, which are inextricably linked to the lipid-lowering effect.

Keywords: 6S rRNA sequencing, CLA, Gut microbiota, NAFLD, Non-targeted metabolome analysis

Analysis of self-rated health changes and influencing factors among middle-aged and elderly people in China

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Abstract

Introduction: At present, China has entered a moderately aging society, and the health problems of middle-aged and elderly people bring pressure to the high-quality development of society. However, this special group is easily ignored, and few studies have focused on the impact of changes in influencing factors on self-rated health.

Objective: To understand the self-assessed health change status of middle-aged and elderly people in China and their influencing factors, in order to provide a reference basis for improving the health of middle-aged and elderly people and promoting healthy aging.

Methods: Using the 2011-2020 data of the China Health and Aged Care Tracking Survey (CHARLS), 2,209 middle-aged and elderly people (≥45 years old) who participated in all five rounds of the survey from 2011 to 2020 were enrolled in the study, and the influencing factors of the changes in self-assessed health were analyzed by univariate analysis and multicategorical logistic regression.

Results: For the 2,209 middle-aged and elderly people, 35.54% had a decrease in self-assessed health, 43.32% had no change in self-assessed health, and 21.14% had an increase in self-assessed health in 2020. Compared with those with no self-rated drinking behavior, those with increased number of ADLs, increased number of chronic diseases, no light physical activity for 10 minutes per week, and abstaining from alcohol tended to have worse self-rated health. The middle-aged and elderly people with better depressive symptoms (CESD), higher life satisfaction and higher life satisfaction tend to have better self-rated health. Smoking cessation (compared with never smoking) is not conducive to the improvement of self-rated health.

Conclusions: The proportion of middle-aged and elderly people with good self-rated health decreased slightly from 2011 to 2020. Physical health status, mental health and unhealthy lifestyle are the key points to improve self-rated health in middle-aged and elderly people in China.

Keywords: CHARLS, Influencing factors, Middle-aged and elderly people, Self-assessed health

Analysis of community-based home health care integration practice based on SWOT-CLPV theory - a case study of District G

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Abstract

Introduction: Population ageing is a worldwide problem, the situation of which will have a profound impact on human society, and an active response to population ageing is the key to solving the global ageing problem. China will become one of the countries with the highest level of population ageing in the world by the middle of the 21st century. At present, China is implementing a national strategy to actively respond to population ageing, and promoting the realisation of basic elderly care services for all elderly people. Among them, the combined medical and nursing service is an innovative model of old-age care, which changes the two-track separation of old-age care and medical care, and integrates resources and provides integrated care services. It meets the actual needs of the elderly and contributes to the construction of our national basic elderly service system. The practice of community-based home health care integration services in G District, Yunnan Province, has initially formed a set of replicable and popularised models, which have improved the effectiveness of elderly care services and provided references for the elderly care business in other regions.

Objectives: To analyse and evaluate the inhibition, leverage, vulnerability and problematic nature of community-based home health care integration service practice in Guandu District, and to provide a reference for further optimising the effectiveness of the application of this working model in the working practice of elderly services.

Methods: The SWOT-CLPV theoretical model was used to analyse the current situation and problems in the implementation of community-based home health care integration services in Guandu District.

Results: SWOT analysis results. First, opportunities include policy support and smart aging model support. Second, threats include higher pressure on capital operation and the existence of multiple risk factors. Third, the advantages include the World Health Organisation's concept of integrating care guidance, increasing social demand, the relative perfection of elderly care resources and infrastructure facilities, and the working basis for the establishment of 'time bank' services in some communities in the early stage. Fourthly, the disadvantages include the lack of perfect management mechanism, the lack of mature service capacity, the timely coordination of the work of various groups, and the lack of a clear definition of the concept of home health care services.SWOT-CLPV matrix analysis results. Opportunities and advantages interact with each other to produce a total of 7 units of leverage; opportunities and disadvantages interact with each other to produce a total of 5 units of inhibition; threats and advantages produce 5 units of vulnerability; threats and disadvantages produce 6 units of problematic.

Conclusion: Policy support and all four advantages can produce leverage, indicating that policy support is an important external opportunity, only in the country, all levels of government policy support home health care combination services can play a practical role.The lack of timely coordination between various groups and the support of intelligent aging model can be inhibitory, and it is particularly important to formulate a unified workflow as soon as possible according to the actual situation and familiarise with the content of the work to improve the service capacity in the process of combined medical and nursing services.

Keywords: Elderly services, Medical and nursing care, SWOT-CLPV

Development system and mechanism for elderly patients of Pho Yai Subdistrict, Warin Chamrab District, Ubon Ratchathani Province

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ABSTRACT

The aim of this action research is to develop systems and mechanisms to enhance the quality of life of elderly individuals with chronic illnesses and to improve the capabilities of the Tambon and Villages Quality of Life Development Committee in Pho Yai Sub-district, Warinchamrab District, Ubon Ratchathani Province. The sample group comprised 50 members. Research tools utilized included questionnaires, discussion group interview guidelines, in-depth interviews, statistical data analysis methods such as frequency, percentage, paired t-test, and content analysis.

The study revealed that initially, there were no clear systems and mechanisms for quality of life development. However, after development efforts, clearer systems emerged with collaborative development objectives, strategic planning, performance monitoring guidelines, and clear responsibilities. Evaluation of committee competencies identified key areas for improvement, with the lowest scores attributed to analytical thinking, teamwork, and service provision. Post-development, these three areas showed significant improvement to at least a moderate to high level, with an overall increase in competency scores by 24.5 points, statistically significant at a 95% confidence interval (CI = 21.3-27.6).

Continuous efforts to strengthen the committee are essential to ensure sustainable systems and mechanisms for enhancing the quality of life.

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Keywords: Capacities, Tambon and Villages Health Board

Mathematical modelling for intervention strategies to control hepatitis b infection in Lao PDR

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Abstract

Introduction: High prevalence of Hepatitis B virus (HBV) in Lao People's Democratic Republic (Laos) contributes significantly to its ranking as the fifth country globally with the highest liver cancer rates. Laos faces challenges in preventing the spread of HBV due to factors including limited healthcare infrastructure, a predominantly rural population, and economic constraints. While transmission occurs through various means, perinatal infections acquired by newborns from infected mothers is a leading contributor. Laos grapples with issues related to vaccine availability and anti-viral treatment accessibility, essential for preventing new infections and improving outcomes for ongoing cases,

Objectives: Determine the effectiveness of increased timely birth dose vaccine coverage and antiviral treatment in reducing the disease burden of HBV in Laos and propose guidance to facilitate the optimization of these intervention.

Methods: A dynamic-transmission compartmental model was developed to evaluate the health outcomes associated with increased coverage of timely birth-dose vaccination for newborns and antiviral treatment of chronic HBV cases in Laos. Transition probabilities were informed from existing literature or estimated using Bayesian approaches. Deterministic and probabilistic sensitivity analyses were conducted to assess the robustness of findings to assess uncertainty in model parameters.

Results: Without increasing intervention coverage, HBV-induced deaths and cases of HBV-related liver cancer continued to rise in Laos. Scaling up birth dose vaccine coverage by 5% every two years from current levels in combination with a 10% increase in access to anti-viral treatment for chronic cases resulted in a 27% (95% CrI: 21% – 34%) reduction in cases of liver cancer and a 35% (95% CrI: 27 ~41%) reduction in HBV-induced deaths. These reductions were greater than those experienced when these interventions were scaled up individually.

Conclusion: Addressing HBV in Laos requires a multi-faceted approach that encompasses increased access to vaccines and treatment through improved health infrastructure and comprehensive health policies.

Keywords: Health policy, Hepatitis b (HBV), Laos, Mathematical modelling, Vaccination

Healthcare worker's knowledge of integrated HIV, TB and malaria and confidence in providing HIV AIDS, TB and malaria services in Savannakhet Province, Lao PDR

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Abstract

Introduction: Health professionals are the front line to provide HIV, TB and Malaria services to the community. Early diagnosis and appropriate management of HIV/AIDS, tuberculosis (TB) and malaria cases by knowledgeable and skilled healthcare workers (HCWs) are key in addressing this global health issues. This study aimed to explore the perspective of HCWs' HIV, Tuberculosis and Malaria, and to determine factors associated with KAP and confidence in providing HIV, TB and Malaria services.

Methods: A cross-sectional study was undertaken in three district hospitals and 12 health centers in Savannakhet province, Lao PDR. A validated face-to-face administered questionnaire encompassing socio-demographic (6 items), knowledge (14 items), attitude (13 items) and practice (9 items) about HIV was used to assess the KAP of HCW. The overall KAP and self-confidence in providing HIV, TB and malaria were analysed using the sum score of each outcome based on Bloom's cut-off point. Descriptive and inferential statistics were applied.

Results: Majority of HCW had a high level of low knowledge of TB (73%) and malaria (79.4%) and a fair level of low HIV-related knowledge (44.4%). However, few HCWs did provide RDTs only for HIV, malaria. Factors that significantly associated with HCW's knowledge of HIV were knowledge of TB, confidence in providing HIV services; while factors associated with knowledge of TB were income per month, knowledge of HIV and confidence in providing TB services. In addition, factors significantly correlated with knowledge of malaria were older age group and current working at the HC. Factors significantly associated with confidence in providing HIV, TB services were knowledge of HIV and TB; serving the HIV and malaria patients. While factors associated with confidence in providing TB services were knowledge of TB; confidence in providing HIV services. Factors correlated with confidence in providing malaria services included knowledge of Malaria and confidence in providing TB and malaria services.

Conclusion: The study found HCWs has some low knowledge of TB and malaria and fair knowledge of HIV, and they do not know whether RDTs for HIV, TB and malaria disease is necessary for maternal health check-up or not. Many HCWs were not trained for RDT of malaria, HIV and TB and were not familiar with the use of Malaria RDT results as the majority of them never used or prescribed RDT for HIV, TB and malaria. About half of HCWs had high confidence in providing HIV, TB and Malaria services. These findings highlight the need of continuous training and educational opportunities to equip HCWs with the right information needed to provide effective and appropriate HIV, TB and malaria services.

Inappropriate behavior of using tuberculosis drug among TB patients in Vientiane Capital, Lao PDR

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Abstract

Introduction: Tuberculosis (TB) is an important communicable disease. The WHO has declared TB a global public health emergency. Epidemiological data found that the number of TB patients with multi-drug resistance is very high. Therefore, inappropriate use of tuberculosis drugs leads to more drug-resistant TB.

Objectives: To study the inappropriate behavior of using Tuberculosis drug among TB patients in Vientiane Capital, Lao PDR.

Methods: A cross-sectional survey, The data was collected from three central hospitals in Vientiane Capital during June and August 2023. The population included people over 18 years old who had received TB drugs (Cat I: 2 RHZE / 4 RH). Used a simple random sampling method. The data was collected through face-to-face interviewing. The data analysis was done by the SPSS program and used descriptive statistics and chi-square tests.

Results: The study involved 221 participants, and the results showed that 60.6% were men, 31.2% were between 29 and 39 years old, 38.9% graduated from secondary school, 85.5% were new cases of TB, and 71.5% were pulmonary TB. The most common other disease was 23.4% diabetes, 24.4% of sample treatment on the sixth month, and 50.2% self-medication that no assistants monitor in the house. The behavior of behavior of using Tuberculosis drug among participants revealed that 40.3% of the samples used inappropriate drugs, 29.0% did not take their medication on time every day, and 20.4% forgot to take medication. The relationship found the type of patient about re-infection and re-treatment after failure were related to inappropriate use of tuberculosis drugs with a statistically significant p-value < 0.05.

Conclusion: The study found that 40.3% of the sample group used inappropriate drugs. These findings suggest that the sample group may not be able to effectively treat tuberculosis. This may lead to drug resistance.

Keywords: Behavior, Inappropriate, Tuberculosis drug

Malaria, TB and HIV: a facility-based review on positive case report by rapid diagnostic test (RDT) and the number of RDT access in remote district of Savannakhet

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Abstract

Introduction: Savannakhet province continues to face challenges in prevention and management of emerging and re-emerging diseases, with a particular focus on HIV/AIDS, tuberculosis, and malaria. Community-based intervention requires strong evidences regarding access to rapid diagnostic tests among local population.

Objectives: We aim to review the access to diagnostic test of HIV, TB, and Malaria among adult and adolescents in rural health settings of Savannakhet province.

Methods: A facility-based survey was conducted, as part of HEALTH Project by Expertise France, in February – March, 2022, in rural area of three districts in Savannakhet (Phin, Thapangthong, and Atsaphone). 3 ditrict hospitals and 15 health centers were recruited for a review of positive case of Malaria, TB and HIV and also the number of access to RDTs in the previous year, 2021. Descriptive analysis was performed to describe the number of RDT access, characteristics and medical history of positive cases related to HIV, TB, and malaria.

Results: We found totally 41 positive cases by RDT for the year 2021, including of two HIV cases and 39 malaria cases. The majority of cases were female (70.7%); 19.5% were children, 14.6% were pre-adolescents, 4.9% were adolescents, 29.3% were young adult and 21.7% were general adult. Majority of cases were farmers (68.3%). 95.1% were tested due to chief complained symptoms of fever, headache, shivering, tired, body pain, yellow eyes, and vomiting. We found an increasing numbers of malaria-RDT access in rainy season. The 2 HIV+ case-records per 424 RDTs in Phin district were migrant workers; which was 0.47% or approximately 0.5% of all testing; none of positive cases were found in pregnancy clients.

Conclusion: The number of malaria-RDT access numbers in the three surveyed districts could be considered higher during the rainy season, starting from May or June until November. This might reflect the effort of local health network to emphasize the importance of testing for detecting such seasonal disease. RDT should be added completely into maternal health service and should be wider available for all levels of care.

Factors associated with pre-exposure prophylaxis (PrEP) use among man who has sex with man (MSM) in Vientiane Capital, Lao PDR: case-control study

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Abstract

Introduction: Despite proven effectiveness for high-risk populastion like MSM in Lao PDR, Pre-exposure Prophylaxis (PrEP) uptake remains limited.

Objectives: This study explores factors influencing PrEP use among MSM in Vientiane Capital to inform strategies for improved access and adoption.

Methods: A matched case-control study was employed to investigate factors associated with PrEP use among MSM (10-59 years) from February to May 2024 in Vientiane Capital, Lao PDR. MSM using PrEP for the past 3 motnhs were age-matched 1:1 with controls not using PrEP. Descriptive statistics characterized participant demographics. Logistic regression assessed associations between variables and PrEP use, reporting OR and AOR with 95%CI. P-value<0.05 indicated statical significance.

Results: Among a total of 336 individuals, 168 MSM were identified and matched with 168 controls. The two groups' mean ages ranged from 27.7±6.6 (18–45); (46.4%) of the case and (38.1%) of the controls were university graduates, while 32.8% of the case and 28.8% of the control were business employees. Married status (AOR=9.0; 95%CI=1.5-53.6), income between 1,600,000 and 3,500.000 kip (AOR=6.8; 95%CI=2.4-19.3) and >3,500.000 kip (AOR=10.5; 95%CI=3.4-32.5), having ever used violence during a sexual encounter with a partner in the previous six months (AOR=5.9; 95%CI=1.8-19.5), perceived barriers to accessing and using PrEP (OR=0.4; 95%CI=0.2-0.7), and high social support (AOR=1.7; 95%CI=1.0-3.0) were factors associated with PrEP use among MSM.

Conclusion: According to this study, factors associated with PrEP use among MSM in Vientiane Capital, Lao PDR were identified. Married status, higher income, experiencing violence during sex, and strong social support were positively associated with PrEP use. Conversely, perceived barriers to accessing PrEP were associated with lower use. These finding suggest a need for interventions that address access barriers and promote PrEP awareness among MSM at higher risk for HIV infection.

Keywords: Lao PDR, Men who have sex with men (MSM), Pre-exposure prophylaxis (PrEP)

Research on the quality of life of HIV/AIDS patients receiving antiretroviral therapy

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Abstract

Introduction: Yunnan Province had achieved the goal of the " three 90%" for people living with HIV/AIDS. In this context, the analysis of the current status and influencing factors of the quality of life of HIV/AIDS patients can provide a basis for further improving the quality of life.

Objectives: To understand the status of HIV/AIDS patients' quality of life who received antiretroviral therapy and analyze the influencing factors, then to provide a reference for the formulation of relevant policies and measures.

Methods: A multi-stage stratified sampling method was used, and a cross-sectional survey among HIV/AIDS patients receiving ART was conducted in designated hospitals in Yunnan Province from 2020 to 2021. The MOS-HIV scale was used to evaluate the quality of life. The multivariate influencing factors were analyzed by quantile regression.

Results: The 610 respondents' average age was 45.62±12.03 years. 59.2% of the respondents were males. The medians of physical and mental health score for the participants were 53.20 (45.61, 57.55) and 51.77 (43.90,58.05) respectively. The participants with fewer symptom during treatment and higher social support scores had higher physical and mental health scores at all percentile points. The unemployed and the intravenous drug users had lower physical health scores, and the aged 60 or above had lower mental health scores at the 25% and 50% percentile points. The impact of occupation, symptom severity during treatment, and social support on physical health score decreased as the percentile point increased. The impact of age and symptoms during treatment on mental health scores increased as the percentile point increased while the influence of social support increased.

Conclusion: The quality of life of HIV/AIDS patients receiving antiretroviral therapy were higher than those in previous studies. Unemployed, with symptoms during treatment, intravenous injectors, and the older were the dangerous influencing factors of quality of life.

Keywords: Antiretroviral therapy, HIV/AIDS, Influencing factors, MOS-HIV, Quality of life

Social support status and influencing factors of HIV-infected patients on antiviral therapy

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Abstract

Introduction: AIDS is a chronic infectious disease threatening human health. Yunnan Province has become one of the most serious AIDS areas in China due to its unique geographical environment. The transmission characteristics of HIV are closely related to the cultural literacy and social relations of infected people. Good social support is helpful to improve the compliance of HIV patients with treatment, reduce the incidence of high-risk sexual behavior, and maintain good physical and mental health.

Objectives: To understand the status quo of social support of HIV patients in Yunnan Province and explore its influencing factors, so as to provide reference for improving the social support status of this population in the future.

Methods: Multi-stage stratified cluster sampling was used to conduct a cross-sectional survey of HIV patients receiving treatment in designated hospitals in Yunnan province.The questionnaire included demographic characteristics, HIV infection related information and social support rating scale (SSRS), and the analysis was conducted by t test, analysis of variance and multiple linear regression.

Results: The total score of social support in 631 HIV patients was (28.44±8.48), the scores of objective support (6.14±2.56), subjective support (16.54±5.69) and support utilization (5.76±2.26), all of which were lower than the domestic norm (P<0.001). Being young, living in rural areas, not living alone, being married, having an occupation, having a high level of education, having a high average annual household income, and participating in group activities with infected persons are favorable factors for social support.

Conclusion: The overall social support status of HIV patients in Yunnan Province is poor, and humanistic care should be strengthened for older patients, urban residents, people living alone, divorced/widowed/unmarried people, unemployed people, people with low average annual family income and patients who do not participate in group activities of HIV patients to improve their social support level.

Keywords: AIDS, Influencing factors, Social support, Yunnan Province

Advances in HIV/AIDS quality of life research after ART

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Abstract

Introduction: At present, AIDS is still a major global public health problem, ART is the most effective way to treat AIDS, and in recent years, the subjective feelings of HIV/AIDS patients in the treatment process have been paid more and more attention. Many unfavorable factors in the process of ART treatment have a negative impact on the quality of life of patients, so quality of life intervention in the early stage of treatment, improve patient ART compliance, give appropriate drug treatment regimens, pay attention to ART process information disclosure and other measures can effectively help this population improve their quality of life.

Objectives: By retrieving the literature on quality of life of HIV/AIDS receiving ART at home and abroad published in recent years, this paper systematically sorts, summarizes and reviews the current status quo and influencing factors of quality of life of patients receiving ART, so as to provide reference and inspiration for subsequent researchers to carry out related research in this field.

Keywords: ART, HIV/AIDS, Quality of life, Research advances

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Proactive tuberculosis screening using chest radiography among risk groups in Yang Chum Noi District, Sisaket Province, Thailand

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Abstract

Objectives: This descriptive research aims to study proactive tuberculosis screening using chest radiography among risk groups in Yang Chum Noi District, Sisaket Province, Thailand.

Methods: The sample group consisted of 1,968 participants who underwent interviews according to the tuberculosis screening form, sputum examination, chest radiography, and Gene X-pert testing from 1 October 2022 to 30 September 2023. The study presented data on frequency, percentage, prevalence of lung abnormalities, and prevalence of newly discovered tuberculosis cases.

Results: The results indicated that risk groups attending screening included 1) individuals in contact with pulmonary tuberculosis patients; 2) elderly individuals aged 65 or older who smoke or have co-morbidities; 3) patients with immune-reducing diseases; 4) public health personnel; 5) chronic substance users including drug abusers and alcoholics; and 6) people infected with HIV. These groups represented 50.20%, 16.16%, 14.78%, 7.22%, 5.94%, and 5.69% of the participants, respectively. Among them, 24.14% showed abnormalities in chest radiographs. Out of 291 sputum tests conducted, 24 cases of infection were detected. Additionally, 129 participants were tested with Gene X-pert, identifying 15 cases of infection. Overall, 39 new cases of tuberculosis were registered, primarily among contacts of tuberculosis patients, elderly people with co-morbidities, and patients with immune-decreasing diseases, as well as HIV-infected individuals, who accounted for 79.48%, 7.69%, 7.69%, and 2.56% of the cases, respectively.

Conclusion: Proactive screening for TB patients using chest radiography and Gene X-pert reduces diagnostic delays and treatment and helps prevent further spread of TB in the community.

Keywords: Chest radiography, Proactive tuberculosis screening, Sisaket province, Thailand

The effect of family function on the psychotic-like experience of college students in Qiqihar, Heilongjiang Province, China

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Abstract

Introduction: Family function refers to the roles played by the families play in supporting the growth and daily lives of individuals. It is a comprehensive evaluation of family elements such as family structure, family member contact, family system disorder, and high-quality social support network, especially family support, can be a protective factor against the risk of psychiatric diseases. Psychotic-like experiences (PLEs) is a syndrome similar to clinical psychosis that is widely present in the general population, with experiences of subclinical hallucinations and delusions, but does not bring significantly impact the individual's pain and performance, and does not interfere with normal work life. At present, the pace of society is getting faster and faster, people's family structure, family member relationship, family system stability and other obvious changes, modern social diseases began to emerge and highlight the rising trend, college students are facing a more complex and changeable society, and at the critical stage of students to social identity exchange, their physical and mental health deserves more attention. Qiqihar city is located in northeast China Songnen Plain, the winter time is long, the economy and culture are relatively backward. The latest census data shows a 24.21% decrease in the resident population compared to previous years, with an average annual growth rate of -2.73%. Among them, most of the permanent residents are elderly. The changes of family members make their family functions change randomly, and the concerns about whether to go out for work or return home after graduation increase the stress, anxiety and depression of college students. However, there are few studies on the direct correlation between family function and psychotic-like experiences, and more studies focus on the mediating role. Moreover, statistical methods of decision tree and path analysis are rarely used in this kind of research. Using a sample size, standardized assessment tools, and innovative decision trees and path analysis, this study aims to explore the impact of family functioning on college students' psychotic-like experiences and the behaviors they have or produce in their daily lives.

Objective: Through the problems reflected in the research, to create a suitable physical and mental health family environment for college students, to provide reference for the prevention of mental diseases, and promote the healthy growth and all-round development of college students to lay a family foundation.

Methods: We assessed family functioning using the Family Function Rating Scale (FAD) and investigated psychotic-like experiences among 715 college students using the Propsychotic Scale (PQ). Higher scores in all dimensions of family function indicate worse family functionality and more severe psychotic-like experiences. Established the decision tree and the path analysis models to identify core factors affecting psychotic-like experiences, and clarify the direct or indirect influence of each factor on the psychotic-like experiences. This study has been approved by the Qiqihar Medical Human Research Ethics Committee.

Results: In this study, there were 40 people with an average score less than 2, accounting for 5.5% of the total number; there are 672 people with an average score greater than or equal to 2 and less than 3, accounting for 91.7% of the total number; and there are 3 people with an average score greater than or equal to 3, accounting for 0.4% of the total number. This indicates that the family function of college students is poor. The scores of the psychotic-like experiences of college students all exceeded the assessed value, and the new experience of mental illness was more serious. Family function overall is a negative predictor of the psychotic-like experiences. Decision tree and path analysis show that the role and emotional involvement dimensions in family function may be the core factors affecting the psychotic-like experiences.

Conclusions: Exploring the extent to which family functioning affects new experiences of psychosis helps to develop and target interventions to mitigate the increased risk of psychotic-like experiences among college students.

Keywords: College students, Family function, Mental health, Psychotic-like experiences, Subclinical

The impact of depressive and anxiety symptoms during pregnancy on adverse pregnancy outcomes among Zhuang ethnic women in Yunnan, China

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Abstract

Introduction: Antenatal depression and anxiety are prevalent in China, but the impact on adverse pregnancy outcomes remains controversial. Existing relevant research has paid limited attention to ethnic minority women, including Zhuang, China's largest minority group.

Objectives: To investigate the effects of depression and anxiety symptoms during pregnancy on adverse pregnancy outcomes among Zhuang ethnic women.

Methods: A prospective cohort study design was used. In May 2022, Zhuang pregnant women from a Zhuang autonomous county of Yunnan Province were selected for depression and anxiety symptoms screening. Their pregnancy outcomes were tracked by consulting the hospital medical record system after delivery. Depression symptoms was assessed by using the Edinburgh Postnatal Depression Scale (EPDS) score ≥13, and anxiety symptoms was assessed by using the 7-item Generalized Anxiety Disorder (GAD-7) score ≥5. Adverse pregnancy outcomes were defined as the presence of a caesarean section, complications during labour, adverse neonatal outcome or miscarriage. Chi-square test and ordered logistic regression model were used for statistical analyses.

Results: A total of 310 Zhuang women participated in the survey, and 286 women with complete information were included in the analysis. The prevalence of antenatal depression and anxiety were 3.15% and 16.43%, respectively. The incidence of adverse pregnancy outcomes was 43.01%. Ordered logistic regression showed that Zhuang ethnic women with antenatal depressive symptoms were more likely to have serious adverse pregnancy outcomes (OR=10.560, 95%CI: 2.637~42.292). But the antenatal anxiety symptoms had no effect on pregnancy outcomes (OR=0.788, 95%CI: 0.406~1.531).

Conclusion: More attention is needed to decrease the adverse pregnancy outcomes among ethnic minority women in China. Antenatal depressive symptoms could increase the risk of adverse pregnancy outcomes among Zhuang ethnic women. Targeted strategies for antenatal depression prevention and control should be developed in the future to improve the health of mothers and newborns of Zhuang ethnic group.

Keywords: Antenatal, Anxiety, Depression, Pregnancy outcome, Zhuang ethnic

A survival prediction model for patients with schizophrenia based on random survival forest algorithm

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Abstract

Introduction: There are fewer studies on survival prediction models for patients with schizophrenia both domestically and internationally.

Objectives: To develop and evaluate a survival prediction model for patients with schizophrenia based on random survival forests, in order to inform the development of intervention strategies for tertiary prevention in patients.

Methods: The study subjects were the schizophrenia patients in Baoshan City, Yunnan Province, who had been diagnosed and included in the systematic management from January 1, 2017 to July 1, 2021. A completely randomized method was used to divide the data into training set and test set in the ratio of 7:3, and the prediction model was developed after screening important variables by minimal depth combined with variable importance(VIMP). Time-dependent receiver operating characteristic curve (tdROC) were plotted for survival times of 1, 3 and 5 years and corresponding time-dependent area under the ROC curve (tdAUC) were used to evaluate the model.

Results: A total of 1009 patients were included, of which 86 (8.5%) had a schizophrenia endpoint event (death), and 58 (8.2%) and 28 (9.2%) were in the training and test sets, respectively. Age at initial diagnosis, social functioning score, blood pressure rating, self-awareness, fasting glucose, body mass index, and sleep were seven important predictors. The AUC values were 0.964, 0.987 and 0.982 for 1, 3 and 5 years for the training set and 0.935, 0.822 and 0.857 for 1, 3 and 5 years for the test set, respectively. The AUC values of the training set and the test set were all > 0.8, indicating that the model has good predictive performance.

Conclusion: The model developed in this study has good predictive performance, which holds practical value for personalized patient prognosis and clinical guidance decision-making.

Keywords: Random survival forest, Risk prediction, Schizophrenia

Depression and associates among students at Mahasarakham University, Mahasarakham Province Thailand

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Abstract

Introductions: Depression can be characterized by persistent and recurrent sadness or lack of pleasure. Depression is an emotional disorder that is common among university students and decreases the quality of life.

Objective: This study aimed to investigate the prevalence and relationship factors of depression in bachelor students of Public Health, Faculty of Public Health, Mahasarakham University.

Methods: A cross-sectional study was conducted from 269 persons obtained through stratified random sampling. The sample was classified into year classes, 1 to 4. Research tools/questionnaires Descriptive and inferential statistics (Chi-Square statistics) were used for statistical analysis.

Results: Overall had a high level of self-worth at 53.9 %. Most of the sample had a moderately close relationship with friends. 49.1 %. Sad: 56.1% had mild depression, 25.3 % had moderate depression, 14.5% had severe depression, and 4.1% had severe depression. The prevalence of depression mild to severe depression in third-grade students was the highest at 15.3 % and factors related to depression in students' feelings of self-worth. Close bonds with friends, there was a statistically significant relationship with depression in students. (p-value < 0.001).

Conclusion: It is reported by the current findings that some parts of the university students are seriously depressed. It is immediately needed to design some preventive measures to promote the psychological health of those students. Consequently, the mental health screening and surveillance system should be run covering all university students in the public health of Mahasarakam University, Thailand.

Keywords: Close bonds with friends, Students' feelings of self-worth, Third-grade students

Factors associated with stress among University of Phayao Students

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Abstract

Introduction: Stress is a prevalent issue among university students, impacting their academic performance, mental health, and overall well-being. The transition to university life often involves new academic challenges, social adjustments, and increased independence, all of which can contribute to heightened stress levels. Understanding the specific factors that influence stress in university students is crucial for developing effective support systems and interventions.

Objectives: The aim of this study was to examine the personal, learning, and family factors associated with stress among University of Phayao students and to evaluate stress levels across various student groups.

Methods: A sample of 413 bachelor's degree students from the University of Phayao for the academic year 2023 was selected using cluster sampling. The research instrument had a reliability value of 0.75. Data analysis included descriptive statistics (percentages, means, standard deviations) and inferential statistics (chi-square and Pearson product-moment correlation).

Results: The study found a statistically significant relationship between personal factors, such as congenital diseases, and student stress levels ($p < 0.05$). Learning factors, including resistance to learning content and readiness to study, were significantly related to stress ($p < 0.05$). Family factors, such as family relationships and caregiving responsibilities, also showed a significant association with stress ($p < 0.05$). Notably, students in the health science group experienced a high level of stress, comprising 49.2% of this subgroup.

Conclusion: Personal, learning, and family factors significantly impact stress levels among University of Phayao students. Addressing these factors could help in developing strategies to reduce stress and improve student well-being.

Keywords: Family factors, Learning factors, Personal factors, Stress management, Student stress

Stress, anxiety and depression among high-risk groups in Vietnam during the Covid-19 pandemic: a cross-sectional study

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Abstract

Introduction: Studies on stress, anxiety and depression among high-risk groups in Vietnam during the COVID-19 pandemic remain limited.

Objectives: The objectives of this study were to estimate the prevalence of stress, anxiety and depression and to examine associated factors among high-risk groups in Vietnam during the COVID-19 pandemic.

Methods: A cross-sectional survey was conducted on 2,520 people from June 2022 to December 2022 in Hanoi city, Bac Giang province, Da Nang city, Khanh Hoa province, Ho Chi Minh city and Binh Duong province, Vietnam. Stress, anxiety and depression was measured using the Depression, Anxiety, and Stress Scale-21 (DASS-21), and we used imputed Poisson regression to evaluate associations between stress, anxiety and depression and associated factors.

Results: Among 2,520 participants (health workers, senior high school students and factory workers), the prevalence of stress, anxiety and depression were 9.8%, 31.5% and 26.3%, respectively. Stress was significantly associated with the city/province, housing type, occupational status, history of chronic disease, physical activity in the last 4 weeks and stress events in the last 12 months. Anxiety was significantly associated with the city/province, severely disabled people in the family, educational attainment, occupational status, perceived financial burden, history of chronic disease, and COVID-19 exposure status in the past 4 weeks. Depression was significantly associated with the city/province, living area, near-poor households, occupational status, perceived financial burden, history of chronic disease, regular updates to COVID-19 information and stress events in the last 12 months.

Conclusion: Stakeholders should pay attention to these associated factors when designing mental health care programs for high-risk groups during future pandemics.

Keywords: Anxiety, Depression, High-risk groups, Stress, Vietnam

Depression and anxiety among undergraduate students at a university in Ha Noi, Vietnam in 2023 and associated factors

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Abstract

Introduction: Depression and anxiety are one of the major mental health concerns among university students.

Objectives: The study was carried out to determine the proportion and parameters associated with depression and anxiety symptoms.

Methods: A cross-sectional design was conducted with 422 undergraduate students at Phenikaa University, Hanoi, Vietnam from April to July in 2023, using stratified random sampling. Study subjects were requested to complete a Patient Health Questionnaire-9 (PHQ-9) for the screening of depression symptoms, Generalized Anxiety Disorder 7- Item Scale (GAD-7) for the screening of anxiety symptoms, and a socio-demographic questionnaire. The reliability of the questionnaire is good (Cronbach's α =0,84 for PHQ-9 and Cronbach's α = 0.91 for GAD-7). The data was entered using Epidata 3.1 and analyzed in SPSS 26.0.

Results: The study reveals that proportion of students with depression was 28.4%; of which 18.2% was moderate, 7.6% was moderately severe, and 2.6% was severe. 53.1% of students experienced anxiety, with 32.0% reporting mild anxiety, 12.8% reporting moderate anxiety, and 8.3% reporting severe anxiety. We found that self-reported depression was significantly associated with the year of study, study pressure, presence of illness/accidents, experience of stressful events, smoking status, alcohol consumption, and the effects of COVID-19. Self-reported anxiety was significantly associated with study pressure, sharing with family members, experience in stressful events in the last 6 months, and participation in sports activities.

Conclusions: The study strongly suggested further research on second- and third-year students and other majors in the university to better understand the reality of depression and anxiety among students and potential related factors.

Keywords: Anxiety, Associated factors, Depression, GAD-7 undergraduate students, PHQ-9

Impacts of climate change on forest-harvested food and the nutrition of children and families in Lao

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Abstract

Introduction: Forests are an important source of food, medicine, and income for rural families in Lao PDR, especially ethnic communities. NTFPs contribute significantly to food security and income through consumption and sales. However, increasing land demand for cash crops (and, more recently, livestock rearing) has caused significant changes in forestland and resource use, posing threats to food security and livelihoods.

Objectives: This study aims to understand the impact of climate change on forest-harvested food and its effects on children's nutrition in communities near forests.

Methods: A comprehensive study included a desk review, household surveys of 259 families in six villages in three provinces, eight Focus Group Discussions, and four interviews with families.

Results: The study found that most (83%) households, including children, rely on forest products as part of their diet. Changes in the weather pattern, including heavy rain and unpredictable weather, have made farming more challenging. 90% of households have observed a reduction in forest-harvested food in the last few years. Only 23 % of households believed it was due to climate change, and the rest expressed that the current rise in cassava farming leads to extensive forest clearing. Families used home gardening, raising small livestock, and income through cash crops to cope with the situation. 84% of children consumed forest foods regularly. The higher proportion of children aged 0-24 months who do not consume forest foods regularly is stunted compared to those who do.

Conclusion: Climate change and cassava plantation have impacted forest-harvested food, impacting children's nutrition. However, alternative coping mechanisms have been adopted; climate monitoring, sustainable land use, and community empowerment for resilience and food security are recommended to mitigate the impact of climate change.

Keywords: Children, Climate change, Forest-harvested foods, Nutrition

Factors associated with the Covid-19 booster doses among migrant workers working at the factory in Vientiane Capital

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Abstract

Introduction: A COVID-19 vaccine booster dose is intended to boost the immune system for better, long-lasting protection when the primary vaccine response decreases over time. In Laos, COVID-19 has disproportionately affected migrants. One of the main tenets of Lao's public health response to COVID-19 is vaccination; however, little is known about migrants' obtain booster shots.

Objectives: So this study aimed to assess the factors associated with obtain COVID-19 booster vaccine shots among migrant workers working at the factory in Vientiane Capital, Lao PDR.

Methods: An analytical cross-sectional survey was conducted from March to May 2024 (n = 336). Participants were asked about receiving the COVID-19 booster vaccine, socio-demographic characteristics, medical history, any prior contacts with COVID-19, knowledge of the COVID-19 booster vaccine, perceptions of its safety and side effects, satisfaction, convenience and confidence with the COVID-19 booster vaccine and the sources of vaccine information. The analysis is applied descriptive statistics by calculating the frequency, percentage, mean and standard deviation values to describe each variable. Univariate and multivariate logistic regression were used to assess factors associated with receiving the COVID-19 booster vaccine. Then the reporting the AOR (95%CI) value based on the p-value. < 0.05 is considered a statistically significant relationship.

Result: Most of the respondents (81.3%) were female, aged between 18-35 years (75.6%) with mean age of 30.7 years. More than half of participants (79.5%) had received COVID-19 booster vaccine. Factors significantly associated with receiving the COVID-19 booster vaccine were married status (AOR: 2.0, 95%CI=1.1-3.8); education level (AOR: 2.5, 95%CI=1.0-6.0); knowledge of the COVID-19 booster vaccine (AOR: 2.4, 95%CI=1.3-4.2); satisfaction, convenience and confidence with the COVID-19 booster vaccine (AOR: 2.0, 95%CI=1.1-3.6); and heard about COVID-19 booster vaccine (AOR: 8. 7, 95%CI=3.0-25.3).

Conclusion: Prevalence of received COVID-19 booster vaccine was high. Married status, education level, knowledge of the COVID-19 booster vaccine, satisfaction, convenience and confidence with the COVID-19 booster vaccine, and heard about COVID-19 booster vaccine were factors associated receive booster dose. In order to increase the effectiveness of the COVID-19 booster vaccine during the present and future pandemics, this study recommends that improving understanding, satisfaction, convenience, and confidence with the COVID-19 booster vaccine and encouraging open communication about it should be a top priority.

Keywords: Covid-19 booster, Lao PDR, Migration, Vaccination

Research on equity and efficiency of rural health resource allocation

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Abstract

Objectives: To study the status quo of rural health resource allocation in China from 2012 to 2021, and conduct longitudinal evaluation and analysis of health resources, so as to provide a plan for further optimization of resource allocation.

Methods: Gini coefficient was used to make data statistics on rural health human resources in China, Lorentz curve was drawn to analyze their fairness, and BBC model in data packet method was used to analyze the input-output efficiency of resources.

Results: The relative fairness gini of the number of rural health institutions, beds and personnel were 0.0186, 0.0685 and 0.0560, respectively. The DEA of rural health resources in China was effective in 2014 and 2018.

Conclusion: The allocation of rural health resources in China is basically reasonable, the utilization of resources is full, the input-output efficiency needs to be improved, and the utilization efficiency of resources is not high.

Keywords: Disposition, Health resources, The country

The study of *elsholtzia bodinieri* vaniot essential oil in reducing HepG2 cell lipid accumulation through activating lipophagy

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Abstract

Introduction: *Elsholtzia bodinieri* Vaniot essential oil (EBVEO) is the volatile component derived from *Elsholtzia bodinieri* Vaniot, a unique medicinal and edible plant resource native to Yunnan, China.

Objective: This study explores the mechanism by which EBVEO improves cellular lipid metabolism through lipophagy, providing a theoretical foundation for the exploration of natural products in the field of lipophagy and the utilization of *Elsholtzia bodinieri* Vaniot plant resources.

Methods: The study established a cellular steatosis model of HepG2 cells treated with palmitic acid (PA). Different concentrations of EBVEO were applied to the PA-induced model group for 48 hours. The number of autophagosomes was observed through monodansylcadaverine (MDC) staining, and the expression of autophagy-related proteins and genes was detected using western blotting (WB) and quantitative real-time polymerase chain reaction (QPCR). Chloroquine (CQ) was utilized as an autophagy inhibitor to block cellular autophagy, and the effectiveness of the inhibitor was assessed via WB. Changes in lipid content were measured using total cholesterol (TC) and triglyceride (TG) assay kits to determine the impact of autophagy inhibition and activation on lipid content in the PA-induced lipid-accumulating HepG2 cells.

Results: Both the PA model group and the experimental groups increased the number of autophagosomes in cells. The PA model group and the group treated with 200 µg/mL of EBVEO significantly increased the LC3II/I ratio, with *LC3B* mRNA results consistent with protein levels. The protein level of p62 significantly increased in the PA model group, whereas it significantly decreased after treatment with 200 µg/mL of EBVEO, indicating the activation of cellular autophagy by EBVEO. A similar trend was observed in the p-mTOR/mTOR protein ratio, and the relative expression level of *mTOR* mRNA significantly increased with 200 µg/mL EBVEO treatment. Moreover, treatment with EBVEO significantly reduced the levels of TC and TG in the PA-induced lipid-accumulating HepG2 cells. However, when the cellular autophagy process was blocked by CQ, this lipid-lowering effect disappeared, and the levels of TC and TG significantly increased.

Conclusion: EBVEO can enhance cellular autophagic flux blocked by PA, thereby reducing lipid accumulation in HepG2 cells by activating lipophagy. The mechanism may involve the regulation of mTOR.

Keywords: Elsholtzia bodinieri, HepG2 Cells lipidomics, Lipophagy, Vaniot essential oil

Study on the role of Drs2p in arsenic tolerance in brewing yeast

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Abstract

Introduction: In industrial production, yeast faces various stressors and inhibitors, highlighting the importance of studying its mechanisms for tolerating adverse environments and enhancing tolerance. Previous studies have suggested that the Cdc50-Drs2p complex plays a pivotal role in protein transport in yeast cells, and Drs2p may regulate yeast tolerance to arsenic, although its biological function remains unclear.

Objective: This study focuses on investigating the role of the *drs2* gene in arsenic tolerance in brewing yeast.

Method: A single-step gene knockout method was employed using haploid brewing yeast BY4742 as the host strain. The knockout cassette was amplified using the PYM14 plasmid as a template for homologous recombination, and yeast transformation was conducted via the lithium acetate method. Transformants were screened using G418 antibiotic selection, and PCR sequencing was employed for verification of knockout strains. The optical density (OD 600 nm) of wild-type brewing yeast and *drs2* knockout strains was measured in liquid culture, and growth curves were plotted. Spot assays were performed to observe the arsenic tolerance of yeast cells after *drs2* gene knockout. A standard curve for arsenic content was prepared using a high-performance liquid chromatography system, and the arsenic content was determined after culturing wild-type brewing yeast and *drs2* knockout strains in YPD liquid medium with an arsenic concentration of 0.1 mmol/L for 12 hours.

Results: PCR sequencing confirmed the successful knockout of the *drs2* gene. The knockout strain exhibits change in cell morphology compared to the wild-type strain, with a relatively lower growth rate observed between 4 to 10 hours. Spot assays revealed enhanced tolerance to sodium arsenite in brewing yeast following *drs2* deletion, especially evident at an arsenic concentration of 3 mmol/L. Furthermore, the significant decrease in arsenic content within yeast cells post *drs2* gene knockout suggests the inhibitory role of the *drs2* gene in arsenic efflux from yeast cells.

Conclusion: Drs2p is involved in the arsenic tolerance response in brewing yeast. Knockout of the *drs2* gene leads to enhanced arsenic tolerance in brewing yeast, likely due to the reduction in arsenic content within the yeast upon *drs2* gene deletion.

Keyword: Arsenic tolerance, Brewing yeast, Drs2 gene, Gene knockout

Evaluation of acute toxicity of *elsholtzia bodinieri* vaniot essential oil
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Abstract

Introduction: Elsholtzia bodinieri Vaniot, a perennial herb primarily found in Yunnan, Guizhou, Sichuan, and Qinghai provinces, serves both medicinal and culinary purposes. In Yunnan, locals utilize dried young leaves or the entire plant to brew tea that aids in heat clearing and detoxification. The essential oil of Elsholtzia bodinieri Vaniot, a light-yellow liquid with a robust aroma, exhibits antioxidant, antibacterial, anti-inflammatory activity, and insecticidal activities. While limited literature addresses the toxicological safety of Elsholtzia bodinieri Vaniot and its chemical composition, Li Zi's research demonstrated the lack of mutagenic effects through various tests. Previous studies by our group revealed reproductive and neurotoxic effects of essential oil on Caenorhabditis elegans. However, there is a gap in acute toxicological safety evaluations of essential oil of Elsholtzia bodinieri Vaniot in animals.

Objectives: This study was to assess the acute oral and percutaneous toxicity of Elsholtiza bodinieri Vaniot of essential oil in order to establish a safety framework for its future application in food and medicine.

Methods: In the acute oral toxicity test, mice were randomly assigned to six groups, including a control group and various essential oil groups, with gastric doses of 464mg/kg, 1000 mg/kg, 2150 mg/kg, 4640 mg/kg, and 10000 mg/kg. In the acute percutaneous toxicity test, the essential oil was applied topically at a dose of 2000mg/kg. Throughout a 14-day observation period, toxicity symptoms, mortality rates, changes in mouse body weight, organ weight, food intake, biochemical parameters and organ histopathological were recorded.

Results: The median lethal dose (LD50) of male and female rats with acute oral toxicity was 5010 mg/kg, and the 95% confidence limit was 3440 mg/kg to 7300mg/kg. There was no difference in body weight and food intake compared with the control group (P > 0.05). The lung and kidney coefficients of female rats in 10000mg/kg group were higher than those in control group (P < 0.05), and the liver coefficients of male rats in 2150 mg/kg group and 10000 mg/kg group were higher than those in control group (P < 0.05). Biochemical indices of male as part ate aminotransferase (AST) 2150 mg/kg group were higher than those of control group (P< 0.05), but there was no difference in alanine aminotransferase (ALT) and creatinine (CREA) (P > 0.05). The pathological section of 10000 mg/kg male liver showed erythrocyte filling in the hepatic sinus and hepatic steatosis, and no obvious pathological changes in the heart and kidney. Acute percutaneous toxicity did not appear obvious toxicity, toxicity grade belongs to class 5 and skin irritation intensity is no irritation.

Conclusion: The acute oral toxicity of the oil was 5010 mg/kg (LD50), which was actually non-toxic, but the 10000 mg/kg group had certain damage to the liver of male mice. Acute percutaneous toxicity is low.

Keywords: Acute oral toxicity, Acute percutaneous toxicity, Elsholtiza bodinieri, Essential oil, LD50, Vaniot

Prevalence and molecular characteristics of listeria monocytogenes in retail foods in Yunnan, Southwestern China

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Abstract

Introduction: *Listeria monocytogenes* (LM) is an important foodborne pathogen, and is ubiquitously distributed in the natural environment. LM can cause listeriosis, particularly in young, old, pregnant and immune-compromised individuals. Listeriosis is uncommon in Yunnan but LM has been isolated from foods and food processing environments in Yunnan, southwestern China.

Objectives: To understand the prevalence and molecular characteristics of LM in retail raw foods in Yunnan.

Methods: The food samples were randomly collected from supermarkets, farmers markets, retails and catering sectors in 16 areas of Yunnan. And then the samples were placed in a cold box at a temperature of lower than 4°C, tightly sealed with sterile plastic wrap, and transported to an accredited laboratory and subjected to microbiological analysis within 24h. For qualitative analysis, LM was isolated and identified according to GB 4789.30-2016 *National food safety standard Food microbiological examination-Listeria monocytogenes* and *Handbook of monitoring foodborne pathogens in China.* The LM pedigree, sequence typing (ST), clone complexes (CCs), virulence genes and drug resistance genes distribution were obtained by whole genome sequencing. Serotyping was carried out by multiplex PCR. This study was supported by the National Natural Science Foundation of China (Grant No. 32160551), the Yunnan Revitalization Talent Support Program 'Young Talent' Project (XDYC-QNRC-2022-0299).

Results: A total of 2532 retail food samples were collected and the number of LM contaminated samples was 143(5.65%).There was a statistical difference in LM contaminated rates among different food types(χ^2=36.946, P<0.05), pickled foods with high contaminated rate of 10.1%(40/396), followed by frozen meat samples(9.1%,28/308).All strains belonged to 3 lineages, 53 strains to lineage I, 75 strains to lineage II, and 1 strains to lineage III .Multiplex PCR divided the strains into 4 serogroups, the predominant serogroups are 1/2a-3a and 1/2b-3b-7 accounting for 76.2% of the isolates. All strains were divided into 24 STs, among which 14 STs were novel. The most common STs were ST8(23.1%), ST87(18.9%) and ST9(8.4%), accounting for 50.3% of the isolates.The 143 strains were grouped into 21 CCs, which belong to the major clones CC8 (23.1%), CC87 (21.7%) and CC9(8.4%).Almost all the strains carrying Listeria virulence island *LIPI-1*(*prfA, plcA, hly, mpl, actA, plcB*) and *LIPI-2*(*inlA, inlB, inlC, inlD, inlE, inlF, inlG, inlH*).About 90% of the strains carrying drug resistance genes including *fosX, lin, norB, sul* and *mprF.* They may be resistant to antibiotics such as fosfomycins, lincomycins, fluoroquinolones, sulfonamides and peptides.

Conclusion: There is a certain degree of LM contamination in retail food in Yunnan. The prevalent STs including ST1, ST2, ST3, ST5, ST8, ST9 and ST87 which caused maternal fetal infections or outbreaks, suggesting that these STs potentially can also cause severe human infections or outbreaks in Yunnan. The strains show high genetic diversity and low drug resistance, but a variety of virulence genes carried by these strains should be the important factors in their pathogenicity. The present study provided data to capture the contamination status of LM in foods at the retail level in Yunnan and assess the potential risk of this pathogen for human safety.

Keywords: Listeria monocytogenes, Molecular characteristics, Prevalence, Whole genome sequencing, Yunnan

Changes in gut microbiota of hypertensive patients of Han Nationality Living in Yunnan Plateau based on 16S rDNA analysis

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Abstract

Introduction: Hypertension is the primary risk factor that significantly contributes to the escalating global burden of disease.In 2018, it was reported that the prevalence of hypertension among adult residents in China reached 27.5%, while among Han Chinese adult residents in Yongsheng County, Lijiang City, Yunnan Province, the prevalence of hypertensive disease was even higher, standing at 26%.

Objectives: To analyze the changes in intestinal flora in newly diagnosed hypertension patients and a control group of Han nationality individuals living in the Yunnan Plateau, based on 16S rDNA sequencing technology.

Methods: In the Han population of Yongsheng county, Lijiang city, Yunnan province, based on the baseline survey data of the Chinese Multi-ethnic Cohort (CMEC), 23 patients newly diagnosed with hypertension (Group H), 13 patients in the hypertension medication group (Group HM), and 26 patients in the normal population (Group C) were selected. A case-control study method was used to collect blood and fecal samples from the three study groups for blood biochemical index detection and 16S rDNA sequencing technology analysis. This study was supported by the National Natural Science Foundation of China (Grant No. 32160551), the Yunnan Revitalization Talent Support Program 'Young Talent' Project (XDYC-QNRC-2022-0299).

Results: The α-diversity results showed that intestinal flora richness in group H decreased compared with group C (P = 0.037). The β-diversity results indicated statistical significance between groups H, HM, and C (R2 = 0.0468, P = 0.043), with the most significant difference between groups HM and C (R2 = 0.0552, P = 0.005). At the genus level, compared to Group C, the abundance of Bifidobacterium, Collinsella, Turicibacter, Burkholderia-Caballeronia-Paraburkholderia, Streptomyces, Paludicola, and Ralstonia significantly decreased, while the abundance of Enterococcus increased significantly in group H. The results of correlation analysis in groups H and C revealed that Bifidobacterium and Collinsella were negatively correlated with systolic blood pressure (SBP) and diastolic blood pressure (DBP) (P < 0.05). Bifidobacterium and Collinsella were identified as microbial markers of hypertension, achieving an area under the receiver operator characteristic curve (AUC) of 0.78.

Conclusion: The development of hypertension in Han people residing in the Yunnan Plateau is correlated with intestinal flora disorders, which are characterized by a decrease in beneficial bacteria and an increase in harmful bacteria. Bifidobacterium and Collinsella can be used as microbial markers for hypertension, thereby providing new ideas for the diagnosis, treatment, and prevention of hypertension.

Keywords: 16S rDNA sequencing, Gut microbiota, Han nationality, Hypertension, Yunan plateau

Developing restaurant operations to the standard of clean, delicious food at a very good level in Wapipathum Subdistrict Municipality Wapipathum District Mahasarakham Province

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Abstract

Introduction: This research is participatory action research.to develop restaurant operations to meet the standards of clean, delicious food at a very good level in Wapipathum Subdistrict Municipality. Wapipathum District Mahasarakham Province with the participation of network partners, which consists of 118 representatives ofthe public sector, 10 representatives of the academic sector, and 3 representatives of the political sector.

Objectives:

Methods: The study is divided into 3 parts: (1) Situation Context Study Group is a group of citizens, academic and political sectors, totaling 178 people. (2) group participating in the development of the model. There were 60 representatives from various sectors and stakeholders. (3) A group that participated in the evaluation of development and success factors, totaling 60 people. Both quantitative and qualitative data were collected using questionnaires, interviews, and conversations, groups, assessments, and knowledge tests data were analyzed using averages standard deviation, frequency, percentage and Paired simple T- test.

Results: The research found that from the restaurant development operations to the standards of clean food, delicious taste, very good level, which uses participatory operations of network partners in every sector. The operation consists of 5 steps: 1) studying the context of the area and community conditions 2) joint planning with network partners 3) implementing the plan 4) observing and following up with network partners 5) reflection Results and lessons learned from success.

Conclusion: This allows the restaurant to pass the standards for clean, delicious, very good food, increasing from 8.33 percent to 33.33 percent, which is from having good practices. This has led to the development of restaurant operations to the standard of clean, delicious food at a very good level in Wapipathum Subdistrict Municipality. Wapipathum District successful and can lead to further development to achieve sustainable development in the future based on the principles of community participation.

Keywords: Clean food, Delicious taste very good level, Development of restaurant operations

Effects of the food sanitation literacy development program on food behaviors of the food handlers in restaurants in Samkhok District, Pathum Thani Province

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Abstract

Introduction: Access to food that is both safe and nutritious is the key to sustaining life and improving overall health and well-being. Food handlers play a crucial role in ensuring food safety and upholding proper food sanitation within restaurants.

Objectives: This quasi-experimental study aimed to determine the effect of the food sanitation literacy development program on the behavior of food handlers in Samkhok District, Pathum Thani Province.

Methods: The sample consisted of 78 food handlers, randomly divided into an experimental group (n=39) and a control group (n=39). The intervention lasted for five weeks. Both groups were assessed for their food sanitation literacy and behavior one week before the intervention. The experimental group received the food sanitation literacy development program for two weeks, while the control group received standard support. Participants in both groups were reassessed immediately after the intervention and at a one-week follow-up. The data was collected through questionnaires and analyzed using Repeated-Measures ANOVA and Independent Samples t-test with a significance level of 0.05

Results: The result revealed that before the intervention, the experimental and control groups did not differ significantly in their average food sanitation literacy and behavior (p-value = 0.704). After one week of receiving the intervention, both groups showed a significant difference in their average food sanitation literacy and behavior (p-value<0.001). The experimental group's food sanitation literacy and behavior after the intervention, including both immediately and one week later, were significantly higher than before the intervention (p-value<0.001).

Conclusion: This indicates that the food sanitation literacy development program effectively improved the food sanitation literacy and behavior of food handlers in SamKhok District, Pathum Thani Province.

Keywords: Food handlers, Food sanitation behaviors, Food sanitation literacy, Food sanitation literacy development program

Improving breakfast consumption and nutritional status among school-age children: a case study in an elementary school of Nakhon Ratchasima Province, Thailand

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Abstract

Introduction: A healthy breakfast provides school-age children with the essential nutrients needed for their activities, contributes to ability of learning and correlates with good nutritional status and good health. However, breakfast skipping still be the crucial problem in school children in Thailand which nutrition intervention are needed.

Objectives: This study aimed to investigate nutritional status and the effect of techniques for promoting breakfast consumption among school-age children in Bannongkhainam elementary school, Nakhon Ratchasima, Thailand.

Methods: This research was a participatory action research designed for increased knowledge, awareness and practice of breakfast consumption. The target groups composed of 100 students in academic year 2023 who were breakfast skipping. The instruments used for assess nutritional status were weighing scale and height measuring device then made an interpretation of nutritional status using the Thai National growth reference for children. Food consumption behavior of student was evaluated by food consumption behavior form. Data were analyzed using descriptive statistics and Paired sample t-test.

Results: Finding showed that there were increased of knowledge and awareness of breakfast consumption. Sixty-seven (67%) of students who were breakfast skipping had increased breakfast consumption after finished program with statistically significant (p<0.05). Regarding nutritional status, they had improvement of their nutritional status which were categorized as underweight 18.0% vs 15.0% normal 62.0% vs 65.0% and obese 20.0% vs 20.0% (before and after program, respectively).

Conclusion: Participatory nutrition program for improving breakfast consumption was successful.

Keywords: Breakfast consumption, Elementary school, Nutritional status, School-age children

Participatory community innovation for food security: lessons from Khok Salung Sub-district, Lopburi Province, Thailand

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Abstract

Introduction: During the COVID-19 pandemic, many areas have struggled with food insecurity. Communities in Khok Salung Sub-district in Lopburi Province, Thailand demonstrated their effective response to food security challenges.

Objective: The objective of this study was to describe how Khok Salung community built an innovative measure for food security through community participation.

Methodology: The study employs qualitative research methods, including document analysis, observations, focus group discussions, and in-depth interviews with 25 stakeholders. This participatory action research evaluation was conducted during July 2023- April 2024.

Results: The findings revealed that the key enabling factor is the integration of cultural capital and local wisdom, such as practical knowledge of vegetable gardening, indigenous vegetables, local cuisine, and food preservation. The Thai Bueng Khok Salung Folk Museum serves as a center for driving activities under the concepts of "Grow, Eat, Share, Save Seeds" and "Community Happiness Health Charter" emphasizing the creating and sharing happiness with respect to their cultural ways. The community applied a four-step process to build food security: 1) **Conserving** food resources, 2) **Reviving** food wisdom, 3**) Passing on** knowledge through elderly, adult and youth networks, and 4) **Extending** to community economy based on culture. The participation from all sectors commonly concerned with four dimensions of food security, i.e., food *availability*, *accessibility*, *utilization*, and *sustainability*. Consequently, the social innovation in leading to sustainable household and community food security was formed based on hands-on experience of their collective thinking, participatory action, and co-benefit sharing.

Conclusions: This highlights the importance of participatory community empowerment to solve the problems of food security. It could be applied for other challenge areas in coping with and adapting to future crises.

Keywords: Community participation, Food security, Self-reliance, Social innovation

Nutrition status and its associated factors among the elderly in a Vietnam rural medical center: a cross-sectional study

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Abstract

Introduction: Malnutrition is one of countless health risks for the elderly, especially in areas with difficult economic conditions. The purpose of this study is to describe the nutritional status of senior citizens who visit the district health center and some related factors.

Objectives: Describe the nutritional status and analysis of some related factors of elderly people visiting a district medical center in rural areas of Vietnam in 2023.

Methods: A cross-sectional study was conducted at Ea H'leo District Medical Center, Dak Lak Province in 2023. There were 251 subjects interviewed who came for examination at the district medical center. The elderly's nutritional status is evaluated using the Mini Nutritional Assessment (MNA) scale. Logistic regression was used to identify factors related to the nutritional status of the elderly.

Results: There were 12% suffered from malnutrition, and 41.4% were at risk. The risk of malnutrition was associated with university/ postgraduate [OR (95%CI): 0.08 (0.01-0.7)], poor economic status [OR (95%CI): 0.13 (0.03-0.6)], married [OR (95%CI): 0.48 (0.2-0.9)], good dental status [OR (95%CI): 0.33 (0.1-0.8)], regular exercise [OR (95%CI): 0.47 (0.3-0.8), and heavy physical activity [OR (95%CI): 6.0(1.1-32.3)].

Conclusion: Needing support to improve difficult economic conditions and increasing access to nutritional healthcare knowledge is also a factor in reducing the risk of malnutrition and disease in the elderly right from the community.

Keywords: Nutrition status, the elderly, rural, medical center, associated factors

Eating and mealtime behaviours in Vietnamese children with autism spectrum disorder

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Abstract

Introduction: There has been an increase in the number of children with autism spectrum disorder (ADS), in whom problems with eating behaviors are often present.

Objectives: This study aims to assess eating behaviors in children with ADS aged 3-11 years using the Brief Autism Mealtime Behaviors Inventory (BAMBI), thereby providing additional evidence to inform interventions dedicated to ASD children in Vietnam.

Methods: An online survey using the BAMBI was conducted with parents of 85 children with ADS and parents of 175 typically developing (TD) children between April 2020 and April 2021.

Results: The study results revealed higher risk of eating behavior problems among Vietnamese children with ADS compared to TD children (p<0.0001). The differences between the two groups were statistically significant in 17 out of 18 items of the BAMBI.

Conclusion: Future studies using direct observations with larger samples are needed to further investigate eating disorders among children with ADS.

Keywords: Autism, BAMBI, Children aged 3-11 years, Eating behaviors

Evaluate nutritional status and some related factors in patients after gastrointestinal surgery at Hue University of Medicine - Pharmaceutical Hospital

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Abstract

Introduction: Nutrition plays an extremely important role for people, especially sick people. For patients undergoing surgery, nutrition plays an even more important role. Malnutrition not only increases surgical complications such as: surgical wound infection, leaking anastomosis, slow wound healing, but is also a factor related to disease prognosis, prolonging hospital stay and increasing mortality.

Objectives: 1. Assess the nutritional status of patients after gastrointestinal surgery at the Department of Gastroenterology, Hue University of Medicine and Pharmacy Hospital. 2. Learn some factors related to the nutritional status of research subjects.

Methods: Cross-sectional descriptive study was conducted on 105 inpatients at the Department of Gastrointestinal Surgery, Hue University of Medicine and Pharmacy Hospital during the period from April 2023 to June/ 2023. Research subjects were assessed for nutritional status using the SGA subjective comprehensive assessment tool and interviewed using a set of prepared questions to find factors related to nutritional status. Interview time was 3 days after surgery.

Results: Assessment of patient nutritional status according to SGA showed that 31.4% of patients were malnourished, including mild/moderate malnutrition or suspected malnutrition. malnutrition is 27.6%, severe malnutrition is 3.8%. Factors related to the nutritional status of research subjects according to the multivariable logistic regression model are length of hospital stay and meal time. oral route after gastrointestinal surgery.

Conclusions: Research results show that patients admitted to the hospital for gastrointestinal surgery need to be screened and assessed for nutritional status to detect nutritional risks, thereby determining treatment and intervention timely.

Keywords: BMI, Gastrointestinal surgery, Malnutrition, Nutritional status, SGA

Evaluating the dietary intake of the elderly in Hue City. Vietnam

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Abstract

Introduction: Vietnam is facing a rapidly aging population, leading to many health issues, especially malnutrition among the elderly. Malnutrition and its consequences increase economic burdens. One of the most popular causes of undernutrition is inadequate food intake. Assessing dietary intake is an effective method to improve the nutritional status of the elderly. However, the dietary intake research among the elderly in Hue City is still limited. It is necessary to evaluate dietary intake and related factors to propose intervention solutions to improve the nutritional status of the elderly.

Objectives:
1. To evaluate the 24-hour diet among the elderly in Hue City.
2. To identify related factors which Affect the diet among the elderly

Methods: This cross-sectional descriptive study was conducted on 845 elderly living in Hue City, Vietnam. Baseline demographic information, anthropometry, and nutritional indicators were measured. The nutritional status of the elderly was determined based on their body mass index (BMI), which was calculated using height and body weight (kg/m2). The 24-hour recall method was used to record par- participants' diets in the 24 hours preceding the date of the survey. The diet was then analyzed using a designated software (Eiyokun, National Institute of Nutrition, Vietnam) based on the Vietnamese food composition table to calculate the total energy and macronutrient intake. An individual was finally dichotomized as either meeting or not meeting the recommended nutritional needs for Vietnamese people. A multivariate logistic model was applied to find the related factors of 24-hour dietary intake ($p<0.05$).

Results: The average daily energy intake was 1661.38 ± 464.05 kcal/day. The intake of protein, lipid, and carbohydrate were 65.97 ± 28.64 g/day, 41.87 ± 23.64 g/day, and 232.88 ± 109.82 g/day, respectively. The proportions meeting the recommended intake for energy, protein, and lipid were high, while the proportion meeting the recommended carbohydrate intake was the lowest at 29.8%. Factors associated with meeting the 24-hour dietary energy requirement included a reduced appetite (OR=2.134; 95% CI: 1.578-2.887) and not meeting the lipid requirement within 24 hours (OR=1.438; 95% CI: 1.280-1.683). Factors related to meeting the 24-hour protein requirement included not preparing meals oneself (OR=1.831; 95% CI: 1.079-3.142) and not meeting the lipid requirement within 24 hours (OR=34.15; 95% CI: 19.99-58.34).Factors associated with meeting the 24-hour carbohydrate requirement included education level (OR=1.873; 95% CI: 1.046-3.351), alcohol consumption (OR=2.122; 95% CI: 1.332-3.380), not preparing meals oneself (OR=1.755; 95% CI: 1.133-2.658), limited food accessibility (OR=1.555; 95% CI: 1.005-2.406), and not meeting the lipid requirement within 24 hours (OR=15.78; 95% CI: 5.985-41.64). Factors related to meeting the 24-hour lipid requirement included not meeting the 24-hour dietary energy requirement (OR=2.309; 95% CI: 1.471-3.625), not meeting the 24-hour protein requirement (OR=35.03; 95% CI: 20.05-59.86), and not meeting the 24-hour carbohydrate requirement (OR=14.95; 95% CI: 5.836-38.43).

Conclusion: The prevalence of elderly who have adequate dietary intake is still low. Therefore, it is necessary to encourage the elderly to adopt a healthy lifestyle, and family members and the elderly need to enhance counseling efforts and build a reasonable diet.

Keywords: 24-hour dietary intake, Elderly, Meeting needs, Nutritional status

Appetite loss among the elderly and related factors in Hue City, Vietnam

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Abstract

Introduction: Appetite loss among the elderly is a common clinical issue, however, its prevalence and related factors in community-dwelling elderly are not well understood. Appetite loss reduces food intake volume and quality, leading to weight and muscle mass loss, malnutrition, frailty, and increased mortality. Global studies have identified appetite loss-related factors such as age, physical activity, and living situation.

Objectives:
1. To determine the prevalence of appetite loss among the elderly in some wards of Hue City.
2. To investigate factors associated with appetite loss among the study subjects.

Methods: This cross-sectional study was conducted among 835 elderly who were living in Hue City by direct interviewing using a semi-questionnaire. Appetite loss was evaluated using the council on nutrition appetite questionnaire scale (CNAQ). The multivariate logistic regression model determined appetite loss-associated factors ($p<0.05$).

Results: The mean age was 69.8 ± 8.4 years; 54.5% were male. There was 22.0% of the elderly were undernourished. The incidence of appetite loss was 39.1%. Some related factors included the age group of 70-79 years (OR=1.497; 95% CI: 1.292-1.847), male (OR=1.616; 95% CI: 1.089–2.399), physical inactivity (OR=1.735; 95% CI: 1.227–2.452), alcohol abstinence (OR=1.736; 95% CI: 1.168–2.579), undernutrition (OR=2.519; 95% CI: 1.519–4.177), not having concern on own daily diet (OR=2.030; 95% CI: 1.333–3.091), being unable to prepare individual meals (OR=1.909; 95% CI: 1.314–2.772), eating alone (OR=1.792; 95% CI: 1.179–2.724), inadequate daily protein intake (OR=1.690; 95% CI: 1.480–1.991), lack dietary fiber intake (OR=1.688; 95% CI: 1.499–1.948), energy intake not meeting recommended requirements (OR=2.047; 95% CI: 1.065–2.069), and depression (OR=2.047; 95% CI: 1.345–3.115).

Conclusion: The prevalence of appetite loss among the elderly was high. Appetite loss has a relationship with age, gender, physical inactivity, malnutrition, insufficient protein and fiber intake, and depression. Promoting a healthy lifestyle, a balanced diet, a comfortable eating environment, and psychological care are essential for improving appetite and nutrition among the elderly.

Keywords: Appetite loss, Elderly, Hue city, Nutrition, Related factors

The comparison of prevalence, awareness, treatment and control of hypertension among adults along the Lancang-Mekong River countries-China, Laos and Cambodia

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Abstract

Introduction: Under the background of similar geography and culture in Lancang-Mekong countries and rapid changes in regional economy and lifestyle,

Objectives: we performed a comparative study of the prevalence, awareness, treatment and control of hypertension in the Lancang-Mekong River Basin. To provide a basis for regional cooperation in the prevention and control of hypertension.

Methods: A cross-sectional study was conducted between January 2021 and March 2023 in the Lancang-Mekong River countries consistent with the World Health Organization's STEPS methodology. We included 11005 participants aged ≥18 years from three countries, whose information was collected through questionnaires, physical examination and biochemical tests, and analyzed the cascade of hypertension care. We also used multivariate logistic regression models to assess the associated factors of prevalence, awareness, treatment and control of hypertension. **Funding:** Yunnan Provincial Department of Science and Technology Key R&D Programme Projects (202103AF140002), Yunnan Provincial Department of Science and Technology Major Science and Technology Special Programme Projects (202102AA310002), Yunnan Provincial Key R&D Programme-Special Project for Social Development (202103AC100004), Yunnan Provincial Department of Science and Technology Kunming Medical University Joint Special Project on Applied Basic Research (202301AY070001-045), National 14th Five-Year Plan-Research on Prevention and Control of Common Multi-Diseases (2022YFC2503400), Yunnan Provincial Department of Science and Technology Major R&D Programme-Biomedical Special Project (202302AA310045)

Results: After sex-age standardization, the prevalence of hypertension was highest in Laos (34.5 %) and lowest in Cambodia (23.6%). Higher awareness rate of hypertension in China (53.4%) and Laos (46.5%) compared to Cambodia (39.7%). The treatment rates of hypertension were highest in China (42.4%) and lowest in Cambodia (16.9%). And less than 18% of patients in the three countries had their blood pressure under control. Among hypertensive patients, the rates of loss at each stage are high in three countries. The prevalence, awareness, treatment, and control of hypertension in the three countries differed by demographic characteristics, behavioral lifestyle, and metabolic disease.

Conclusion: The gaps in the cascade between the prevalence and control of hypertension were large in China, Laos, and Cambodia. There is an urgent need to develop and implement targeted and precise interventions to improve awareness, treatment and control of hypertension in the Lancang-Mekong River countries.

Keywords: Awareness, Control, Hypertension, Low and middle-income countries, Prevalence, The Lancang-Mekong River countries, Treatment

Family health behaviors among hypertension person at Xieng Khouang Provicial Hospitial, Lao People's Democratic Republic

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Abstract

Objectives: This descriptive research aimed to study the family's behavior with the hypertension person at the XiengKhouang province hospital, Lao People's Democratic Republic by applying the Pender's Health promoting Model (2015).

Methods: The sample of 100 their families was collected by a simple remedial sampling. The data collecting included the interviewing forms, which contained a question on demographic data health behavior of family members. The descriptive statistics method were used for data analysis such as the frequency of percentage, the mean of standard deviation and the content analysis of quantitative data.

Results: The results of this research as followed: 1) The overall score of behavior with their families hypertension persons were at a moderate level ($\bar{x}$ = 2.32, SD = 0.24). 2) The family health behavior interviews found that most of the families did not prepare the diet for hypertensive patients. Family members do not support, monitoring, patients' hypertensive management because they believe that the patients can manage themselves. Moreover, the family also did not recognize that adequate rest and regular exercise and have a positive effect on overall health status.

Conclusion: Information of family behavior, can be used as a baseline data for the planning and development to promote patient and family health behaviors. Salty and fatty foods. Which is consistent with traditional feasting at local festivals, and factors of perceived benefits to the action, the situations influences.

Keywords: Family, Health behavior, Hypertension, Persons

Research on the nutrition status and management countermeasures of students in compulsory education stage in Z County from the perspective of public policy

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Abstract

Introduction: Analyze the nutrition status of students in Z county under the implementation of relevant policies, and provide some management advice and suggestions.

Objectives: It is an important measure of compulsory education in China to attach importance to and implement the relevant policies of the nutrition improvement plan for students in rural compulsory education. Since the introduction of the " Opinions of the General Office of the State Council on Implementing the Nutrition Improvement Plan for Rural Compulsory Education Students " and other related policies in 2011, the pilot area of Z County in Yunnan Province has carried out the monitoring and evaluation of students nutritional health status. Objectively analyze the nutritional status of students in Z County under the implementation of relevant policies, comprehensively understand the health status of students in the county, and provide some management opinions and suggestions for promoting the healthy growth of young students under the implementation of relevant policies and related health management problems.

Methods: According to the basic data collected by Z County Center for Disease Control and Prevention, Excel 2016 was used for data analysis and statistics.

Results: In this study, 66.37 % of all grades were in normal nutritional status, and the rates of under nutrition and overweight and obesity were 17.90 % and 15.73 %, respectively. Among them, 8.29 % of the under-nutrition rate of 17.90 % was in a state of growth retardation and 9.61 % was in a state of emaciation; among the overweight and obesity rate of 15.73 %, 10.17 % were overweight and 5.57 % were obese.

Conclusion: Z county should pay attention to the nutritional status of students in the compulsory education stage, avoid the continuous increase of under nutrition rate and overweight and obesity rate ; government departments should strengthen the supervision and guidance in the process of policy implementation, adjust policies in time, and improve the practical ability of policy guidance ; we should clarify the responsibilities of all parties in the process of policy implementation and improve the implementation of policies ; strengthen the construction of school professional team and improve the professional ability of school nutrition and health management ; pay attention to students ' nutrition education, improve students ' nutrition management ability ; do a good job of publicity and improve policy influence.

Keywords: Compulsory education, Countermeasure research, Nutrition improvement plan, Policy implementation, Public policy

Risk assessment of outbreak of intestinal infectious diseases in earthquake-stricken areas
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Abstract

Objectives: To assess the risk of outbreak of legal intestinal infectious diseases in earthquake-stricken areas, and to provide a basis for the prevention and control of legal intestinal infectious diseases in earthquake-stricken areas.

Methods: The risk assessment index and risk value were constructed by combining the LEC method and the risk matrix method, and the risk risk of outbreak of legal intestinal infectious diseases in the earthquake-stricken area was quantitatively assessed.

Results From 2010 to 2020, there were 2618676 cases of key notifiable intestinal infectious diseases in China, and the average annual incidence of key notifiable intestinal infectious diseases was 238063, with an average annual incidence rate of $17.52/10^5$, and the incidence rate showed a decreasing trend ($P<0.05$); By soliciting expert opinions and suggestions, 5 risk indicators, 20 risk categories and 80 risk sub-categories were constructed; from the perspective of risk categories, the transmission route (4494) > drinking water hygiene indicators (2926), earthquake disaster level (1800) > living habits (1669>) were constructed, among which the transmission route was the main driving factor for the rampant intestinal infectious diseases in the earthquake-stricken area, which belonged to the priority risk management objects. From the perspective of risk subcategories, waterborne (3982) > heat-tolerant coliforms (1585) = large earthquake disaster (1585) > drinking raw water (1259); Such indicators should be listed as key risk control scopes.

Conclusion: In the early post-earthquake period, the following aspects should be done in the emergency stage of prevention and control of intestinal infectious diseases: first, the surveillance, reporting, investigation and disposal of infectious diseases should be strengthened; the second is to ensure the hygiene and safety of drinking water and food; the third is to restore basic public health services as soon as possible; the fourth is to carry out disinfection and insecticide work in a scientific and standardized manner; Fifth, we should carry out environmental improvement and vigorously carry out a patriotic public health campaign.

Keywords: Earthquake-stricken area, Intestinal infectious disease, Risk assessment

Clinical characteristics analysis of dengue virus infection combined with liver damage in Mengla County, China Laos border area

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Abstract

Objectives: To analyze the clinical characteristics of 2348 adult inpatients with dengue fever in Mengla County, and to provide reference for the clinical diagnosis and treatment of dengue fever and population prevention and treatment.

Methods: A retrospective analysis was performed for the general data, clinical manifestations, and laboratory examination analysis of 2348 adult hospitalized dengue fever cases admitted to Mengla County from January to December 2023, and the clinical signs and pathogenesis characteristics of dengue fever were descriptively analyzed.

Results: Among the 2348 patients, the serotype was DENV-1 and a few were DENV-2, with an average length of hospital stay of 6.5 days. There were 1295 males (55.15%) and 1053 females (44.58%), and the incidence was mainly young and middle-aged, with a high incidence age of 19-59 years (77.2%). The common symptoms and signs were as follows: fever in 2305 cases (98.21%), headache in 2104 cases (89.62%), fatigue in 1073 cases (72.56%), muscular pain in 1630 cases (69.44%), etc. In the laboratory analysis, the common manifestations were leukopenia in 1935 cases (82.44%), the lowest $1.1×10^9$/L, and thrombocytopenia in 1444 cases (61.5%), with the lowest $4×10^9$/L.

Conclusion: The clinical manifestations of dengue fever inpatients in Mengla County in 2023 conform to the general law of the occurrence and development of dengue fever, and the serotype is DENV-1, and the prognosis of the patients is good after active symptomatic supportive treatment and prevention and treatment of complications.

Keywords: Dengue fever clinical features epidemiology, Mengla County

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