DIPLOMA IN REGISTERED NURSING

eLearning Training Program

Course Title: Public Health Nursing

Course Code: PHN 013

Writer(s):

REVIEWER: Jaclyn Chileshe and Bernadette Kalundu

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ABBREVIATIONS

ABC: Abstenence, Be-Faithful, Comdom Use

ANC: ante-natalcare

ART: Anti-Retroviral Therapy

AVA: Audio-Visual Aid

BCG: Bacillus Calmette Guerine

CBDs: Community Based Distributors

CBOs: Community Based Organisations

CHAZ: Churches Health Association Of Zambia

CHW: Community Health Worker

CSO: Central Statistics Office

CTC: Counselling, Tesing And Care

DHB: District Health Board

DHMT: District Health Management Team

DMMU: Disaster Management And Mitigation Unit

DOTS: Direct Obsrved Therapy

EPI: Expanded Progrmme For Immunisation

FP: Family Planning

GRZ : General Republic Of Zambia

HIV: Human Immune Virus

HMB: Hospital Management Board

HMIS: Health Management Information System

ICT: Information Communication Technology

IEC: Information Education And Communication

IRH: Intergrated Reproductive Health

IRS: Indoor Residue Spraying

ITN: Insecticide Treated Net

MMR: Maternal Mortality Rate

MMR: Maternal Mortality Rate

MOH: Ministry Of Health

NGO: Non-Governmental Organisation

NHC: Neighbourhood Health Committee

NMR: Newborn Mortality Rate

OPD: Out-Patient Department

ORS: Oral Rehydration Salts

PEP: Post Exposure Prophylaxis

PHC : Primary Health Care

PHN: Public Health Nursing/Nurse

PMTCT: Prevention Of Mother To Child Transmission

STI: Sexually Transmitted Ifections

TB: Tuberculosis

TBA: Traditional Birth Attendents

TDRC: Tropical Disease Research Centre

UCI: Universal Child Immunisation

UN: United Nations

UNICEF: United Nation Children Emmergency Fund

UNZA: University Of Zambia

VCT: Voluntary Counselling And Testing

VIP: Ventilated Improved Pit Latrines

WHO: World Health Organisation

ZDHS: Zambia Demographic Health Survey

ZRN: Zambia Registered Nurse

COURSE TITLE: PUBLIC HEALTH NURSING

Introduction

Welcome to our course on public Health Nursing, Nurses play a major role in the provision of primary, secondary and tertiary prevention of diseases and maintenance of health. The course seeks to equip you with knowledge and skill in Public Health Nursing.

The course starts by discussing public trends, Act and policies to clearly identify health problems and the principles to be followed in the provision of nursing care. It then looks at the background of HIV/AIDS and how it is currently being prevented, and then focuses on the family and the community and its relation or role in health. You will also learn about concepts of primary health care, later you will look at health statistics and how data is managed. The course will also look at school health services and their importance in Public Health Nursing. You will go through a discussion on how you can give information, education and communication to an individual, a family and the community at large.

In addition, the course discusses epidemiology, its scope and approaches to the epidemiological studies. It then looks at introduction to emergency, disaster preparedness and management which covers the triage in management of emergencies and collaboration with other agencies in disaster and emergency management. You will also learn about partnership for health and networking that states the importance of a public health nurse working hand in hand with other partners. This will be followed by monitoring and evaluation where you will learn about quality assurance and disease surveillance. Then you will also learn about occupational health and safety for people working in diverse places. Finally you will learn about infection prevention in the community and home visiting.

Course Aim: To equip students with knowledge and skill in disease identification, prevention and networking with other agencies in the provision of quality public health services.

Course Objectives

At the end of the course, the student should be able to:

1. Describe public health trends in Zambia, the region and at international level.
2. Describe the organization of public health services in Zambia.
3. Identify public health problems prevalent in Zambia.
4. Apply knowledge and skills in the prevention of clients with HIV and AIDS.
5. Describe the Public health policies in Zambia.
6. Explain concepts and principles of Primary Health Care (PHC).

Course Content

This course has fourteen units which are as follows:-

UNIT 1: Public Health Trends, Act and Policies

In this unit you will define the terms that are commonly used in Public Health Nursing, discuss the components of public health and the public health trends in Zambia, the region and international. It will also discuss the national health policies and strategies. It explains the vision: 2030 Zambia and middle income dream. The structure will also describe the public health services in Zambia, history of Public Health Nursing, discusses historical development of Public Health Nursing, you will finally state the principles of Public Health Nursing and identify Public Health problems prevalent in Zambia.

Unit 2: HIV/ AIDS

This unit discusses the historical background of HIV/AIDS and the HIV epidemic; it will also discuss the mode of spread and the preventive strategies. It further discusses the basic principles of nursing management. It also analyses the role of stakeholders in the management of HIV/AIDS and related diseases. It then discusses the partnerships involved in the management of HIV/AIDS centres.

UNIT 3: Family and the Community

This unit provides an understanding for the family and the community. It will explain factors that affect the health of the community; it also explains the water supply, community partnerships for health and also discusses the selection, training, support and supervision of community volunteers .This unit also describes the neighbourhood committees and discusses the traditional healers.

UNIT 4: Introduction to Primary Health Care

The unit will begin by defining the key terms then it will discuss the concept of primary health care and discuss the primary health care in Zambia. Then it will discuss the principles and concepts of primary

health care. Then it will explain Millennium Development Goals. Then it will describe the essential health care package for the Zambia health care package.

UNIT 5: Health Statistics and Data Management

This section begins by defining key terms then discusses the health management information system (HMIS). It also explains the use of data collection tools. It will also explain the production and processing of health data at facility level. The unit states the indicators commonly used then discusses data processing and data analysis. The section will also discuss data quality and describe health management based on health data. It will then discuss data security and information of health informatics.

UNIT: 6 School Health Services

This unit will discuss the organization of school health services in Zambia It will also explore the components of the available nutritional services. In this unit you will also gain valuable knowledge on information, education and communication in relation to reproductive health, HIV/AIDS and other important health topics. This unit will also discuss on other strategies of implementation of school health services. Then finally it will discuss accident prevention strategies.

UNIT 7: Information, Education and Communication

This unit will define what Information Education and Communication (IEC) is, it will state the principles of IEC and discuss the purpose and barriers to communication. This unit will also help you gain knowledge and skill on the methods and techniques of effective communication. Then it will also discuss the preparation, selection of teaching Aids and the teaching methodologies.

Unit 8: Epidemiology

This unit begins by defining the key terms, then you will be expected to describe the scope of epidemiology. You will be expected to have an understanding of the approaches used in epidemiology studies. You will also need to explain the modes of transmission of disease and discuss the determinants of disease. Then you will be required to describe epidemiology and health expenditure.

Unit 9: Introduction To Emergencies And Disaster Preparedness

In this unit you will review definition of key terms. Then there will be explanation of the types of emergencies and their management. This section will also require you to explain the disaster management plans and finally describe facility partnerships in emergencies and disaster management.

Unit: 10 Partnerships For Health And Networking

This unit discusses partnerships for health and networking. It also focuses on explaining advocacy and also discusses communication, including client provider interaction. You will also be expected to have an understanding of social mobilization and how intersectoral collaboration is done.

Unit 11: Monitoring And Evaluation

This unit discusses quality assurance and diseases surveillance

Unit 12: Occupational Health And Safety

This section you will be expected to define the key terms. You will be expected to discuss policies and regulations and describe the common occupational health hazards. This section also discusses STI/HIV/AIDS and the work place policy. Then explain human rights at the work place.

Unit 13: Infection Prevention In The Community

In this unit you explain the measures to control spread of infection in the community.

Unit 14: Home Visiting

This unit state the principles of home visiting. It also describes the bag technique. You will be expected to describe the home based care and discuss counselling. You will be expected to discuss networking with stakeholders and describe the referral system.

ASSESSMENTS

- Your work for this course will be assessed in the following manner:
- One assignment with a minimum of 1000 words (10 marks) will be given
- Two tests which will be set by the school (20 marks)
- Community diagnosis will be done by each student (10 marks)
- The final exam will be set by the school 60 marks)

LEARNING TIPS

In this course you will find activities, self-help questions, case studies, illustrations, diagrams and self-assessments questions. These are part of the curriculum content and part of distance learning program so as to help you understand the material more easily. They will help you to engage with ideas and check your understanding. Ensure that you write full answers to the activities, or take not of illustrations and discussions. Note that the units are not of the same length, it is therefore imperative that you plan your work in such a way that you will be to complete units within intended time.

Course Duration

The course will take a minimum of 336 hours. Theory will attract 91 hours while practical will be 245 hours. During this period you will be expected to study your materials and ensure time is scheduled according to need. For example Health statistics and data management may require more time and also group discussions with others for better understanding of the study material. Ensure that you do your assignment and submit them at the recommended time for adequate feedback to be given.

Activities

You will be expected to actively participate in the course seminars, self-help questions and other residential conferences that will be provided during the course sessions. Make sure you make notes of the discussions that will be done and participate so that it helps you understand the subject materials better

Readings

There is list of recommended reading material which will include both textbooks and articles; however suggestions will be made for other materials as need arise. You should ensure that you read the recommended materials to gain more knowledge and insight in the subject matter. You are allowed to read other books to broaden your understanding and get alternative points of view.

UNIT 1: PUBLIC HEALTH TRENDS, ACTS AND POLICIES

1.1 Unit Introduction

I welcome you all to unit 1. In this unit we will discuss public health trends, acts and policies. Public health is prevention. Public health is the practice of preventing disease and promoting good health within groups of people, from small communities to the entire country. We have all in one way or another prevented a disease from occurring. By the end of this unit you should be able to demonstrate an understanding of the public health trends, acts and policies.

1.2 Unit Objectives

By the end of this unit you should be able to:

1. Define key terms in public health
2. Discuss components of public health
3. Explain public health trends in Zambia, the region and global
4. State the national health policies and strategies
5. Explain "Vision 2030" Zambia and Middle Income dream
6. Describe public health acts and policies
7. Describe the organization of Public Health Services in Zambia
8. Analyse the historical development of public health nursing
9. State the principles of public health nursing practice
10. Describe major public health problems in Zambia

1.3 Definition of key terms

In this first section we shall define terms which are commonly used in public health. Some of them like "Health" have been defined in earlier courses. Before you read on do the following activity.

Activity 1.1

Write down the definition of health in your notebook

Well done! I am sure you remembered that health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Public Health

There are a number of definitions used to describe public health. Let us look at the following three definitions:

"**Public Health** is the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles of personal hygiene, the organization of medical and nursing services for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health." (Winslow, 1920)

Public health is what we, as a society, do collectively to assure the conditions in which people can be healthy (The Future of Public Health, 1988).

Public Health is the science of protecting and improving the health of communities through education, promotion of healthy lifestyles, and research for disease and injury prevention. Public health professionals analyse the effect on health of genetics, personal choice and the environment in order to develop programs that protect the health of your family and community.

Public health refers to all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases. (WHO 2013)

Public Health Nursing

Just like public health, there are a number of definitions that have been used to describe public health nursing. Let us look at the following three:

- **Public health nursing** is the synthesis of the art and science of public health and nursing (Minnesota Department of Health, 1999).
- **Public health nursing** is the practice of promoting and protecting the health of populations using knowledge from nursing, social, and public health sciences (American Public Health Association, 1996).
- **Public health nursing** is further described as the promotion of health-focused practice that emphasizes the promotion of health, the prevention of disease and disability, and the creation of conditions in which all people can be healthy (Quad Council, 1999).

Trends

A trend is a pattern of gradual change in a condition, output, or process, or an average or general tendency of a series of data points to move in a certain direction over time, represented by a line or curve on a graph (www.businessdictionary,com)

Policy

A policy is a principle or rule to guide decisions and achieve rational outcomes.

A course or principle of action adopted or proposed by an organization individual. (www.oxforddictionaries.com/../policy)

You now know the meaning of common terms used in public health. Next we shall discuss the components of public health.

Self-test question

State whether true or false

1. Public health is what we, as a society, do collectively to assure the conditions in which people live can be healthy

a. True

b. False

2. A trend is a pattern of sudden change in a condition….

    a. True

    b. False

1.4 Components of Public Health

There are 4 main components of public health. These are:

- Health promotion
- Health prevention
- Curative
- Rehabilitation

Let us consider each component in further detail.

1.4.1 Health Promotion

Health promotion is the first component of public health**Definition of Health promotion**

The best known" definition of health promotion, promulgated by the *American Journal of Health Promotion* since at least 1986, is "the science and art of helping people change their lifestyle to move toward a state of optimal health" .

According to WHO (2005), **Health promotion** is the process of enabling people to increase control over their health and its determinants, and thereby improve their health. The 1st International Conference on Health Promotion was held in Ottawa in 1986. This conference resulted in the "Ottawa Charter for Health Promotion". According to this charter, health promotion:

- ✓ Is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being
- ✓ Aims at making... [political, economic, social, cultural, environmental, behavioural and biological factors] favourable through advocacy for health
- ✓ Focuses on achieving equity in health
- ✓ Demands coordinated action by all concerned: by governments, by health and other social and economic sectors, by nongovernmental and voluntary organization, by local authorities, by industry and by the media should be adapted to the local needs and possibilities of individual countries and regions to take into account differing social, cultural and economic systems

Activity: 2

Before we discuss the common areas addressed by health promotion, take your note book and write down in your own understanding the common areas addressed by health promotion.

Good! I believe the answers you came up with were as follows:-

Common areas addressed by health promotion

The following are the common areas which are addressed by health promotion specialists:

- smoking
- alcohol
- diet/obesity/exercise
- sexual health - including STIs, family planning
- mental health - including suicide prevention

Health Promotion Methods

Many of the more visible health promotion activities are lifestyle campaigns aimed at discouraging individuals from taking part in behaviour likely to damage their health. This is sometimes called health education.

In addition to health education, health promotion attempts to influence local or national policies relating to health or environmental factors impinging on the disease, such as introducing legislation to ban smoking in public places, or a voluntary proof-of-age card scheme to discourage under-age drinking. It has therefore been suggested health promotion can be summarised by the formula:

Health promotion = Health education x Healthy public policy

Work site Health Promotion

Health promotion can be performed in various locations. Among the settings that have received special attention are the community, health care facilities, schools, and worksite health promotion, also known as "workplace health promotion". Workplace health promotion has been defined as "the combined efforts of employers, employees and society to improve the health and well-being of people at work" (WHO, 2009)

The next component of public health is prevention. Let us look at that now.

1.4.2 Prevention

This is the second component of public health.

What does the term prevention mean to you? Think about it for 1 minute and then do the following activity.

Activity 1. 3Write the definition of prevention in your notebook

Good attempt! Now compare your definition with the one we will discuss below.

Prevention means anticipating and averting problems or discovering them as early as possible to minimise possible disability and impairment.

Prevention of health problems constitutes a major part of community health practice. It is practiced at the following three levels:

- Primary prevention,
- Secondary prevention and
- Tertiary prevention.

Let us discuss each level of prevention in detail.

Primary Prevention

Primary prevention refers to interventions aimed at preventing the occurrence of disease, injury, or disability (Stanhope & Lancaster, 2007). Interventions at this level of prevention are aimed at individuals and groups who are susceptible to disease but are not yet sick.

The first level of prevention includes broad efforts such as health promotion, environmental protection, and specific protection. Health promotion includes nutritional education, counselling and the promotion of physical activity. Environmental protection ranges from basic sanitation and food safety, to home and work place plans, to air quality control.

Examples of primary prevention include:

- Immunization
- Growth monitoring activities for children
- Preconception folic acid supplementation to prevent neural tube defects,
- Fluoridation of water supplies to prevent dental caries, and
- Actions taken to reduce exposure to agents that may cause cancer.

Primary prevention occurs in homes, in community health centres, and rural health clinics.

Secondary Prevention

We have just finished looking at primary prevention. Now, let us discuss secondary prevention.

When you hear the word secondary prevention, what comes to your mind?

Secondary prevention strategies attempt to diagnose or treat an existing disease in its early stages before it results in significant morbidity. Secondary prevention encompasses interventions designed to increase the probability that a person with a disease will have that condition diagnosed at a stage when treatment is likely to result in cure. Health screening is the mainstay of secondary prevention. Early and periodic screenings are critical for diseases for which there are few specific primary prevention strategies, such as breast cancer.

The goal of secondary prevention is to identify and detect disease in its earliest stages, before noticeable symptoms develop, when it is most likely to be treated successfully. With early detection and diagnosis, it may be possible to cure a disease, slow its progression, prevent or minimize complications, and limit disability.

Another goal of secondary prevention is to prevent the spread of communicable diseases (illnesses that can be transmitted from one person to another). In the community, early identification and treatment of people with communicable diseases, such as sexually transmitted diseases, not only provides secondary prevention for those who are infected but also primary prevention for people who come in

contact with infected individuals. Like primary prevention, secondary prevention is performed by individual health care practitioners and public health agencies and organizations. An example of secondary prevention that is conducted by many different professionals (physicians, nurses, allied health professionals) in a variety of settings (medical offices, clinics, health fairs) is blood pressure screening to identify people with hypertension (high blood pressure).

Examples of screening procedures that lead to the prevention of disease emergence include the Pap smear for detecting early cervical cancer, routine mammography for early breast cancer, sigmoidoscopy for detecting colon cancer, periodic determination of blood pressure and blood cholesterol levels, and screening for high blood-lead levels in persons with high occupational or other environmental exposures.**Tertiary Prevention**

Activity

In your own words, what do you think tertiary means?

Write down your answer in your note book.

Good attempt!Tertiary prevention is a level of preventive medicine that deals with the rehabilitation and return of a patient to a status of maximum usefulness with a minimum risk of recurrence of a physical or mental disorder (Mosby Medical Dictionary, 2009).

Tertiary means third in degree, order, place or importance (Encarta Dictionaries, 2010)

Tertiary prevention generally consists of the prevention of disease progression and attendant suffering after it is clinically obvious and a diagnosis established. Tertiary prevention attempts to reduce the extent and severity of a health problem to its lowest possible level to minimise disability and restore or preserve function.

Tertiary prevention programs aim to improve the quality of life for people with various diseases by limiting complications and disabilities, reducing the severity and progression of disease, and providing rehabilitation (therapy to restore functionality and self-sufficiency). Unlike primary and secondary prevention, tertiary prevention involves actual treatment for the disease and is conducted primarily by health care practitioners, rather than public health agencies.

Tertiary prevention efforts have demonstrated that it is possible to slow the natural course of some progressive diseases and prevent or delay many of the complications associated with chronic diseases such as arthritis (inflammation of the joints that causes pain, swelling, and stiffness), asthma (inflammation and obstruction of the airways that makes breathing difficult), heart disease, and diabetes. This activity also includes the rehabilitation of disabling conditions.

Examples include eliminating offending allergens from asthmatic patients; routine screening for and management of early renal, eye, and foot problems among diabetics; and preventing reoccurrence of heart attack with anticlotting medications and physical modalities to regain function among stroke patients.

For many common chronic illnesses, protocols to promote tertiary preventive interventions have been developed, often called "disease management." Disease treatments are not usually included, but the boundary with tertiary prevention is not always clear.

1.4.3 Curative: This is the third component of public health. Refer to elimination of signs and symptoms of a disease. E.g headache, stomach pains, vomiting etc.)This is the care or management of a patient in order to combat suffering, eliminate disease and prevent disability.

Terms Used In Curative Measures

- Active and cure – designed to cure
- Palliative – directed to relieve pain
- Prophylactic – prevention of disease disorder associated with the disease
- Conservative treatment – involves radical measures and procedures
- Empirical treatment - employs methods shown to be beneficial by experience.
- Rational treatment – based on knowledge of the disease process and the action of the measures used
- Pharmacological – use of drugs
- Surgical – involving operational procedures

Activity
Take your note book and give an example of conditions for each of the types of treatments mentioned above.

This one focuses on the illness end of the continuum and is the remedial aspect of community health practice. This occurs by three methods:

- Direct service to the people with health problems
- Indirect service that helps people to obtain treatment
- Development of programs to correct unhealthy conditions.

An example of direct service includes the following: Home based care team visits a lonely AIDS patient neglected by his relatives and examines the patient from head to toe, educates the client and refers the patient to a social worker. group of public health nurses during their clinical experience visit an old

people's home and provid assistance in giving medications to those who cannot drink their medicine, bathing those who cannot bath themselves, chang their wet beddings and leav them comfortable.

The second method of treating disorders is indirect service by assisting client with health problems to obtain treatment. In many instances, a home based care team may not be able to provide needed care and refers the individuals or groups concerned to a more appropriate resource.

The third method of treatment of disorders is the development of programmes to correct unhealthy conditions. For example, a secondary school with many pupils abusing drugs can form a club for counselling on drug abuse and involving those who are affected as members. Peers will make it possible for their friends to open up and receive help. Those who cannot be helped can be assisted by referring them to Drug Enforcement Commission for help Another way would be affiliating the club to Drug Enforcement Commission and working hand in hand with the Drug Enforcement Commission..

1.4.4 Rehabilitation

We have now come to the fourth and last component of public health.

Rehabilitation involves efforts to reduce disability and, as much as possible, restore function. People whose handicaps are congenital or acquired through illness or accident, such as stroke, heart condition, amputation, or mental illness, can be helped to regain some measure of lost function or develop new compensating skills.

For example, a factory worker who los his leg in an industrial accident received good medical and nursing care, prosthetic fittings, and physical and occupational therapy; he then retrained to assume an office job. The objective of rehabilitation is to restore the individual to his usual role as promptly and fully as possible. The rehabilitation effort is directed toward preserving the individual's own assets and bolstering his coping capabilities. For the adult of working age, return to work is especially important.

Rehabilitation is by nature a multidiscipline, multiagency task. Each situation may call upon a different combination of professional workers: vocational counsellors, educationists, social workers, or a different agency involvement at different levels and kinds of family therapeutic effort.

Take home questions

i. Define public health nursing

ii. List the four components of public health

iii. Discuss activities found under each component of public health.

1. Self-test questions

   The science and art of helping people change their lifestyle to move toward a state of optimal health is known as

   a. Illness prevention

   b. Health promotion

   c. Rehabilitation

   d. Currative

2. How many levels of prevention are there in PHN?

   A. One

   B. Two

   C. Three

   D. four

1.5 Public Health Trends In Zambia, Region And Global

Earlier we defined a trend.

Activity 1.3

- **Write down the definition of a trend in your note book**
- **From your definition list some of the trends you may think of.**

Trend is a general direction in which something is developing or changing.

Thank you very much for your try, we defined a trend as a pattern of gradual change in a condition, output, or process or an average or general tendency of a series of data points to move in a certain direction overtime, represented by a graph or curve on a graph.

The development of public health in Zambia has been influenced by the following trends:

- Demographic trends
- Social trends
- Economic trends

- Health workforce
- Technological trends

Let us discuss each trend in detail.

Demographic trends

There has been an increase to the population due to the effect of increase on fertility and reducing mortality rates. The main

- ***Size of the population***

  There has been an increase in the population in the country to about 12.8 million This has resulted from the continued high fertility rate (6.2 children per woman) and birth rates

- ***Characteristics of a population***

  There has been an increase in the lifespan of many Zambians which has been attributed to improved access to health care and the introduction of free ARVs entails that the younger generation which was dying at an early age have now longer life span. There has been a reduction in the mortality rate and non-communicable disease are becoming more common than the infectious diseases

Social trends

There has been a change in the life styles with people appreciating more the quality of life they live, changing compositions and increasing households. Most people are taking responsibility of their health and preferring to spend more money on their health.

Economic trends

There has been a steady increase in household income which could be attributed to both husband and wife being engaged in income generating activities. However, the uneven distribution of the economy has resulted in a big gap between those who get a lot of money and those who hardly get any. This has resulted in straining the government income and also failing the minimum requirements in the provision of quality health care. Currently there are more children below 15 years (46% of the population) which means more increased demand on the working force for support and service provision.

Health work force

There has been shortage of health workers especially nurses in the country. Current levels are 9560 public health nurse and the recommended is 22330, (MOFNP, 2010). The shortage resulted from migration of nurses to developed countries in search of greener pastures; this could have been as a result of voluntary separation which led to nurses going on early retirement. There has also been increasing numbers on deaths and retirement. The MOH and GNC have tried to respond to the demand by scaling up on the training of nurses, introduction of training of certified midwives, and also eLearning.

Technological Trends

There has been improved technology which provides positive outcomes and challenges as well. The advancement in technology has led to improved quality of care through advanced medical diagnostic test and treatment options, there is also improved communication which leads to improved referral system, as we advance there will also be increased costs to meet these developmental activities. However there will be a gap between those who are rich and can access these activities and those who are poor and cannot afford quality health care.

The new technology will also demand for specialized personnel to use it and hence nurses will need to be re oriented with certain programs in order to function properly.

We hope you now understand the trends that have an influence public health in Zambia. Next let us look at the national health policies and strategies.

Activity:

Take your note book and discuss t at least 3 public health trends in Zambia and how they have affected health from the following list

1. Increased population
2. Advances in technology
3. Globalisation
4. Emergence of new infections e.g. Ebola,

Well done! To understand more re-visit the notes.

Self-test questions

1. A change in life style is an example of:-
    a. Technology trend
    b. Economic trend
    c. Social trend
    d. Dressing trend
2. Ebola as a new emergence disease is an example of
    a. Increased population

b. Diseases burden

c. Improved technology

d. Economic trend

1.6 National Health Policies nd Strategies

Zambia recognises health as one of the priority sectors that contributes to the well-being of the nation and, therefore, remains committed to providing quality health services to all its citizens. The National Health Strategic Plan 2011 to 2015 (NHSP 2011-15) for Zambia seeks to provide the strategic framework for ensuring the efficient and effective organisation, coordination and management of the health sector in Zambia, for the next five years ending 2015.

Zambia is a Lower Middle Income Country and since 2006, the country has been implementing the Vision 2030, which aims at transforming it into a prosperous middle-income nation by 2030.

Zambia has a high burden of disease, which is mainly characterised by high prevalence and impact of communicable diseases, particularly, malaria, HIV and AIDS, STIs, and TB, and high maternal, neonatal and child morbidities and mortalities. The country is also faced with a rapidly rising burden of non-communicable diseases, including mental health, diabetes, cardio-vesicular diseases and violence.

Table 1: Mission, Vision, Overall Goal, Principles and Priorities

Mission Statement:	To provide equitable access to cost effective, quality health services as close to the family as possible (MOH, 2011)
Vision:	A Nation of Healthy and Productive People
Overall Goal:	To improve the health status of people in Zambia in order to contribute to socio-economic development
Key Principles:	Primary Health Care (PHC) approach; Equity of access; Affordability; Cost-effectiveness; Accountability; Partnerships; Decentralisation and Leadership; Clean, Caring and Competent health care environment

National Public Health Priorities

In a country where people's health is poor development is slow and the economy is poor. Therefore, Zambia has given high priority to the health of its' people.

The National Health Priority Areas (NHPAs) are diseases and conditions that Zambian governments have chosen for focused attention because they contribute significantly to the burden of illness and injury in the Zambian community (Australian Institute of health and welfare, 2005).

The ministry of health has identified the following public health priorities for its people:

- Primary health care services.
- Maternal, neonatal and child health.
- Communicable diseases, especially malaria, HIV and AIDS, STIs and TB.
- Non-Communicable Diseases (NCDs)
- Epidemics control and public health surveillance.
- Environmental health and food safety.
- Health service referral systems.
- Health promotion and education

Health System Priorities

A health system is the sum total of all the organizations, institutions and resources whose primary purpose is to improve health. A health system needs staff, funds, information, supplies, transport, communications and overall guidance and direction. And it needs to provide services that are responsive and financially fair, while treating people decently (WHO, 2005).

The health system priorities include

- Human Resources for Health (HRH).
- Essential drugs and medical supplies.
- Infrastructure and Equipment.
- Health information.
- Health care financing.
- Health Systems Governance.

Main Objectives health policies and strategies

- Reduce the under-five mortality rate from the current 119 deaths per 1000 live births to 63 deaths per 1000 live births by 2015;
- Reduce the maternal mortality ratio from the current 591 deaths per 100,000 live births to 159 deaths per 100,000 live births by 2015;
- Increase the proportion of rural households living within 5km of the nearest health facility from 54.0 percent in 2004 to 70.0 percent by 2015;
- Reduce the population/Doctor ratio from the current 17,589 to 10,000 by 2015;
- Reduce the population/Nurse ratio from the current 1,864 to 700 by 2015;
- Reduce the incidence of malaria from 252 cases per 1,000 in 2008 to 75 in 2015;
- Increase the percentage of deliveries assisted by skilled health personnel from 45 percent in 2008 to 65 percent by 2015; and
- Reduce the prevalence of non-communicable diseases associated with identifiable behaviours.

Strategic directions

A strategic direction is a course of action that leads to the achievement of the goals of an organization's strategy. The government wants to deliver quality health service by following six (6) strategic directions as follows:

1. Service delivery which is divided into three parts:
    a. Primary Care Service
    b. Hospital Services
    c. Specialised Support Service
2. Human resource for health
3. Infrastructure, Equipment and Commodities
4. Health Management Information System (HMIS)
5. Health Care Financing
6. Leadership & Governance

Service delivery

- *Primary Care services*: To provide cost-effective, quality and gender sensitive primary health care services to all as defined in the Basic Health Care Package

- *Hospital services*: To increase access to quality of advanced referral medical care services.
- *Specialised Support Services*: To strengthen and scale up medical support services, to ensure efficient and effective service provision

Human resource for health

To improve the availability of and distribution of qualified health workers in the country

Infrastructure, equipment and commodities

- *Medical Commodities & Logistical Systems*To ensure availability and access to essential health commodities for clients and service providers
- *Infrastructure*To provide sustainable infrastructure, conducive for the delivery of quality health services at all levels of the health care system
- *Equipment, Transport and ICTs*To ensure the availability of adequate, appropriate and well-maintained medical equipment and accessories in accordance with service delivery needs at all levels

Health Management Information System (HMIS)

To ensure availability of relevant, accurate, timely and accessible health care data to support the planning, coordination, monitoring and evaluation of health care services

Health care financing

To mobilise resources through sustainable means and to ensure efficient use of those resources to facilitate provision of quality health services

Leadership and governance

To implement accountable, efficient and transparent management systems at all levels of the Health Sector

Activity:

Having discussed the national health policy and strategies, list down the Ministry of Health public health priorities for it's' people.

Good try! Remember to study your notes to understand the topic.

Self-test questions

1. A Nation of Healthy and Productive People is Zambia's

   a. Vision

   b. Mission

   c. Policy

   d. Act

   e.

2. Which of the following is not among the three components of service delivery?

   a. Primary Care Service

   b. Specialised Support Service

   c. Human resource for health

   d. Hospital Services

1.7 "Vision 2030" Zambia And Middle Income Dream

We are now going to look at Zambia's "Vision 2030". I hope you are going to appreciate the direction in which the country is heading after learning this section.

Introduction

The Vision 2030, Zambia's first ever written long-term plan, expresses the aspirations of the Zambian people to be accomplished by the year 2030. It articulates the appropriate national and sector goals to meet people's aspirations. It is based on policy-oriented research on key national strategic issues and on a process of discussion and dialogue with the private sector, civil society and the general citizenry on the long-term goals and future of Zambia.

Since 1964, the Zambian Government has prepared and implemented medium-term plans to promote sustainable socio-economic development. However, these plans were never anchored on a National Vision. The lack of a Vision contributed to the fragmented character of development efforts in the past.

The vision

(i) Zambians, by 2030, aspire to live in a strong and dynamic middle-income industrial nation that provides opportunities for improving the well-being of all, embodying values of socio-economic justice, underpinned by the principles of: (i) gender responsive sustainable development; (ii) democracy; (iii) respect for human rights; (iv) good traditional and family values; (v) positive attitude towards work; (vi) peaceful coexistence and; (vii) private-public partnerships.

The nation should have an economy which is competitive, self-sustaining, dynamic and resilient to any external shocks, supports stability and protection of biological and physical systems and is free from donor dependence. In addition, it should have stable social and cultural systems that support human capital formation. Among other things, the nation Zambians aspire for should be characterized as follows:

- A common and shared destiny, united in diversity, equitably integrated and democratic in governance, promoting patriotism and ethnic integration;
- Devolved political systems and structures while retaining the roots and positive aspects of their own mould of social, cultural and moral values;
- A continuous path of ever refining, ever advancing and ever consolidating democratic dispensation and progressive adaptation from global best practices;
- Economically, socially and politically integrated within the sub-region, Africa and the rest of the world;
- Diversified and balanced and strong industrial sector, a modern agricultural sector and an efficient and productive services sector;
- Technologically proficient, fully able to adapt, innovate and invest using its human and natural resources;
- Strong and cohesive industrial linkages in the primary, secondary and tertiary sectors;
- Sustained high and increasing productivity levels with regard to every factor of production;
- Well developed and maintained socio-economic infrastructure;
- A robust and competitive transport and communications network that services the region;
- Strong entrepreneurial capabilities, self-reliant, outward looking and enterprising, where nationals take advantage of potential and available opportunities;
- Exemplary work ethics, honesty, high human and ethical values, quality consciousness and the quest for excellence;
- A macroeconomic environment conducive for growth;
- Development policies consistent with sustainable environment and natural resource management principles;

- Access for all to good quality basic human necessities such as shelter, titled land, health and education facilities and clothing;
- Diversified education curricula that are responsive to the knowledge, values, attitudes and practical skill needs of individuals and society at large;
- Regional centre of excellence in health and education;
- Decent work opportunities that ensure respect for fundamental human rights and principles;
- Opportunities for all citizens to become resourceful and prosperous nationals;
- Decentralized governance systems; and,
- Safe and secure social environment

Self-test questions

1 Vision 2030 for Zambia aim at:-

a. Reducing HIV prevalence to 5%

b. Making Zambia a prosperous middle income country

c. Eradicating blindness by the year 2030

d. Making Zambia high income country

1.8 Public Health Act And Policies

Introduction

We have now looked at national health policies and strategies, and vision 2030. Today we are going to look at Public Health Act. Who can remember what public health is?

CHAPTER 295 of the laws of Zambia is the PUBLIC HEALTH ACT. It is an Act to provide for the prevention and suppression of diseases and generally to regulate all matters connected with public health in Zambia [11*th April, 1930]*

It is arranged in sections and it has schedules that provide the prescribed forms that should be used. The section on interpretations contains what can be called definitions. It is important to familiarise oneself with the terms used in the ACT. The statutory instruments are written to be used as a guide as the Law is being implemented or observed.

It is divided in 15 parts as follows:

Part 1: Preliminary

Part 2: Administration

Part 3: Notification of infectious diseases

Part 4: Prevention and suppression of infectious diseases

Part 5: Special provisions regarding formidable epidemic diseases

Part 6: Prevention of spread of small pox

Part 7: Prevention of introduction of disease

Part 8: Venereal diseases and Leprosy

Part 9: Sanitation and Housing

Part 10: Protection of food stuffs

Part 11: Water and food supplies

Part 12: Prevention and destruction of mosquitoes

Part 13: Cemeteries

Part 14: General

Part 15: Miscellaneous provisions

Now let us look at some interpretations of the act.

Some interpretations

Some of the meanings are:

"Adult" means a person who is over or appears to be over eighteen years of age;

"Child" means a person who is under or appears to be under eighteen years of age;

"Guardian" means any person having, by reason of the death, illness, absence or inability of the parent or any other cause, the custody of a child;

"Parent" includes the father and mother of a child, whether legitimate or not;

"approved" and "prescribed" mean respectively approved or prescribed by the Minister or the Board or by the appointed officers or by the regulations framed under this Act, as the case may be;

"District" means, in relation to a Local Authority, the area which is under the jurisdiction of that Local Authority;

"Dwelling" means any house, room, shed, hut, cave, tent, vehicle, vessel or boat or any other structure or place whatsoever, any portion whereof is used by any human being for sleeping or in which any human being dwells;

"Food" means any article used for food or drink other than drugs or water, and any article intended to enter into or be used in the preparation of such food, and flavouring matters and condiments;

"Health Inspector" means a Health or Sanitary Inspector in the employment of the Government or of any Local Authority, and includes any person appointed by the Director of Medical Services to act as such within the district of one or more Local Authorities;

"Infected “means suffering from, or in the incubation stage of, or contaminated with the infection of, any infectious disease;

"Infectious disease" means any disease (not including any venereal disease except gonorrhoeal ophthalmia) which can be communicated directly or indirectly by any person suffering therefrom to any other person;

"Isolated" means the segregation and the separation and the interdiction of communication with others of persons who are or are suspected of being infected; and "isolation" has a corresponding meaning;

"Medical observation" means the segregation and detention of persons under medical supervision;

"Medical surveillance" means the keeping of a person under medical supervision. Persons under such surveillance may be required by the Medical Officer of Health or any duly authorised officer to remain within a specified area or to attend for medical examination at specified places and times;

"Medical Officer of Health" means the Director of Medical Services, any Government Medical Officer, any medical practitioner appointed by the Director of Medical Services to act as Medical Officer of Health in any area specified in such appointment, and the Medical Officer of Health of a city council, municipal council or township council;

"Medical practitioner" means a person registered under the Medical and Allied Professions Act;

"Local Authority" means-

(*a)* In the area of a city council, a municipal council, township council, such council;

(b) In any other area, the District Secretary for the District in which such area is situate; "premises" includes any building or tent together with the land on which the same is situated and the adjoining land used in connection therewith, and includes any vehicle, conveyance or vessel;

"public building" means a building used or constructed or adapted to be used either ordinarily or occasionally as a place of public worship or as a hospital, college, school, theatre, public hall or as a place of assembly for persons admitted by ticket or otherwise, or used or adapted to be used for any other public purpose;

"street" means any highway, road or sanitary lane, or strip of land reserved for a highway, road or sanitary lane, and includes any bridge, footway, square, court, alley or passage whether a thoroughfare or not or a part of one;

"Trade premises" means any premises (other than a factory) used or intended to be used for carrying on any trade or business;

"Workshop" means any building or part of a building in which manual labour is exercised for purposes of trade.

The following are salient features:

- *Notification of infectious diseases* which include anthrax meningitis, dysentery, leprosy and many others.
- *Special provision regarding formidable epidemic diseases* whenever any part of Zambia appears to be threatened by any formidable epidemic infectious disease the area may be declared an" infected area "that area may also be regarded as restricted area.
- *Prevention of the spread of diseases i.e. chicken pox*, every individual including children should be protected against small pox
- *Protection of food stuffs*, no person shall reside or sleep in any kitchen or room in which food stuffs are prepared, stored or sold
- *Water and food supplies*: any pollution dangerous to the supply of water which the public within its district has a right to use and does for drinking or domestic purpose shall be prevented, this shall be the duty of every local authority

Prevention and destruction of mosquitoes, and collection of water found to contain any of the immature stages of the mosquitoes shall be buried The Public Health Act is a document that all persons involved in provision and utilisation of public health services should familiarise themselves with so that the health of the population is promoted. The mandate of the public health comes from laws of the land that consists of legislation, regulation and court decisions. Public health laws identify the policies and procedures that guide the process of preventing disease and protecting the public including promotion of health.

2 Self-test questions

Which one of the following is not a health system priority

a. Maternal and child nutrition

b. Health information

c. Health care financing

d. Essential drugs and medical supplies

1.9 Organization Of Public Health Services In Zambia

The health sector in Zambia comprises of three types of service providers, namely, state-owned health facilities, faith-based health facilities, under the coordination of the Churches Health Association of Zambia ("CHAZ"), and the private sector. Most state-owned facilities are owned and controlled by Ministry Of Health and Ministry of Community Mother and Child Development, with a few falling under the Ministry of Defence and Ministry of Home Affairs. Below is the brief overview of the way these services are organized.

1. 3rd Level Hospitals

These are also known as central hospitals and are meant to provide specialised services in internal medicine, surgery, paediatrics, obstetrics, gynaecology, intensive care, psychiatry, training and research, and also act as referral centres for 2nd level hospitals. The scope of coverage for such facilities is a catchment population of 800,000 people and above

2**. 2nd Level Hospitals**

They are provincial general hospitals, intended to provide sub- specialised referral services in internal medicine, general surgery, paediatrics, obstetrics and gynaecology, dental, psychiatry and intensive care services. They are also intended to act as referral centres and provide technical back-up for 1st level hospitals, and offer training services. These facilities are intended to cover catchment populations of between 200,000 to 800,000 people.

3. **1st Level hospitals**

These are hospitals at district level, intended to provide referral services in medical, surgical, obstetric and diagnostic services, including all clinical services to support HC referrals. Such facilities are found in most of the 72 districts and are intended to serve catchment populations of between 80,000 and 200,000 people. However the more complicated cases requiring specialised care are referred to the second level hospital.

4. Health centres

These include Urban Health Centres, intended to serve urban communities with catchment populations of between 30,000 and 50,000 people, and Rural Health Centres, servicing catchment areas of 29 Km radius or population of 10,000 people**.** They provide the basic health care package with minimal specialisation. They focus more on primary health care and refer complicated curative cases to the district hospital.

5**. Health posts ("HPs")**

These are intended to serve small communities with populations of approximately 500 households (3,500 people) in the rural areas, and 1,000 households (7,000 people) in the urban areas, and are supposed to be established within 5Km radius for sparsely populated areas.

6. Faith-Based Health Sector

Faith-based health facilities are owned by various religious organisations, predominantly Christian organizations from different denominations and countries. These facilities are spread across Zambia, mainly in rural areas, and include 31 hospitals, 69 rural health centres and 25 community-based organisations. Administratively, these facilities are independently managed by their respective sponsors.

However, in order to provide for appropriate technical support and coordination, they are organized under the Churches Health Association of Zambia ("CHAZ"), which is an inter-denominational non-governmental umbrella organisation for Christian church health facilities in Zambia. It is the second largest provider of health care services in Zambia, after the Government, and currently contributes 30% of the overall health care services in Zambia.

They provide free medical care services to the general public, and supplement the Government's efforts. These facilities are officially recognized as public facilities and are therefore provided with Government grants for staff salaries and operations 60% in rural health areas.

6. Private Health Sector

The private health sector includes hospitals and health centres/clinics owned by private investors, the privatized mining companies and the civil society/non-governmental organizations ("NGOs"). Private health facilities provide basic health care services at health centre level, and general medical and specialized services at hospital level. The contribution of this sub-sector could be estimated in the range of 10% to 15%. These facilities are predominantly concentrated in the mining and other urban areas, with minimal presence in rural areas. Private health facilities are registered corporate entities and managed as private businesses

7. **Health Statutory Boards**

Two types of statutory boards, regulatory and service, have also been established to provide support to the Ministry and the health delivery system. Statutory boards play an important role in the implementation of the overall Government health policy and regulation of the health sector.

Regulatory boards are responsible for enforcing specific Government Laws and policies, while service statutory boards provide support services to the core health service delivery facilities.

Regulatory boards currently include the Medical Council of Zambia ("MCZ"), General Nursing Council ("GNCZ"), Pharmaceutical Regulatory Authority ("PRA"), Food Safety and Food Quality Control Services Unit, Environmental Health and Epidemiological Trends Unit, Radiation Protection Board, Radiology and Medical Devices Control Unit and the Medical Laboratory Regulatory Services Unit. On the other hand, service statutory boards are responsible for providing specific services in support of the health delivery system and include the National Food and Nutrition Commission (which is regulatory and partially service), Zambia National Flying Doctor Services ("ZNFDS"), Zambia National Blood Transfusion Service ("ZNBTS") and the Tropical Disease Research Centre ("TDRC").

8. Health Training Institutions

The public health sector also includes a number of health training institutions providing various types of pre- and in-service training for health workers. These institutions play a pivotal role in the production of appropriately trained health workers, including medical doctors, nurses, clinical officers and paramedical staff for the Zambian health sector.

Do you remember what you covered in professional practice?. Can you remember the number of health/ nursing training schools and where they are in Zambia.?

Self-test questions

1. The 2nd level hospital is found at the

a. District level

b. Provincial level

c. Community level

Tertially level

2. A health post is an example of

d. 1st referral point

e. 2nd referral point

f. 3rd referral point

g. 4th referral point

1.10 Historical Development Of Public Health Nursing

Public health nursing traces its roots to England where, in 1859, Florence Nightingale assisted in organizing district public health nursing. Each nurse was assigned a specific geographic area of London and was responsible for the health of the people living in that neighbourhood. This type of organization finds its echo today in many public health departments, where public health nurses organize their work by groups of census tracts called districts and the nurse is known as the district public health nurse.

In the United States, modern public health nursing was defined by pioneering Nurse Lillian Wald in the late 1800s. She established the Henry Street Settlement in New York City, where nurses lived in the neighbourhoods where they worked. In the beginning, public health nursing was primarily concerned with taking care of the sick poor in their homes. Lillian Wald came to the realization that sickness found in the home had its origin in larger societal problems. She set about directing nursing efforts toward employment, sanitation, recreation, and education. It was Lillian Wald who coined the term "public health nurse." Hospital-based schools of nursing which granted nursing diplomas provided the educational preparation for nurses at this time.

In the early part of the twentieth century, Visiting Nurses Associations were formed to continue the tradition of providing care for the sick in their homes, which eventually became known as home health nursing. Public health nursing began to be practiced in both voluntary agencies such as the American Red Cross, and governmental agencies, such as Local County and city health departments. Serving the needs of the poor remained a key aspect of public health nursing.

In the mid twentieth century, care shifted from the home to the clinic, where nurses worked well in baby and immunization clinics for the uninsured and were active in controlling communicable diseases such as tuberculosis. In the latter part of the twentieth century, nursing education began to move out of hospital based programs and into community colleges and universities.

Educational preparation for public health nurses varies widely in the United States with some jurisdictions requiring a bachelor's degree in nursing and others accepting a hospital diploma or associate degree from a community college. A bachelor's degree in nursing is considered a minimum requirement for public health nursing practice by many nursing professionals and professional nursing organizations. A bachelor's degree in nursing is thought to provide the background in social science and public health science such as epidemiology and environmental health that a public health nurse needs. Increasingly, public health nurses are enrolling in advanced degree programs in public health, community health nursing, and other public health specialties.

Historical Development Of Public Health Nursing In Zambia

In the colonial period, medical services were introduced to curb out malaria of which many missionaries died of. This led to the sending of district medical officers to significant stations in Northern Rhodesia, a service that was provided by the British South African Company. In 1923, the British South African Company was taken over by the British government under the colonial health development. Some years later in 1953, the Federation of Rhodesia and Nyasaland was born under the first governor, Lord Llewellyn who was stationed in Salisbury. In 1958 Llewellyn hospital was built (now Kitwe Central Hospital). After the federation was formed, missionaries saw the need for the health services for the indigenous people (Africans). They focused attention on the rural population for health care. They trained medical assistants who could work in rural areas and provide curative, preventive, and maternal and child health care. In 1964 after independence, the country experienced a lot of problems e.g. lack of man power though the hospitals were fewer in number.

In 1967, the government of Zambia signed a five year agreement and 12 volunteer public health nurses came. They were posted to Kafue, Rufunsa, Kahongo Hills and Mbereshi Health Centres. During the

same time, Dr Bocleus, a nutritionist came to Zambia and worked with Dr Noah in the MOH. The two doctors started the first under 5 clinic in Lusaka. In 1966 community health nursing was started in Kabwe, but this was discontinued in 1971 due to lack of man power. This saw the inclusion of community health nursing in the Zambia registered nursing training program. Later on in 1972, public health was incorporated in the ZRN training program. In 1973 the first two public health nurses were trained in Zambia, Mrs. Mufaya and Mrs. Chintu. In 1976 public health nursing studies were established at UNZA as a Post Basic nursing course. Later 1987, this program was integrated into the Bachelor of nursing. In 1995, the Masters of Public Health program was introduced at UNZA.

Self-test questions

1. Who coined the word Public Health Nursing
    a. Florence Nightingale
    b. Linda Richards
    c. Lillian Wald
    d. St. Vincent DePaul
2. In which town in Zambia was community health nursing first established?
    a. Livingstone
    b. Mongu
    c. Kasama
    d. kabwe

1.11 Principles Of Public Health Nursing

The client or “unit of care” is the population

- The primary obligation is to achieve the greatest good for the greatest number of people or the population as a whole
- The processes used by public health nurses include working with the client(s) as an equal partner
- Primary prevention is the priority in selecting appropriate activities
- Selecting strategies that create healthy environmental, social, and economic conditions in which populations may thrive is the focus
- There is an obligation to actively reach out to all who might benefit from a specific activity or service

Self-test questions state whether **true** or **false**

Selecting strategies that create healthy environmental, social, and economic conditions in which populations may thrive is not always the focus

a. True

b. False

1. 12 Major Public Problems In Zambia

1.12.1. Malaria

Malaria in Zambia is of the Savannah type, where malaria incidence is highest during the wet/dry season from November to April but low during the cool/dry period from May to August and hot/dry period from September to October. It is believed that global warming will lead to areas which were not endemic for malaria to experience malaria as the conditions become favourable for vector mosquitoes to survive. Malaria is a number one public health problem in Zambia. It is a major contributor to morbidity and mortality in the country. It accounts for 32% and 35-65% of hospital and health centre admissions respectively (MoH, HMIS, 2005).

About 40% of all outpatient attendances are due to Malaria. Malaria is a disease that affects all age groups with children under five years of age, pregnant women and non-immune persons being most susceptible.

Malaria parasite types

There are four species of malaria parasites. These are:

- *Plasmodium falciparum*
- *Plasmodium malariae*
- *Plasmodium ovale*
- *Plasmodium vivax*

Of these species, *P. falciparum* is the most prevalent and virulent malaria parasite, which is responsible for high mortality and morbidity rates. *P. malariae* and *P. ovale* account for less than 4% of the malaria cases. *P. vivax* is not commonly found in Zambia unless it is imported.

Prevention of alaria

The Zambian government has made malaria prevention and controls a national priority and has intensified its scale up of interventions in recent years. Over seven million insecticide treated bed nets have been distributed national wide and indoor residual spraying is now conducted in half of Zambia's

districts. Zambia has been held as a global leader in Malaria control (MoH: Quarterly January-March, 2010).

Indoor residual spraying (IRS)

The main method of controlling mosquito vector species that rest indoors is by spraying the inside of houses and other buildings with a residual insecticide. The objective is to reduce the life span or longevity of the mosquitoes below the time it takes for malaria sporozoites to develop after gametocytes are ingested by the mosquito. Household residual spraying must be done with an approved and effective insecticide at least annually or during hot and rainy seasons when malaria is common. Otherwise residual spraying will not be effective. Work with private businesses and other partners in the catchment area to support wider coverage of spraying in private homes.

Insecticide treated mosquito nets

Promote increased use of insecticide treated mosquito nets (ITNs). Priority must be given to children under 5 and pregnant women as they are among the most vulnerable population. ITNs are distributed through mass distribution campaigns, focused antenatal clinics, under-five clinics and equity or targeted vulnerable populations. ITNs are one of the most effective methods of malaria prevention. Effectiveness last for as long as 3 to 5 years. All house members are encouraged to consistently sleep under ITNs all year round.

For maximum effectiveness, the nets should be re-impregnated with insecticide every 6 months. ITNs should not be in contact to the skin, and should be of fine mesh. If properly used it offers greater than 70% protection compared with no net. ITNs protect people sleeping under the net and simultaneously kill mosquitoes that contact the nets. Some protection is also provided to others including people sleeping in the same room but not under the net.

Malaria prophylaxis during pregnancy

Malaria in pregnancy is frequently asymptomatic. Even if a woman has malaria, she may still test negative for parasites in the blood, as the parasites tend to go into the placenta. Placental malaria can have a serious impact on both the mother and the child. Placental malaria may also increase the risk of transmission of HIV from the mother to the unborn child.

Intermittent presumptive treatment (IPT)

Given their high risk, all pregnant women should receive anti-malaria prophylaxis. It has been recommended that all pregnant women should receive intermittent presumptive treatments, which are 3 adult treatment doses of Sulphadoxine (SP or Fansidar) during their 2nd and 3rd trimesters. The first dose is given after 16 weeks following the last menstrual period. Two more doses are given, at least 4 weeks apart, during the second and third trimester.

.**Environmental modification and manipulation**

These measures require community participation and ownership and they include the following;

- Drainage maintenance
- Filling and removal of breeding sites
- Ensuring the proper functioning of drains/ditches
- Removal of vegetation and rubbish causing blockages and standing water.

Prohibiting and taking action against unauthorised quarrying, irrigation and other constructions conducive to vector breeding

Promoting mosquito-proofing of buildings (application of mosquito screens to doors, windows and the eaves of buildings), particularly households and public places, such as schools, health facilities, hotels, restaurants and places of work.

Biological control using small fish (Gambusia affinnis fish)

Other methods of prevention

Various other personal behaviours and products provide some protection but, while they can be recommended, they are expensive and do not have an important public healthy role in reducing the burden of malaria. These include:

- Mosquito repellent coils
- Mosquito repellent aerosols and liquids.

Covering up with clothing in the evenings, including covering of babies on the backs of care takers, is recommended. However, because relatively less malaria is transmitted before 22 00 hours, this has little impact.

Malaria prophylaxis for patients with chronic conditions

Patients with the following conditions require prophylaxis against malaria

Hyperactive malicious splenomegaly

- Splenectomy
- Sickle cell disease
- Other chronic anaemias

Patients on systemic corticosteroids (e.g. prednisone) or other immuno-suppressive treatments

The recommended anti-malarial is Dapsone/Pyrimethamine (Maloprim), available in liquid in a dose of 25mg/12.5mg/5ml and in tablets form in a dose of 100mg/12.5mg.

Prevention requires A, B, C AND D. The meaning of the stated letters are as follows: -

- Awareness of the risk
- Bite avoidance
- Chemoprophylaxis (taking preventive medicine)
- Diagnosis made promptly with early treatment of infected case.

An E can be considered. E stands for emergency treatment with safe drugs such as Artemesin combined with Lumefantrine.

Self text

1. The commonest cause of malaria in Zambia is:-
    a. Plasmodium falciparum
    b. Plasmodium malariae
    c. Plasmodium ovale
    e. Plasmodium vivax Hospital Services

2. Plasmodium vivax Malaria can be transmitted by being soaked by rain
    a. True
    b. False

1.12.3 Maternal mortality

In Zambia, it is estimated that around 4000 women die each year from complications of pregnancy and childbirth. According to Zambia demographic and health survey of 2007, the current maternal mortality rate is 591 maternal deaths per 100,000 live births.

Maternal Mortality definition

According to the World Health Organization, "A maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes."

Generally there is a distinction between a direct maternal death that is the result of a complication of the pregnancy, delivery, or their management, and an indirect maternal death that is a pregnancy-related death in a patient with a pre-existing or newly developed health problem. Other fatalities during but unrelated to a pregnancy are termed *accidental*, *incidental*, or non-obstetrical maternal deaths. Cases with "incidental causes" include deaths secondary to violence against women that may be related to the pregnancy and be affected by the socioeconomic and cultural environment

Maternal Mortality Ratio (MMR)

Maternal Mortality Ratio is the ratio of the number of maternal deaths per 100,000 live births. The MMR is used as a measure of the quality of a health care system. The current maternal mortality rate for Zambia is 440 per 100, 000 live births.

Causes of maternal deaths The four major killers are: severe bleeding (mostly bleeding postpartum), infections (also mostly soon after delivery), hypertensive disorders in pregnancy (eclampsia) and obstructed labour. Complications after unsafe abortion cause 13% of maternal deaths. Globally, about 80% of maternal deaths are due to these causes. Among the indirect causes (20%) of maternal death are diseases that complicate pregnancy or are aggravated by pregnancy, such as malaria, anaemia and HIV. Women also die because of poor health at conception and a lack of adequate care needed for the healthy outcome of the pregnancy for themselves and their babies.

Associated risk factors

High rates of maternal deaths occur in the same countries that have high rates of infant mortality reflecting generally poor nutrition and medical care. Low birth weight of the child is correlated with maternal death from cardiovascular disease. Conversely, heavier childbirth weight is correlated with lower risk of maternal death.

Another issue that is associated with maternal mortality is the distance of travelling to the nearest clinic to receive proper care. In developing nations, as well as rural areas, this is especially true. Travelling to and back from the clinic is very difficult and costly, especially to poor families when time could have been used for working and providing incomes. Even so, the nearest clinic may not provide decent care because of the lack of proper staff and equipment.

Major Causes Of Maternal Morbidity And Mortality In Zambia

Haemorrhage:

This is the bleeding that occurs to a woman who is pregnant or has delivered. The following are the types:

Antepartum Haemorrhage

Definition: Bleeding from the genital tract after 28 weeks of pregnancy, but before the birth of the baby. Bleeding may be incidental (e.g., genital tract lesions), or may indicate placenta previa (when the placenta becomes implanted at or near the cervix) or placenta abruptio (when the placenta becomes detached from the uterus before delivery)**Postpartum Haemorrhage**

Definition: Loss of 500 ml or more of blood from the genital tract after the delivery of the baby, or any amount that brings about sudden deterioration in the mother's condition.

Types

- Primary postpartum haemorrhage (PPH) occurs within the first 24 hours of delivery, which is the most critical period.
- Secondary PPH occurs anywhere from 24 hours to 6 weeks postpartum.

Hypertensive Disorders in Pregnancy

Hypertension in pregnancy is diagnosed if the diastolic blood pressure is 90mm HG or more on two consecutive readings, taken 4 hours or more apart, or if there is a sharp increase of 30mm Hg systolic or 15mm Hg diastolic over the same period (if the diastolic BP is 110 mm HG or more, a time interval of less than 4 hours is acceptable).

- When it is complicated then it is named pre-eclampsia or eclampsia.
- Pre-eclampsia is when there is also protein in urine and swelling of the feet may also be present.
- Mild pre-eclampsia: Diastolic BP 90-110mm Hg 4 hours apart, after 20 weeks gestation with proteinuria up to 1+
- – Severe pre-eclampsia: Diastolic BP 110mm Hg or higher, 4 hours apart with proteinuria 2+ or more

Eclampsia : Convulsions with diastolic BP 90-110mm Hg 4 hours apart, with proteinuria up to 1+

- Puerperal Sepsis

Definition: nfection of the genital tract occurring at any time between delivery and 42 days (6 weeks) postpartum in which fever is present.

- ***Ruptured uterus***

This is when the integrity of the myometrial wall is breached. In an incomplete rupture the peritoneum is still intact. With a complete rupture the contents of the uterus may spill into the peritoneal cavity or the broad ligament.

- ***Complications of bortions***

Definition: Abortion is the termination of pregnancy (expulsion or extraction of foetus) before 28 weeks of gestation. This may lead to severe bleeding of severe infection if bleeding is not properly controlled and unsterile equipment is used. It is commonly seen in criminal abortion.

Prevention Of Maternal Deaths

The first step for avoiding maternal deaths is to ensure that women have access to family planning and safe abortion. This will reduce unwanted pregnancies and unsafe abortions.

The women who continue pregnancies need care during this critical period for their health and for the health of the babies they are bearing. Most maternal deaths are avoidable, as the health care solutions to prevent or manage the complications are well known. Since complications are not predictable, all women need care from skilled health professionals, especially at birth, when rapid treatment can make the difference between life and death. For instance, severe bleeding after birth can kill even a healthy woman within two hours if she is unattended. Injecting the drug oxytocin immediately after childbirth reduces the risk of bleeding very effectively.

Sepsis – a very severe infection – is the second most frequent cause of maternal death. It can be eliminated if aseptic techniques are respected and if early signs of infection are recognized and treated in a timely manner.

Eclampsia emerges as pre-eclampsia, a common hypertensive disorder, can be detected during pregnancy. Although pre-eclampsia cannot be completely cured before the delivery, administering drugs such as magnesium sulphate can lower a woman's risk of developing convulsions (eclampsia), which can be fatal.

Another frequent cause of maternal death is obstructed labour, which occurs when the foetus' head is too big compared with the mother's pelvis or if the baby is abnormally positioned. A simple tool for identifying problems early in labour is the **partograph**, a graph of progress of labour and the maternal and fatal condition. Skilled practitioners can use the partograph to recognize and deal with slow progress before labour becomes obstructed, and, if necessary, ensure that Caesarean section is performed on time to save the mother and the baby.

For women to benefit from those cost-effective interventions they must have antenatal care in pregnancy and during n childbirth they must be attended to by skilled health providers and they also need support in the weeks after the delivery.

There are many reasons why women do not receive the care they need before, during and after childbirth. Many pregnant women do not get it because there are no services where they live, they cannot afford the services because they are too expensive or reaching them is too costly. Some women

do not use services because they do not like how care is provided or because the health services are not delivering high-quality care.

Further, cultural beliefs or a woman's low status in society can prevent a pregnant woman from getting the care she needs. To improve maternal health, gaps in the capacity and quality of health systems and barriers to accessing health services must be identified and tackled at all levels, down to the community.

Essential Obstetric Care:

Many obstetric complications can be prevented, as long as they are detected early and dealt with promptly and effectively. Educate the community on early recognition of complications and quick referral or transfer, from the community to the health centre or to the higher level. Assist pregnant women to develop individualized birth plans and involve husbands, partners, and/or family, in planning and organising transportation and finances. Ensure early antenatal care, clean and safe delivery and postpartum care to help prevent complications arising during pregnancy, labour and postpartum period.

RECUP TIME!!!1

What are the commonest causes of maternal deaths in Zambia?

1.12.4 Neonatal And Child Morbidity And Mortality

In Zambia, Infant mortality rate stands at (IMR) – 70 per 1,000 live births, New-born mortality rate (NMR) – 34 per 1, 000 live births and Child mortality rate stands – 119 per 1, 000 live births (ZDHS, 2007)

More than 70 per cent of almost 11 million child deaths every year are attributable to six causes: diarrhoea, malaria, neonatal infection, pneumonia, preterm delivery, or lack of oxygen at birth. Neonatal deaths comprise 37% of all child deaths.

Definitions

- Infant mortality is defined as the number of infant deaths (one year of age or younger) per 1000 live births.
- Infant mortality rate (IMR) indicates the number of deaths of babies under one year of age per 1,000 live births.
- The World Health Organization (WHO) defines a live birth as any born human being who demonstrates independent signs of life, including breathing, voluntary muscle movement, or heartbeat.
- Perinatal mortality only includes deaths between the foetal viability (22 weeks gestation) and the end of the 7th day after delivery.

- Neonatal mortality only includes deaths in the first 28 days of life.
- Post neonatal mortality only includes deaths after 28 days of life but before one year.
- Child mortality includes deaths within the first five years after birth

Causes f Neonatal Deaths

- The main direct causes of neonatal death are estimated to be preterm birth (28%), severe infections such as sepsis or pneumonia and diarrhoea (26%), and birth asphyxia (23%).

Neonatal tetanus accounts for a smaller proportion of deaths (7%), but is easily preventable.

Complications of prematurity, low birth weight and congenital conditions are some of the causes of neonatal deaths.

Causes of death in children under 5 years

- Pneumonia
- Diarrhoea
- Malaria
- Injuries: drowning is the leading cause of death; road traffic accidents is the second injury related death; and fire-related burns
- HIV/AIDS
- Measles
- Other causes include meningitis, neglected tropical disease including trypanosomiasis, tetanus and TB.

Prevention

The millennium development goal number 4: Reduce child mortality by two-thirds, from 93 children of every 1,000 dying before age five in 1990 to 31 of every 1,000 in 2015. Research and experience show that six million of the almost 11 million children who die each year could be saved by low-technology, evidence-based, cost-effective measures such as vaccines, antibiotics, micronutrient supplementation, insecticide-treated bed nets and improved family care and breastfeeding practices.

Immunisation targets include increasing immunization coverage to at least 90 per cent at the national level and 80 per cent in all districts, with particular focus on reaching population groups with low coverage levels, and the final eradication of polio.

Micronutrient supplements to offset malnutrition, another critical factor in child survival. Supplements of vitamin A taken every four to six months can reduce child mortality from all causes by as much as 23 per cent, measles deaths by 50 per cent and deaths from diarrhoea by 33 per cent

Another target in this area is increasing the rate of children sleeping under mosquito nets to at least 60 per cent in malaria-endemic areas. Malaria is responsible for 10 per cent of all under-five deaths in developing countries.

UNICEF advocates for and promotes programmes to increase rates of exclusive breastfeeding. The strongest foundation of baby health is nutrition, and the best food for new-borns is breast milk. Breastfeeding protects babies from diarrhoea and acute respiratory infections, stimulates their immune systems and improves response to vaccinations, and contains many hundreds of health-enhancing molecules, enzymes, proteins and hormones.

Treatment for diarrhoea including the use of oral re-hydration salts and for acute respiratory infections such as pneumonia are also preventive measures.

It is also very important to have an increased access to improved water and sanitation.

Self test

1. The most common causes of deaths among under- fives are vaccine preventable diseases.

a. True

b. False

2. A neonate is a baby aged 2 months

   a. True

   b. False

1.12.7 Sexually transmitted infections

Sexually transmitted infections (STIs) are infections that spread primarily through person-to-person sexual contact. There are more than 30 different sexually transmissible bacteria, viruses and parasites. Several, in particular HIV and syphilis, can also be transmitted from mother to child during pregnancy and child birth, and through blood products and tissue transfer. Some of the commonest sexually transmitted pathogens can be divided into those caused by bacteria, viruses and parasites

Sexually transmitted diseases are acquired through contact with bodily fluids, generally as a result of sexual activity. Some infectious agents may be spread as a result of contact with a contaminated, inanimate object (known as a fomite), such as a coin passed from one person to another, while other diseases penetrate the skin directly.

Common bacterial infections

- Neisseria gonorrhoeae (causes gonorrhoea or gonococcal infection)
- Chlamydia trachomatis (causes chlamydial infections)
- Treponema pallidum (causes syphilis)
- Haemophilus ducreyi (causes chancroid)
- Klebsiella granulomatis (previously known as calymmatobacterium granulomatis causes granuloma inguinale or donovanosis)

Common viral infections

- Human immunodeficiency virus (causes AIDS)
- Herpes simplex virus type 2 (causes genital herpes)
- Human papilloma virus (causes genital warts and certain subtypes lead to cervical cancer in women)
- Hepatitis B virus causes hepatitis and chronic cases may lead to cancer of the liver).
- Cytomegalovirus (causes inflammation in a number of organs including the brain, the eye and the bowel

Parasitic organisms

Trachomonas vaginalis (causes vaginal trichomoniasis)

- Candida albicans (causes vulvovaginitis in women; inflammation of the glans penis in men)
- Vulnerable groups
- Teenagers
- Sex workers
- Persons away from regular partners for long periods
- Persons having excess income
- Babies born to infected mothers.

Activity
Take your note book and write down the factors that contribute to sexually transmitted infections.

Good try! Now compare your answers with those below

Factors affecting transmission

Behavioural factors

- Frequent change of partners
- Having sex when one has an STI
- Not informing partner about your status
- Alcohol

Personal factors

- Inability to practice safe sex
- Delay in getting treatment
- Compliance
- Shame/stigma
- Sexual experimentation

Social-economic, psychological and cultural factors

- Poverty
- Occupation
- Religious restrictions
- Polygamy
- Lack of health centre facilities
- Traditional practices (pulling, *mtototo*)
- Political instability

1.12. 8 HIV AND STIs

There is a close relationship and association between common STIs and HIV/AIDS. STIs as a family, HIV is considered to be the last born of more than twenty micro-organisms responsible for STIs. Both are transmitted mainly through sexual intercourse. There is a strong correlation between convention STIs and HIV transmission, and both ulcerative and non-ulcerative STIs have been found to increase the risk of HIV infection. The emergency and spread of HIV infection have also complicated the management and control of some of the STIs e.g. treatment of chancroid has become increasingly difficult, atypical presentation and antimicrobial resistance, rendering some regimen ineffective.

How STIS enhance the spread of HIV

STIs cause inflammation. HIV is attracted to the immune system of the body through cells which have CD4 receptors on their surfaces such as macrophages, monocytes, dendritic cells to which the HIV get bound. STIs commonly cause genital inflammation, mobilizing immune cells around the genital tract. However, STIs presenting with ulcers/sores make it 5-10 times easier for HIV to enter the body. STIs

cause damage to the surface and natural barriers in the genital tract disrupting the natural surfaces and lining of the genital tract. HIV is also spread in genital discharges where it is found in higher concentration.

Approaches to diagnosis of STIs

- ***Aetiological approach***: using laboratory tests to identify the causative pathogen(s) followed by pathogenic specific treatment
- ***Clinical approach***: treatment of suspected pathogen(s) based on clinical diagnosis
- ***Syndromic approach***: identification of clinical syndromes followed by syndrome specific treatment

The Global Strategy For The Prevention And Control Of Stis

The World Health Assembly endorsed the global strategy for the prevention and control of STIs in May, 2006. The strategy urges all countries to control the transmission of STIs by implementing a number of interventions, including the following:

- Prevention by promoting safer sexual behaviours.
- General access to quality condoms at affordable prices.
- Promotion of early recourse to health services by people suffering from STIs and by their partners.
- Inclusion of STI treatment in basic health services.
- Specific services for populations with frequent or unplanned high-risk behaviours – such as sex workers, adolescents, long distance truck drivers, military personnel, substance users and prisoners.
- Proper treatment of STIs, i.e. use of correct and effective medicines, treatment of sexual partners, education and advice.
- Screening of clinically asymptomatic patients, where feasible; (e.g. syphilis, chlamydia)
- Provision for counselling and voluntary testing for HIV infection.
- Prevention and care of congenital syphilis and neonatal conjunctivitis; and
- Involvement of all relevant stakeholders, including the private sector and the community, in prevention and care of STIs.

HIV/AIDS

Modes of transmission

- Sexual
- Blood products
- Mother-to-child

Prevention of HIV

A. Primary prevention

Decreasing the risk of exposure for persons who are currently uninfected

- Avoiding unsafe sexual practices and high risk drug behaviours
- Continued screening of blood and organ donors
- Using universal precautions in the handling of blood and body fluids
- Offering premarital/preconceptual HIV testing and counselling

Optimal risk reduction

- Abstinence
- Lifelong monogamy
- Barrier methods such as condoms and spermicidal preparations
- Increased availability of drug treatment centres for drug users
- Advocacy is also needed to change laws that make possession of injection equipment a criminal offense, creating a need to share drug or syringes
- Providing alternatives to prostitution and drug abuse. This may be providing employment and social needs

Education

Education is an important tool for change. Hence, it is important to educate the health care providers about risk for HIV infection and the interventions that can prevent transmission as this helps them protect themselves and the clients.

The public need continuous awareness information and educating on HIV/AIDS to ensure behavioural change.

B. Secondary prevention

Secondary prevention involves identifying HIV-infected persons and those with AIDS and appropriately treating their infection.

C. Tertiary prevention

Tertiary prevention in AIDS may be directed toward the individual client or population groups

Individual client

Tertiary prevention for HIV-infected clients are aimed at limiting the debilitating effects of infection, preventing the occurrence of opportunistic infections and normalizing the client's life as much as possible.

- Counsel all HIV infected women to prevent foetal HIV infection.
- Counsel and screen blood and tissue donors to ensure safe blood and tissue supply.

- Educate infected persons on means of preventing transmission to prevent spread of infection
- Interview cases and notify contacts to prevent spread of infection
- Provide prophylaxis for opportunistic infections to prevent opportunistic infection such as Pneumocystis carinii pneumonia (PCP). Trimethoprim-sulfamethoxazole is most often used for PCP and INH for TB
- Assist clients and families with the grieving to help clients and families accept death
- Engage in political activity to ensure funds to care for terminally ill (including hospice care).

All patient with sexually transmitted infections should be counselled for HIV

a. True

b. False

HIV and AIDS is a major cause of maternal mortality in Zambia

a. True

b. False

1.12.1 Tuberculosis

Tuberculosis (TB) is a contagious disease. Like the common cold, it spreads through the air. Only people who are sick with TB in their lungs are infectious. When infectious people cough, sneeze, talk or spit, they propel TB germs, known as bacilli, into the air. A person needs only to inhale a small number of these to be infected.

Left untreated, each person with active TB disease will infect on average between 10 and 15 people every year. But people infected with TB bacilli will not necessarily become sick with the disease. The immune system "walls off" the TB bacilli which, protected by a thick waxy coat, can lie dormant for years. When someone's immune system is weakened, the chances of becoming sick are greater.

HIV and TB

HIV and TB form a lethal combination, each speeding up the other's progress. HIV weakens the immune system. Someone who is HIV-positive and infected with TB bacilli is more likely to suffer from TB than someone infected with TB bacilli but is HIV-negative. TB is a leading cause of death among people who are HIV-positive. WHO and its international partners have formed the TB/HIV Working Group, which develops global policy on the control of HIV-related TB and advises on how those fighting against TB and HIV can work together to tackle this lethal combination. The interim policy on collaborative TB/HIV activities describes steps to create mechanisms of collaboration between TB and HIV/AIDS programmes, to reduce the burden of TB among people and reducing the burden of HIV among TB patients.

Stop TB strategy

The Stop TB Strategy is the recommended Strategy to control TB. It both builds on the Directly Observed Treatment Short - Course (DOTS) Strategy and expands its scope to address remaining constraints and challenges to TB control. The Stop TB strategy has six components:-

- Pursuing quality DOTS expansion and enhancement through' 5 components of DOTS strategy
- Addressing TB/HIV, MDR-TB and other special challenges
- Contributing to Health Systems strengthening
- Engaging all care providers
- Engaging people with TB and affected communities
- Enabling and promoting research

The first component – DOTS expansion and enhancement –is the cornerstone of the Strategy and provides the foundation for the remaining five.

DOTS have five key components:-

Sustained political commitment to increase human and financial resources and make TB control a nationwide priority integral to the national health system;

Access to quality-assured TB sputum microscopy for case detection among persons presenting with, or found through screening to have, symptoms of TB (most importantly, prolonged cough);

Standardized short-course chemotherapy for all cases of TB under proper case management conditions, including **direct observation of treatment**;

- Uninterrupted supply of quality-assured drugs;
- Recording and reporting system enabling outcome assessment of all patients and assessment of overall program performance.

Prevention of TB

Primary prevention

The goals in primary prevention of tuberculosis are to reduce an individual's risks and exposure to the disease through the efforts of education, change in life style and behaviour. The focus is on groups at high risk of contracting the disease, such as the homeless, people who are malnourished and young children. Also included in the focus are people who have uncontrolled diabetes and health workers.

Immunisation

There is a vaccine available for tuberculosis-bacille Calmette-Guérin (BCG) vaccine developed from an attenuated strain of Mycobacterium bovis. Attenuated organisms are those rendered incapable of

causing disease. The vaccine should also be administered to those individuals exposed to persons who have TB that is resistant to the usual forms of therapy. Additionally, BCG should not be given to individuals who are immunocompromised and should be administered only with caution to those at risk for HIV infection. The efficacy of BCG is somewhat unpredictable, but has been shown to reduce risk of infection by an average of 50 to 80% of children and infants in developing countries. BCG is recommended in children who experience continuous exposure to persons with active TB but who cannot be given routine chemoprophylaxis.

Education is a vital component of primary prevention of TB. It should include information and teaching on the transmission of tuberculosis, the infection process and details about the disease and its treatment.

Chemoprophylaxis

Persons who are at risk for TB or who have reactive tuberculin skin tests without evidence of current disease are offered isoniazid prophylactically to prevent its development. Chemoprophylaxis is recommended for individual of any age who have reactive skin tests and who are in close contact with a diagnosed case of active TB, have medical condition that increase their risk e.g. HIV infected.

Other strategies to reduce Tb

- Counselling about HIV and providing economical and nutritional support.
- Health care providers play a vital role in the process by becoming aware of how cultural diversity and manners can impact the care and treatment of some patients who do not want to participate.
- Pursuing the legislative, political and cultural avenues to engage their efforts in the cause is a powerful benefit.
- Adequate ventilation and ultraviolet light in areas that increase the risk of TB transmission
- Providing appropriate facilities for isolating infectious clients in hospitals to minimise the risk of transmission to health workers.

Considerations

- Influencing policy makers to provide for the needs of the homeless and to improve the conditions of others in poverty.
- It is important for health care providers to wear the proper respiratory masks that are properly fitted when caring for patients in the infectious stage of TB.

Secondary prevention of TB

Secondary prevention denotes the identification of people who have already developed a disease, at an early stage in the disease's natural history, through screening and early intervention. The rationale for secondary prevention is that if we can identify disease earlier in its natural history, intervention measures will be more effective. Perhaps we can prevent mortality or complications of the disease and use less invasive or less costly treatment to do so. Secondary prevention efforts for tuberculosis centre on screening, diagnosis, and treatment of existing disease

Tertiary prevention

- Tertiary preventive efforts for tuberculosis focus on three areas:
- Preventing recurrence of the disease in the individual
- Notifying and treating contacts of cases of tuberculosis
- Isolating infected persons as needed

Prevention of recurrence

Tertiary prevention of TB takes place at both the individual client level and the community level. With the individual client there is the potential for reactivation of disease following treatment, particularly if treatment has been inadequate. Most inadequate treatment is related to failure to comply with treatment recommendations. Case finding and referral of clients for treatment can eliminate lack of therapy as a cause of recurrent disease. Also, educating other health care providers regarding the appropriate treatment for tuberculosis as well as other communicable diseases recurrence is under prevention of recurrence. Clients should ensure that they take their prescribed treatment as directed and complete their therapy such as the use of DOTS. Clients should be monitored for signs of recurrence disease and obtain follow up sputum cultures or arrange for follow up x-ray to determine the adequacy of treatment.

Contact notification

At community level tertiary prevention focuses on preventing the spread of disease within the community. Contact notification is the major activity in this area. The strategic plan for tuberculosis control developed by the Centres for Disease Control calls for interviews of clients with diagnosed cases of TB within 3 days of diagnosis and examination of close contacts within 7 days, at which time contacts would be offered prophylactic chemotherapy.

Isolation

A final tertiary preventive measure for TB is involuntary isolation of persons with active disease; this is designed to prevent the spread of disease. What is involved is the involuntary isolation or quarantine of an infected person who refuses to discontinue behaviours that expose others to infection.

Self test

State whether True or False

1. .Tuberculosis is highly contagious. **TRUE /FALSE**
2. T.B. is preventable. **TRUE /FALSE**
3. T.B. is also an immunisable disease. **TRUE /FALSE**
4. **T.B is also an HIV infection. TRUE /FALSE**
5. T.B is curable. **TRUE /FALSE**

1.12.5 Maternal and child nutrition

Maternal nutrition is the dietary intake and habits of expectant mothers with dual emphasis on the health of the mother and the physical and mental development of infants.

The 30 million low-birth-weight babies born annually (23.8% of all births) often face severe short- and long-term health consequences. Low birth weight is a major determinant of mortality, morbidity and disability in infancy and childhood and also has a long-term impact on health outcomes in adult life. The consequences of poor nutritional status and inadequate nutritional intake for women during pregnancy not only directly affects women's health status, but may also have a negative impact on birth weight and early development.

The first Millennium Development Goal calls for the eradication of extreme poverty and hunger, and its achievement is crucial for national progress and development. Failing to achieve this goal jeopardizes the achievement of other MDGs, including goals to achieve universal primary education (MDG 2), reduce child mortality (MDG 4) and improve maternal health (MDG 5).

One of the indicators used to assess progress towards MDG 1 is the prevalence of children under 5 years old who are underweight, or whose weight is less than it should be for their age. To have adequate and regular weight gain, children need enough good-quality food, they need to stay healthy and they need sufficient care from their families and communities.

Recent evidence makes it clear that in children under 5 years of age, the period of greatest vulnerability to nutritional deficiencies is very early in life: the period beginning with the woman's pregnancy and continuing until the child is 2 years old. During this period, nutritional deficiencies have a significant adverse impact on child survival and growth. Chronic under nutrition in early childhood also results in diminished cognitive and physical development, which puts children at a disadvantage for the rest of their lives. They may perform poorly in school, and as adults they may be less productive, earn less and face a higher risk of disease than adults who were not undernourished as children.

For girls, chronic under nutrition in early life, either before birth or during early childhood can later lead to their babies being born with low birth weight, which can lead again to under nutrition as these babies grow older. Thus a vicious cycle of under nutrition repeats itself, generation after generation.

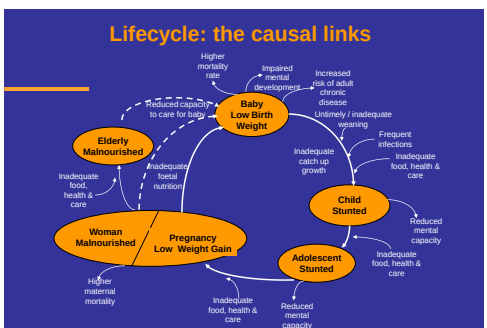

Figure 1: Vicious cycle of under nutrition

Child Nutrition In Zambia

According to Zambia Demographic Health Survey (ZDHS, 2007) 45 percent of children under five are stunted and 21 percent are severely stunted. Stunting is apparent even among children less than 6 months of age (18 percent). Stunting increases with the age of the child through the first two years of life before declining steadily in the third and fourth year. The increase is especially rapid during the first two years of life, as evidenced in the rise from 26 percent among children age 6-8 months to 59 percent among children age 18-23 months. Male children (48 percent) are more likely to be stunted than female children (42 percent).

Children whose weight-for-age is below minus two standard deviations (-2 SD) from the median of the reference population are classified as underweight. Children whose weight-for-age is below minus three standard deviations (-3 SD) from the median of the reference population are considered severely underweight. Five percent of children under five are wasted. Wasting varies greatly by age and peaks among children age 9-11 months (12 percent). Boys are slightly more likely to be wasted than girls (6 percent compared with 5 percent).

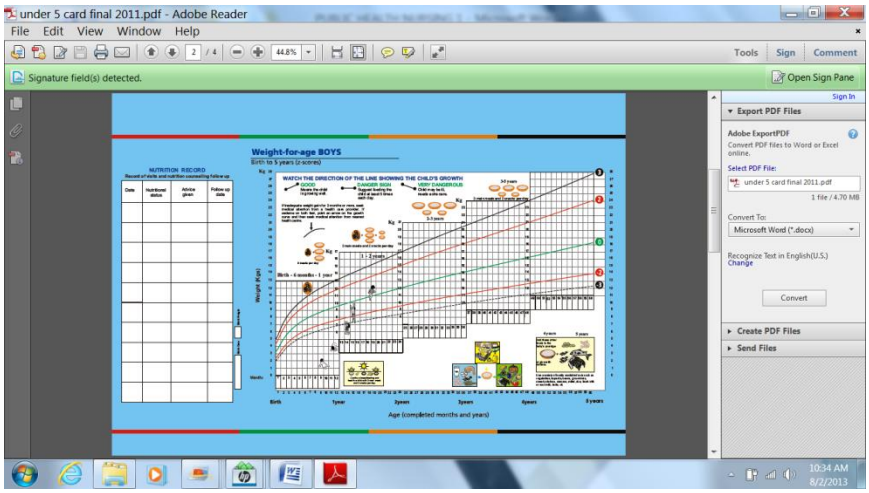

Figure 2: Sample under five card(Source: Ministry of Health, 2011)

Children reported to be very small at birth are more likely to be wasted (9 percent) than those reported to be of average size or larger (5 percent). Wasting among children born to thin mothers (BMI <18.5) is higher than for children born to normal mothers (BMI 18.5-24.9) and overweight/obese mothers (BMI ≥25). There is slight difference in wasting between urban (4 percent) and rural children (6 percent).

At the provincial level, Western, North-Western, Northern, Luapula, and Central provinces reported wasting levels that are above the national average (5 percent). Education is inversely related to wasting. For example, children whose mothers have never attended school have the highest levels of wasting (7 percent), while children whose mothers have secondary and tertiary education have the lowest levels of wasting (5 percent). The prevalence of underweight children nationally is 15 percent, and the prevalence of severely underweight children is 3 percent.

DEFINITIONS

Complementary feeding: the process starting when breast milk alone or infant formula alone is no longer sufficient to meet the nutritional requirements of an infant, and therefore other foods and liquids are needed along with breast milk or a breast milk substitute. The target range for complementary feeding is generally considered to be 6–23 months.

Low birth weight: an infant weighing less than 2,500 grams at birth.

Micronutrients: essential vitamins and minerals required by the body throughout the lifecycle in miniscule amounts.

Stunting: defined as height for age below minus two standard deviations from the median height for age of the standard reference population

Severe acute malnutrition: defined as weight for height below minus three standard deviations from the median weight for height of the standard reference population, mid-upper arm circumference (MUAC) less than 115 mm, visible severe thinness, or the presence of nutritional oedema.

Supplementary feeding: additional foods provided to vulnerable groups, including moderately malnourished children.

Consequences Of Under Nutrition

Maternal under nutrition, particularly low body mass index, which can cause fatal growth retardation, and non-optimal infant and young child feeding are the main causes of faltering growth and under nutrition in children under 2 years old. These conditions can have a lifelong negative impact on brain structure and function. Stunting is an important predictor of child development; it is associated with reduced school outcome. Compared to children who are not stunted, stunted children often enrol later, complete fewer grades and perform less well in school. In turn, this underperformance leads to reduced productivity and income-earning capacity in adult life.

Iodine and iron deficiency can also undermine children's school performance. Studies show that children from communities that are iodine deficient can lose 13.5 IQ points on average compared with children from communities that are non-deficient, and the intelligence quotients of children suffering iron deficiency in early infancy were lower than those of their peers who were not deficient.

Iron deficiency makes children tired, slow and listless, so they do not perform well in school. Iron-deficiency anaemia is highly prevalent among women in developing-country settings and increases the risk of maternal death. It causes weakness and fatigue, and reduces their physical ability to work.

Adults suffering from anaemia are reported to be less productive than adults who are not anaemic. Anaemic women are likely to give birth to premature babies or low birth weight infants.

Such babies are prone to suffering from infections, weakened immunity, learning disabilities, impaired physical development, and in severe cases, death. Infants whose mothers have poor iron stores during pregnancy tend to be anaemic.

Nutrition in early childhood has a lasting impact on health and well-being in adulthood. Children with deficient growth before age 2 are at an increased risk of chronic disease as adults if they gain weight rapidly in later stages of childhood. For chronic conditions such as cardiovascular disease and diabetes, a worst-case scenario is a baby of low birth weight who is stunted and underweight in infancy and then gains weight rapidly in childhood and adult life. This scenario is not uncommon in countries where underweight rates have been reduced but stunting remains relatively high.

Prevention

Infant and young child feeding

Optimal infant and young child feeding entails the initiation of breastfeeding within one hour of birth; exclusive breastfeeding for the first six months of the child's life; and continued breastfeeding for two years or more, together with safe, age-appropriate feeding of solid, semi-solid and soft foods starting at 6 months of age.

Early initiation of breastfeeding

There is growing evidence of the benefits to mother and child of early initiation of breastfeeding, preferably within the first hour after birth. Early initiation of breastfeeding contributes to reducing overall neonatal mortality. It ensures that skin-to-skin contact is made early on, an important factor in preventing hypothermia and establishing the bond between mother and child.

Early initiation of breastfeeding also reduces a mother's risk of post-partum haemorrhage, one of the leading causes of maternal mortality. Colostrum, the milk produced by the mother during the first post-partum days, provides protective antibodies and essential nutrients, acting as a first immunization for new-borns, strengthening their immune system and reducing the chances of death in the neonatal period.

- ***Complementary feeding***

– Complementary feeding is the most effective intervention that can significantly reduce stunting during the first two years of life. A comprehensive programme approach to improving complementary feeding includes counselling for caregivers on feeding and care practices and on the optimal use of locally available foods, improving access to quality foods for poor families through social protection schemes and safety nets, and the provision of micronutrients and fortified food supplements when needed.

- ***Vitamin A supplementation***

Vitamin A is essential for a well-functioning immune system; its deficiency increases the risk of mortality significantly. Vitamin A is critical for the body's immune system; supplementation of this micronutrient

can reduce the risk of child mortality from all causes by about 23 per cent. The provision of high-dose vitamin A supplements twice a year to all children 6–59 months old in countries with high child mortality rates is one of the most cost-effective interventions.

Zinc supplementation can reduce the prevalence of diarrhoea in children by 27 per cent because it shortens the duration and reduces the severity of a diarrhoea episode.

- ***Universal salt iodization***

Iodine deficiency can be easily prevented by ensuring that salt consumed by households is adequately iodized. Iodine helps the body synthesise thyroid hormones. These hormones are required for brain development during foetal early life. Iodine deficiency is considered one of the major preventable causes of brain damage and mental retardation. Iodine deficiency also causes goitre.

- ***Anaemia control***

Iron deficiency anaemia (IDA). Due to inadequate dietary intake, diseases and parasitic infections are common amongst Zambian children. A survey, in 1998, found that 65 percent of children aged six to 59 months were anaemic. In 2003 follow up study, 52.9 percent of children in the same age group were anaemic (NFNC, 2003). De-worming of children during child health week and in schools has been used as the main strategy in dealing with anaemia.

Effective interventions for the treatment of severe acute malnutrition in both emergency and non-emergency settings include the use of ready-to-use therapeutic foods and adequate treatment of complications, and, for management of moderate acute malnutrition, the use of various supplementary foods. These interventions need to be implemented at a large scale together with strategies to improve care and feeding practices.

Given the close link between under nutrition and infections, the implementation at scale of key interventions to prevent and treat infections will contribute to better nutrition as well as reduced mortality. Such interventions include:

- Immunization
- Improved hygiene and hand washing, sanitation (including the elimination of open defecation) and access to clean drinking water,
- Use of improved oral rehydration salts and therapeutic zinc to treat diarrhoea
- The prevention and treatment of malaria, and
- Treatment of pneumonia with antibiotics

Self test

What percentage of under-five children in Zambia are severely stunted

h. 45%

i. 42%

j. 18%

k. 21%

Which of the following is NOT true concerning Iron deficiency in children

a. It makes children tired

b. Children are slow and restless

c. At school there is good performance

d. It can be prevented

1.12.2 Cancer of the cervix

Introduction

The cervix is part of a woman's reproductive system. It's in the pelvis. The cervix is the lower, narrow part of the uterus (womb). The cervix is a passageway: The cervix connects the uterus to the vagina. During a menstrual period, blood flows from the uterus through the cervix into the vagina. The vagina leads to the outside of the body. The cervix makes mucus. During sex, mucus helps sperm move from the vagina through the cervix into the uterus. During pregnancy, the cervix is tightly closed to help keep the baby inside the uterus. During childbirth, the cervix opens to allow the baby to pass through the vagina.

Cervical cancer begins in cells on the surface of the cervix. Over time, the cervical cancer can invade more deeply into the cervix and nearby tissues. Cervical cancer cells can spread by breaking away from the cervical tumor. They can travel through lymph vessels to nearby lymph nodes. Also, cancer cells can spread through the blood vessels to the lungs, liver, or bones.

Definition

This is abnormal growth of the cells of the cervix

Risk Factors

- infection with the virus called HPV
- smoking
- unprotected sexual intercourse
- early initiation of sexual intercourse
- inserting of herbs in the vagina
- multiple sexual partners

Symptoms

Early cervical cancers usually don't cause symptoms. When the cancer grows larger, women may notice abnormal vaginal bleeding:

- Bleeding that occurs between regular menstrual periods
- Bleeding after sexual intercourse, douching, or a pelvic exam
- Menstrual periods that last longer and are heavier than before
- Bleeding after going through menopause

Women may also notice…

- Increased vaginal discharge
- Pelvic pain
- Pain during sex

Diagnosis

- **Lab tests:** Scraping a sample of cells from the cervix. For a Pap test, the lab checks the sample for cervical cancer cells or abnormal cells that could become cancer later if not treated. For an HPV test, the same sample is tested for HPV infection. HPV can cause cell changes and cervical cancer.
- **Cervical exam**: By use of a colposcope to look at the cervix. The colposcope combines a bright light with a magnifying lens to make tissue easier to see.
- **Tissue sample**: The removal of tissue to look for cancer cells is a biopsy..
- **Chest x-ra**y: An x-ray of the chest can often show whether cancer has spread to the lungs.
- **CT scan**: An x-ray machine linked to a computer takes a series of detailed pictures the pelvis, abdomen, or chest.

- **MRI:** A powerful magnet linked to a computer makes detailed pictures the pelvis and abdomen

STAGING

The stage is based on where cancer is found. These are the stages of invasive cervical cancer:

- **Stage I**: Cancer cells are found only in the cervix.
- **Stage II:** The tumor has grown through the cervix and invaded the upper part of the vagina. It may have invaded other nearby tissues but not the pelvic wall (the lining of the part of the body between the hips) or the lower part of the vagina.
- **Stage III:** The tumor has invaded the pelvic wall or the lower part of the vagina. If the tumor is large enough to block one or both of the tubes through which urine passes from the kidneys, lab tests may show that the kidneys aren't working well.
- **Stage IV**: The tumor has invaded the bladder or rectum. Or, the cancer has spread to other parts of the body, such as the lungs..

Treatment

Treatment options for women with cervical cancer are…

- Surgery
- Radiation therapy
- Chemotherapy
- A combination of these methods

Cervical Cancer As A Public Health Problem

Despite the fact that most cases of cervical cancer can be prevented or treated effectively, 274,000 women die from the disease yearly. Approximately 241,000 of these deaths are among women in low- and middle-income nations unfortunately, the majority of women in low-income countries do not have access to care that can prevent the onset of cervical cancer or detect it early enough for a cure. As a result, many women are diagnosed too late to benefit from lifesaving treatment. In contrast, a large proportion of women living in high-income countries have benefited from routine screening and treatment modalities for more than 50 years, and, as a result, cervical cancer rates have dropped dramatically in those nation

According to World Health Organization (WHO), it concludes that cancer "has the most devastating economic impact of any cause of death in the world." majority of the world's population (76%) lives in lower- and middle-income countries that have low gross domestic product (GDP). Worldwide, cervical cancer affects half a million women and kills a quarter million women each year. Over 85% of cervical cancer cases and deaths occur in developing countries. The disproportionate burden of cervical cancer is highest in countries where effective screening, diagnosis, and treatment is limited or absent.

The World Health Organization (2007) reports that “in 2005, cervical cancer was responsible for up to 500,000 new cases and up to 257,000 deaths, more than 90% in low- and middle-income countries where access to cervical cancer screening and treatment and palliative-care services is often nonexistent or insufficient” . WHO further projects that “deaths from cervical cancer will rise to 320,000 in 2015 and to 435,000 in 2030”

mortality consequences, the morbidity consequences of cervical cancer can profoundly affect a woman's quality of life. Women living with late stage cervical cancer may experience irregular bleeding, back pain, pelvic pain, fatigue, leg swelling, loss of appetite, and weight loss. These women need the kind of treatment or palliative care only available at a major medical center . For women in rural settings, the nearest tertiary care center can be located hundreds of miles away. In addition to the hospital fees, the costs of travel and lodging mean that poor women may not be able to afford treatment. Furthermore, treatments for cervical precancer and cancer are associated with increased risk of infertility and poor obstetric outcomes, including preterm delivery, low birth weight, and premature rupture of the membranes . Outpatient treatments can also lead to cervical stenosis in a small number of women, making pregnancy more difficult to achieve. When available, the appropriate treatment for invasive cervical cancer includes a hysterectomy or radiation with chemotherapy both of which render women infertile. Infertility, a result of definitive treatment for cervical cancer, is associated with a high risk of familial and intimate partner abuse, depression, anxiety, and stigma . The stigma of infertility may have an additional gendered dimension

Prevention Strateties

Integrating screening into primary care services for women. Integrating care for HIV, sexual health, reproductive health, and maternal health has been shown to improve uptake of services, reduce HIV-related stigma, and improve the quality of care received by women. Furthermore, integrating cervical cancer prevention services into primary care facilities provides an opportunity to include and educate male partners, which may be particularly important in regions where men have control over health care decisions

Conventional screening methods. Cheaper screening techniques, such as visual inspection with acetic acid (VIA) and human papillomavirus (HPV) DNA testing have been found to yield positive results. It is both highly cost-effective and feasible to implement in settings with constrained health systems.

HPV Vaccination. The World Health Organization has approved two HPV vaccines that could dramatically reduce cervical cancer deaths. Ensuring that adolescent girls have the opportunity to receive a vaccine that protects them from death, infertility, and other morbidity related to cervical cancer, should be a key global health priority. Vaccination of adolescent girls also provides an opportunity to provide them with other reproductive health services and health education (including education on family planning and menstrual hygiene).

Self test

1. What is the organism that causes cervical cancer?

a. HIV

b. HBV

c. Human Papilloma Virus

d. Rota virus

1.12.6 Communicable diseases

An infectious disease is a clinically evident illness resulting from the presence of pathogenic microbial agents, including pathogenic viruses, pathogenic bacteria, fungi, protozoa, multicellular parasites, and aberrant proteins known as prions. These pathogens are able to cause disease in animals and/or plants. Infectious pathologies are also called communicable diseases or transmissible diseases due to their potential of transmission from one person or species to another by a replicating agent (as opposed to a toxin).

Transmission of an infectious disease may occur through one or more of diverse pathways including physical contact with infected individuals. These infecting agents may also be transmitted through liquids, food, body fluids, contaminated objects, airborne inhalation, or through vector-borne spread. Transmissible diseases which occur through contact with an ill person or their secretions, or objects touched by them, are especially infective, and are sometimes referred to as contagious diseases

Infectious (communicable) diseases which usually require a more specialized route of infection, such as vector transmission, blood or needle transmission, or sexual transmission, are usually not regarded as contagious, and thus are not as amenable to medical quarantine of victims.

Definitions

- **A communicable disease :** may be defined as an illness that arises from transmission of an infectious agent or its toxic product from an infected person, animal, or reservoir to a susceptible host, either directly or indirectly through an intermediate plant or animal host, vector or environment.
- **Infectivity:**: describes the ability of an organism to enter, survive and multiply in the host, while the *infectiousness* of a disease indicates the comparative ease with which the disease is transmitted to other hosts.
- **Incubation period:** is the time interval between invasion by an infectious agent and the first appearance of signs and symptoms of the disease.

- -**Endemic:** refers to the presence of a disease within a geographic area or a population.
- **Epidemic:** refers to the occurrence of disease in a community or region in excess of normal expectancy
- **Pandemic: r**efers to an epidemic occurring worldwide and affecting large populations
- **Vectors:** are arthropods such as ticks and mosquitoes or other invertebrates such as snails that transmit the infectious agent by biting or depositing the infective material near the host.
- **Communicable period:** is the interval during which an infectious agent may be transferred directly or indirectly from an infected person to another person

Transmission

An infectious disease is transmitted from some source to another. Transmission may occur through several different mechanisms. Respiratory diseases and meningitis are commonly acquired by contact with aerosolized droplets, spread by sneezing, coughing, talking, kissing or even singing. Gastrointestinal diseases are often acquired by ingesting contaminated food and water.

Transmission of infectious diseases may also involve a vector. Vectors may be mechanical or biological. A mechanical vector picks up an infectious agent on the outside of its body and transmits it in a passive manner. An example of a mechanical vector is a housefly, which lands on cow dung, contaminating its appendages with bacteria from the faeces, and then lands on food prior to consumption. The pathogen never enters the body of the fly.

Biological vectors harbour pathogens within their bodies and deliver pathogens to new hosts in an active manner, usually a bite. Biological vectors are often responsible for serious blood-borne diseases, such as malaria, viral encephalitis, Chagas disease, Lyme disease and African sleeping sickness. Biological vectors are usually, though not exclusively, arthropods, such as mosquitoes, ticks, fleas and lice.

Vectors are often required in the life cycle of a pathogen. A common strategy used to control vector borne infectious diseases is to interrupt the life cycle of a pathogen by killing the vector.

Prevention and control of communicable diseases

The goal of prevention and control programs is to reduce the prevalence of a disease to a level at which it no longer poses a major public health problem. In some cases diseases may even be eliminated or eradicated. The goal of elimination is to remove a disease from a large geographic area such as a country or region of the world. Eradication is the irreversible termination of all transmission of infection by extermination of the infectious agents worldwide. There are three levels of prevention in public health: primary, secondary and tertiary.

Preventing communicable disease outbreaks

- Prevent the development of infectious agents that can attack susceptible individuals e.g. by chlorinating water, disposing of human faeces properly, and draining waste water.
- Minimise opportunities for exposure to infection – interrupt disease transmission by treating or isolating infected persons and improving water sources and shelters
- Reduce susceptibility to infectious diseases:
- Improve population's immunity by promoting better nutrition, immunisation, and other means of self-protection

Managing Communicable Disease Outbreaks

Communicable diseases can be managed using the following measures;

- Primary prevention which covers health promoting behaviour to those not sick like hand washing.
- Immunising susceptible people for immunizable diseases
- Chlorinating water for drinking to kill bacteria
- Practising good sanitation which involves keeping your surrounding clean
- Secondary prevention which involves early treatment and adhering to medical advice.
- Preventing mild illness from becoming more serious by diagnosing early and treating with antibiotics and supportive care.
- Tertiary prevention

Preventing or minimising disease complications by referring or treating individuals with cerebral malaria and severe malnutrition etc.

Cholera Control Measures

Cholera can spread very quickly in overcrowded living areas. If an epidemic breaks out:

Control

An emergency treatment facility should be established.

Apart from patients, people visiting the facility should be limited to those giving care.

Stored drinking-water should be purified with at least 0.2mg per litre of free residual chlorine.

Sodium hypochlorite or calcium hypochlorite should be added to water at the following chlorine concentrations:

- 0.05% (0.5 g per litre) for washing;

- 0.2% (2 g per litre) for cleaning walls and floors;
- 1% (10 g per litre) for disinfecting contaminated bedding and clothes, and for cleaning latrines.

Public-health measures

- Treat wells in the affected area; cover them if possible.
- Appoint someone to treat each collected bucket of water with sodium hypochlorite or calcium hypochlorite.
- Ideally this should done at every well when the water is collected.
- Health workers should regularly visit households to detect cases.
- Gatherings of people should be restricted.
- Carry out precautionary measures to reduce contamination of food sold in markets.
- Test samples of water for the presence of *Escherichia coli. This indicates faecal pollution* and the possible presence of bacteria that cause diarrhoea.
- Send stool samples for laboratory testing, if possible, to confirm the presence of cholera.
- Good record keeping (number of cases and deaths) at clinics and treatment centres will help in assessing whether the epidemic is getting worse, or whether public-health measures are having a positive effect.
- Use patient records to plot outbreaks on a map of the camp.
- Disinfect homes of patients if resources are available.

Typhoid

It is a systematic infectious disease characterised by high continuous fever, malaise and involvement of lymphoid tissue and spleen, (Nordberg, 2007).

It is a highly contagious disease that spread to all parts of the body affecting many parts of the body and belongs to the enteric fevers.

- Causative organism:- Salmonella typhi
- Transmission is by the faecal oral – route.

Epidemiology

This is a disease that is common during the end of the dry season and the beginning of the rain season. It is mainly spread through contaminated food and water. The salmonella is found in faeces

and urine of those with the disease and the carriers. It is common where there is no adequate water for washing hands and poor sanitation. When there are no symptoms the bacteria commonly settles in the gall bladder. It has an incubation period of 2 -3 weeks.

Common signs and symptoms

- a high temperature that can reach 39–40°C
- stomach pain
- headache
- constipation or diarrhoea

Prevention

- **Wash your hands.** Frequent hand-washing is the best way to control infection. Wash your hands thoroughly with hot, soapy water, especially before eating or preparing food and after using the toilet. Carry an alcohol-based hand sanitizer for times when water isn't available.
- **Avoid drinking untreated water.** Contaminated drinking water is a particular problem in areas where typhoid is endemic. Boil the drinking water and ensure that it is well covered when stored.
- **Avoid raw fruits and vegetables.** Because raw produce may have been washed in unsafe water, avoid fruits and vegetables that you can't peel, especially lettuce. To be absolutely safe, you may want to avoid raw foods entirely.
- **Choose hot foods.** Avoid food that's stored or served at room temperature. Steaming hot foods are best. And although there's no guarantee that meals served at the finest restaurants are safe, it's best to avoid food from street vendors — it's more likely to be contaminated.
- *Use of toilets*. Clean the toilets properly and ensure that they are covered at all times

Prevent infecting others

If you're recovering from typhoid, these measures can help keep others safe:

- *Wash your hands often***.** This is the single most important thing you can do to keep from spreading the infection to others. Use plenty of hot, soapy water and scrub thoroughly for at least 30 seconds, especially before eating and after using the toilet.
- *Clean household items daily***.** Clean toilets, door handles, telephone receivers and water taps at least once a day with a household cleaner and paper towels or disposable cloths.
- *Avoid handling food***.** Avoid preparing food for others until your doctor says you're no longer contagious. If you work in the food service industry or a health care facility, you won't be allowed to return to work until tests show that you're no longer shedding typhoid bacteria.

- *Keep personal items separate***.** Set aside towels, bed linen and utensils for your own use and wash them frequently in hot, soapy water. Heavily soiled items can be soaked first in disinfectant.
- *Vaccination*Where available those who are suspected to go to the endemic region should be vaccinated against typhoid.

Bacillary Dysentery

It is an acute diarrheal disease characterized by bloody stools, fever, vomiting and abdominal cramps. It is also known as shigellosis.

It is an inflammatory disorder of the intestine, especially of the colon, that results in severe diarrhea containing blood and mucus in the faeces with fever, abdominal pain, and rectal tenesmus (a feeling of incomplete defecation).

Transmission

It is by the oral faecal route. It mainly occurs in areas where there are poor sanitary conditions, poor water supplies and a lot of flies.

Epidemiology

It is caused by the shigella species. These include; Shigella Sonnei, Shigella dysenteriae, Shigella boydii and shigella flexnerii

Prevention

To reduce the risk of contracting dysentery the following are suggested:

- wash your hands with soap and water after using the toilet and regularly throughout the day, particularly after coming into contact with an infected person
- Washing one's hands after using the toilet, after contact with an infected person, and regularly throughout the day;
- Washing one's hands before handling, cooking and eating food, handling babies, and feeding young or elderly people;
- Keeping contact with someone known to have dysentery to a minimum;
- Washing laundry on the hottest setting possible;
- Avoiding sharing items such as towels and face cloths.
- Observe those who might have been exposed and or are suspected to have the infection to be screened and given treatment
-

ACTIVITY

Draw a table in your note book indicating the following

- Name of disease
- Cause /causes
- Mode of spread
- Prevention strategies

(complete the table by filling in and check your notes to see if you have answered everything)

Critical thinking …..

What do you understand by infectious disease ordinance?

Why should law apply in infectious diseases?

Infectious Disease Ordinance

What is the position of the Zambian government regarding its laws on infectious diseases? Let us now look at the Zambian law concerning infectious conditions.

Republic Of Zambia

The Public Health Act

Chapter 295 Of The Laws Of Zambia

Chapter 295 The Public Health Act Chapter 295

The Public Health Act

Arrangement Of Sections

PART I

Preliminary

Section

1. Short title

2. Interpretation

PART II

ADMINISTRATION

3. Repealed by Act No. 22 of 1995

4. Repealed by Act No. 22 of 1995

PREVENTION OF INTRODUCTION OF DISEASE

PART VIII

VENEREAL DISEASES AND LEPROSY

PART IX

SANITATION AND HOUSING

Section

88. Cesspits to be screened

89. Larvae, etc., may be destroyed

90. Mere presence of mosquito larvae an offence

13 Summary

We have come to the end of unit one. We defined public health nursing as the practice of promoting and protecting the health of the populations using knowledge from nursing. Public health is 'what we as the population do to enhance our own health'. We discussed components of public health which were promotive, preventive, curative and rehabilitative. We described organization of Public Health services in Zambia which is at three levels i.e. first, second and third level depending on the number of population being served. We looked at the 'vision 2030' in which Zambians must aspire to live in a strong and dynamic middle-income industrial nation that provides opportunities for improving the well-being of all. We looked at the public health act and national health policies including health strategies. We discussed major public health problems in Zambia such as malaria, tuberculosis, sexually transmitted infections and HIV among others. Lastly we looked at the infectious communicable diseases and ordinance, meaning laws concerning infectious diseases. Remember to answer self-test questions before you go to the next unit which will discuss HIV/AIDS in details.

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UNIT 2: HIV AND AIDS

2.1 Unit Introduction

Welcome to unit two (2). This is a much more familiar unit and you will find it very interesting as it deals with a condition you have heard and learnt about during the secondary school. In unit one (1), we discussed major public health problems in Zambia where we looked at sexually transmitted infections (STIs), the relationship between STIs and HIV/ AIDS and briefly discussed HIV / AIDS. Today we will pick it up from there and discuss HIV/AIDS in more details. We will discuss historical background for HIV and AIDS, define HIV and AIDS, discuss the epidemic and its impact, modes of spread, prevention strategies, basic principles of nursing management, and the roles of stakeholders in the management of HIV and AIDS. It is important to learn about this topic because they say, if you are not infected, you are affected. In the hospital and health centres, you will be nursing and seeing HIV and AIDS patients. In the community, you will be dealing with stakeholders involved in the care and support of these people with HIV/AIDS.

2.2 Unit Objectives

1 Define key concepts

2 Explain the historical background of HIV/AIDS

3 Explain the epidemic and its impact

4 State the modes of spread

5 Discuss the prevention strategies

6 Apply knowledge in the prevention and nursing management

7 Critically analyse the roles of stakeholders in management of HIV/AIDS

8 Identify stakeholders in management of HIV/AIDS

2.3 Definition key terms used in HIV and AIDS

HIV (human immunodeficiency virus)

- A retrovirus that causes AIDS by infecting helper T cells of the immune system

AIDS – (Acquired Immune deficiency syndrome)

.

AIDS is defined in terms of either a $CD4^+$ T cell count below 200 cells per µL (micro litre) or the occurrence of specific diseases in association with an HIV infection.

Self test questions

What is the difference between HIV and AIDS?

ANS: HIV is an organism that cause a disease known as AIDS

2.4 Historical background for HIV and AIDS

AIDS is a chronic, life-threatening condition caused by the human immunodeficiency virus (HIV). By damaging the immune system, HIV interferes with the body's ability to fight off viruses, bacteria and fungi that cause disease. HIV makes the infected person more susceptible to certain types of cancers and to infections the body would normally resist, such as pneumonia and meningitis. The virus and the infection itself are known as HIV. "Acquired immunodeficiency syndrome (AIDS)" is the name given to the later stages of an HIV infection.

Acquired immunodeficiency syndrome (AIDS) was first clinically observed in 1981 in the United States. Initially it known as "the 4H disease", since the syndrome seemed to affect Haitians, homosexuals, hemophiliacs, and heroin users. In the general press, the term "GRID", which stood for gay-related immune deficiency, had been coined. However, after determining that AIDS was not isolated to the gay community, it was realized that the term GRID was misleading and the term AIDS was introduced.

Acquired immunodeficiency syndrome (AIDS) of humans is caused by two lentiviruses, (slow-acting viruses) human immunodeficiency viruses types 1 and 2 (HIV-1 and HIV-2). Both HIVs are the result of multiple cross-species transmissions of simian immunodeficiency viruses (SIVs) naturally infecting African primates. Most of these transfers resulted in viruses that spread in humans to only a limited extent. However, one transmission event, involving SIVcpz from chimpanzees in south-eastern Cameroon, gave rise to HIV-1 group M—the principal cause of the AIDS pandemic.

Acquired Immune Deficiency Syndrome (AIDS) was first recognized as a new disease in 1981 when increasing numbers of young homosexual men succumbed to unusual opportunistic infections and rare malignancies

A retrovirus, now termed human immunodeficiency virus type 1 (HIV-1), was subsequently identified as the causative agent of what has since become one of the most devastating infectious diseases to have emerged in recent history. HIV-1 spreads by sexual, percutaneous, and perinatal routes, (Cohen, et al, 2011). However, 80% of adults acquire HIV-1 following exposure at mucosal surfaces, and AIDS is thus primarily a sexually transmitted disease, (Ibid.).

As of 2012, approximately 35.3 million people have HIV worldwide with the number of new infections that year being about 2.3 million. This is down from 3.1 million new infections in 2001. Of these approximately 16.8 million are women and 3.4 million are less than 15 years old. It resulted in about 1.6 million deaths in 2012, down from a peak of 2.2 million in 2005.

Developing countries have experienced the greatest HIV/AIDS morbidity and mortality, with the highest prevalence rates recorded in young adults in sub-Saharan Africa (http://www.unaids.org/).

HIV-1 has long been suspected to be of chimpanzee origin, It is now well established that all naturally occurring SIVcpz strains fall into two subspecies-specific lineages, termed SIVcpz*Ptt* and SIVcpz*Pts*, respectively that are restricted to the home ranges of their respective hosts.

HIV-1 is not just one virus, but comprises four distinct lineages, termed groups M, N, O, and P, each of which resulted from an independent cross-species transmission event. Group M was the first to be discovered and represents the pandemic form of HIV-1; it has infected millions of people worldwide and has been found in virtually every country on the globe. Group O was discovered in 1990 and is much less prevalent than group M. It represents less than 1% of global HIV-1 infections, and is largely restricted to Cameroon, Gabon, and neighbouring countries. Group N was identified in 1998, and is even less prevalent than group O; so far, only 13 cases of group N infection have been documented, all in individuals from Cameroon. Finally, group P was discovered in 2009 in a Cameroonian woman living in France. Despite extensive screening, group P has thus far only been identified in one other person, also from Cameroon. Although members of all of these groups are capable of causing $CD4^+$ T-cell depletion and AIDS, they obviously differ vastly in their distribution within the human population.
How humans acquired the ape precursors of HIV-1 groups M, N, O, and P is not known; however, based on the biology of these viruses, transmission must have occurred through cutaneous or mucous membrane exposure to infected ape blood and/or body fluids. Such exposures occur most commonly in the context of bush meat hunting (Peeters et al. 2002)
HIV-2 has remained largely restricted to West Africa, with its highest prevalence rates recorded in Guinea-Bissau and Senegal. Viral loads tend to be lower in HIV-2 than HIV-1 infected individuals, which may explain the lower transmission rates of HIV-2 and the near complete absence of mother-to-infant transmissions
A sooty mangabey is believed to be the origin of HIV-2 strains that resembles locally circulating SIVsmm infections. SIVsmm was found to be highly prevalent, both in captivity and in the wild, and to be non-pathogenic in its natural host. Since its first isolation, at least eight distinct lineages of HIV-2 have been identified, each of which appears to represent an independent host transfer. By analogy with HIV-1, these lineages have been termed groups A–H, although only groups A and B have spread within humans to an appreciable degree. Group A has been found throughout western Africa whereas group B predominates in Cote d'Ivoire. All other HIV-2 "groups" were initially identified only in single individuals, suggesting that they represent incidental infection with very limited or no secondary spread. Of these, groups C, G, and H have been linked to SIVsmm strains from Cote d'Ivoire, group D is most closely related to a SIVsmm strain from Liberia, and groups E and F resemble SIVsmm strains from Sierra Leone. Because of their sporadic nature, groups C–H have been assumed to represent "dead-end" transmissions.
HIV-1 revolves around one million times faster than mammalian DNA (Li et al. 1988; Lemey et al. 2006), because the HIV-1 reverse transcriptase is error prone and the viral generation time is short.

HIV-1 emerged at a time when urban populations in west central Africa were expanding. Leopoldville was the largest city in the region at that time and thus a likely destination for a newly emerging infection. Moreover, rivers, which served as major routes of travel and commerce at the time, would have provided a link between the chimpanzee reservoir of HIV-1 group M in south-eastern Cameroon and Leopoldville on the banks of the Congo. Thus, all current evidence points to Leopoldville/Kinshasa as the cradle of the AIDS pandemic, however the pandemic has spread to all parts of the world

.Self-test question

In United States of America, HIV was discovered in heterosexual men in 1978

a. True

b. False

1HIV 2 is the major cause of HIV infection globally.

a. True

b. False

HIV and AIDS in Zambia

Zambia's first AIDS case was reported in 1984 and was followed by a rapid rise in the number of people living with HIV. AIDS cases among women peak between ages 20 and 29 and among men, between ages 30 and 39, suggesting significant transmission from older males to younger females. The epidemic is driven largely by heterosexual transmission. However, MTCT is significant, accounting for about 30,000 new infections each year. Safe blood product needs are met in Lusaka, but it is unclear whether this is occurring nationwide

Self-test question

The first case of HIV and AIDS in Zambia was discovered in 1984

a. True

b. False

Progression of the disease

HIV is a retrovirus: one of a fairly small group of viruses where the core is composed of RNA (ribonucleic acid) rather than the more common DNA (deoxyribonucleic [or deoxyribonucleic] acid) found in other life forms. The significance of this is that to multiply it has to colonize host cells; The human immunodeficiency virus (HIV) reproduces itself by invading cells, integrating with the cells and turning them into factories for producing more copies of HIV, then sending more HIV cells out to infect

more of the cells. In the process the host cell is destroyed. HIV invades cells of the immune system, the system that usually works to fight infection and keep you well. The cells are called CD4 cells (also called T-cells or TN cells), dendritic cells and macrophages. The 'CD4 count' is an important indicator of the health of the immune system - the higher the CD4 count, the better.

The human host's immune system fights back and over a median period of about eight years there is a continuing battle between host immune system and viral population. The viral load of an infected person varies greatly over this period which is (The quantity of virus per unit of your blood (or other tissue). This influences infectiousness to other people, his or her susceptibility to other infections and state of health.

Initially any damage caused by HIV has no outward effect. This is called asymptomatic infection, which may last for many months or years. Sometimes if you have asymptomatic infection, the individual may have swollen lymph nodes, which is called PAL (Persistent Generalised Lymphadenopathy). But this is not a sign of damage itself. During this period the HIV is actively replicating inside the bodies of asymptomatic persons.

Once your CD4 cell count falls to 200 or below, the person is at risk of developing an AIDS-related illness. However, some AIDS-related illnesses such as invasive cervical cancer can occur at higher CD4 counts.

HIV treatment intervenes in this process of disease progression by suppressing viral replication and thus allowing CD4 cell levels to recover, so that the body can maintain its immune defence against serious illness. Let's check below when this is put in stage form;

Stages of HIV Progression

1. **Window Period**

This is the period from the point of infection to the time one tests positive. HIV invades cells, merges, and turns them into factories to produce HIV. In the window period the test result is negative. During this period, one may experience flu-like symptoms frequently after a few weeks to a few months from the point of infection. This happens because the body attempts to combat the first entry of HIV germs. The symptoms may last only up to two weeks.

2. Sero-conversion

This is when a person converts from HIV negative to HIV positive status. It is the time when antibodies first develop and can be detected in the blood. This period usually takes 2-4 weeks but can take up to 3 months. During this time there are no symptoms, but a person is highly infectious because the HIV is replicating quickly without being kept in check by antibodies.

3. Asymptomatic Sero-Positive Stage

This is the period from sero-conversion to the time one begins to manifest symptoms. . there is a steady decline in CD4 cell count, but the person usually remains quite healthy). There are no

symptoms of the infection. This period varies from person to person, depending on the diet, health habits, the individual's attitude, and other factors that influence the immune system.

4. Symptomatic Stage

This is the stage when the immune system begins to deteriorate and some symptoms begin to manifest.

5. Full-blown AIDS

During this stage the immune system is weakened, and the body is unable to fight off nearly all infections. Multiple symptoms are a common feature during this stage.

Who Staging System For Hiv Infection And Disease

Primary HIV infection: May be either asymptomatic or associated with acute retroviral syndrome.

Stage I: HIV infection is asymptomatic with a $CD4^+$ T cell count (also known as CD4 count) greater than 500/uL. May include generalized lymph node enlargement.

Stage II: Mild symptoms which may include minor mucocutaneous manifestations and recurrent upper respiratory tract infections. A CD4 count of less than 500/uL.

Stage III: Advanced symptoms which may include unexplained chronic diarrhoea for longer than a month, severe bacterial infections including tuberculosis of the lung as well as a CD4 count of less than 350/uL.

Stage IV or AIDS: The fourth stage consists of severe symptoms which include toxoplasmosis of the brain, candidiasis of the oesophagus, trachea, bronchi or lungs and Kaposi's sarcoma. The CD4 count is less than 200/uL

Self assessment test

- 2.5 The epidemic and its impact
- HIV, the virus that causes AIDS, has become one of the world's most serious health and development challenges:
- 33.4 million people are currently living with HIV/AIDS.
- More than 25 million people have died of AIDS worldwide since the first cases were reported in 1981.
- In 2008, 2 million people died due to HIV/AIDS, and another 2.7 million were newly infected.
- While cases have been reported in all regions of the world, almost all those living with HIV (97%) reside in low- and middle-income countries, particularly in sub-Saharan Africa.

- According to the World Health Organization (WHO), most people living with HIV or at risk for HIV do not have access to prevention, care, and treatment, and there is still no cure.
- The HIV epidemic not only affects the health of individuals, it impacts households, communities, and the development and economic growth of nations. Many of the countries hardest hit by HIV also suffer from other infectious diseases, food insecurity, and other serious problems (http://aids.gov/hiv-aids-basics/hiv-aids-101/global-statistics)
- Sub-Saharan Africa is the region most affected. In 2010, an estimated 68% (22.9 million) of all HIV cases and 66% of all deaths (1.2 million) occurred in this region.-This means that about 5% of the adult population is infected and it is believed to be the cause of 10% of all deaths in children. Here in contrast to other regions women compose nearly 60% of cases. South Africa has the largest population of people with HIV of any country in the world at 5.9 million. Life expectancy has fallen in the worst-affected countries due to HIV/AIDS.
- South & South East Asia is the second most affected; in 2010 this region contained an estimated 4 million cases or 12% of all people living with HIV resulting in approximately 250,000 deaths. Prevalence is lowest in Western and Central Europe at 0.2% and East Asia at 0.1%.
- Zambia, in southern Africa, has one of the world's most devastating HIV and AIDS epidemics. More than one in every seven adults in the country are living with HIV and life expectancy at birth has fallen to just 49.4 years. In 2011, nearly 42,000 adults and 9,500 children were newly infected with HIV that is about 115 new infections each day. After four decades of independence, Zambia has found peace but not prosperity and today it is one of the poorest and least developed nations on earth.

Self-test question

Globally, South Africa has the highest cases of AIDS patients

a. True

b. False

Impact of HIV

Basic understanding of how HIV/AIDS came about and its cause has been mentioned above. Now the question is how does it impact on the country and individuals at large? Read further to note its impact on different areas of life.

The Impact on the Health Sector

- This epidemic has an extraordinary burden on already troubled health sector. As the epidemic matures, the demand for care for those living with HIV rises, as does the toll of AIDS on health workers.
- In sub-Saharan Africa, the direct medical cost of AIDS has been estimated at about US $ 30 per year for each person infected. Overall public health spending is less than US $10 per year in most African countries.
- In sub-Saharan, Africa, people with HIV-related disease occupy more than half of the hospital beds.
- HIV positive patients stay in the hospital four times longer than other patients and it's predicted that patients by HIV and AIDS will soon account for 60-70% of hospital expenditure in South Africa.
- To save space, people aren't being admitted until they are in the later stages of illness, reducing their chances of recovery.
- There has been an increased shortage of healthcare professionals due to infection and death, as well as excessive workloads, poor pay, and the temptation to migrate to richer countries once trained.
- Although the recent increase in the provision of antiretroviral drugs (ARVs, which significantly delay the progression from HIV to AIDS) has brought hope to many in Africa, it has also put increased strain on healthcare workers because providing ARVs requires more time and training than is currently available in most countries

Economic impact

HIV/AIDS affects the economics of both individuals and countries.

- The gross domestic products of the most affected countries have decreased due to the lack of human capital. Without proper nutrition, health care and medicine, large numbers of people die from AIDS-related complications. They will not only be unable to work, but will also require significant medical care.
- The AIDS Epidemic may also divert public spending from investments in physical and human capital to health expenditures, leading over time to slower growth of the gross domestic product. Foreign and domestic private investment might also decline if potential investors become convinced that the epidemic is seriously undermining the rate of return to investment
- By affecting mainly young adults, AIDS reduces the taxable population, in turn reducing the resources available for public expenditures such as education and health services not related to AIDS resulting in increasing pressure for the state's finances and slower growth of the economy. This results in a slower growth of the tax base, an effect that is reinforced if there are growing expenditures on treating the sick, training (to replace sick workers), sick pay and caring for AIDS orphans. This is worsened when the sharp increase in adult mortality shifts the

responsibility and blame from the family to the government in caring for the orphans. This leaves less income to spend on education.

- A decline in the number of individuals able to work at the crucial periods of planting and harvesting can significantly reduce the size of the harvest. AIDS is believed to have made a major contribution to the food shortages that hit Zambia in 2002, which were declared a national emergency.

The Impact on Households and society

- Often the poorest sectors of society are most vulnerable to the epidemic and for whom the consequences are most severe.
- In many cases, households dissolve because of AIDS, because parents die and children are sent to relatives for care and upbringing.
- Every income earner will be likely to acquire one additional dependent over the next ten years due to the AIDS epidemic.
- A dramatic increase in destitute households, those with no income earners, is also expected. .
- Children may be forced to abandon their education and in some cases women may be forced to turn to prostitution which can in turn lead to a higher risk of HIV transmission

- Loss of income, additional health care-related expenses, the reduced ability of caregivers to work, and mounting medical fees push affected households deeper into poverty. It is estimated that, on average, HIV-related care can absorb one-third of a household's monthly income.
- Almost invariably, the burden of coping rests with women. When a family member becomes ill, women are often forced to begin work outside their homes and some do Jobs that were once considered to be jobs for men only.

- Most households will tap into available savings and taking on more debt as they struggle to pay for medical treatment or funerals. As debts mount, precious assets such as livestock, houses and even land are sold, and as debt increases, the chance to recover and rebuild diminishes.
- Lack of passage of knowledge and education as those who have knowledge on the traditions of the society die this has also contributed to the erosion of social values
- Disruption of social and cultural patterns, via the distribution of people in institutions, whether government organs or community infrastructure in general after their homes have been disrupted due to the epidemic.

Impact on culture

- HIV and AIDS has become highly controversial in religious circle in the past twenty years, primarily because:
- Many prominent religious leaders have publicly declared their opposition to the use of condoms.
- The other religious approach to prevent the spread of AIDS has been advocacy for cultural changes such as re-emphasis on fidelity within marriage and sexual abstinence outside of it which has produced less impact on prevalence of HIV.

- Some religious organizations have stated that prayer can cure HIV/AIDS, this has led several people to stop taking their medication resulting in a number of deaths.
- Women in most parts of the developing world, due to the repressive cultural practices, have no power to make decisions and hence they are not allowed to decide on certain protective measures' use such as condoms if the partner does not want regardless of the known status. This has led to increase infection among women as heterosexual pathway.
- Furthermore women continue to be betrayed by out-dated traditional norms such as widow inheritance, widow cleansing, polygamy and gender inequality in certain parts of societies which puts them at risk.
- Some parts of society believe that those infected with HIV, both women and men, witchcraft is the source of infection.

Political Impact

- International politics has strongly influenced the course of the HIV/AIDS epidemic. Due to fighting most residents leave their homes to other places or to neighbouring countries in the process health facilities are destroyed and the leaders are also killed. This exposes the affected persons to acquiring the epidemic or lack of medical care if infected. Leading to new infections and development of drug resistant strain.

This has had a significant political impact when the government of the day refuses to accept the effect of HIV/Aids leading to ineffective response to the epidemic.

- Structural adjustment reforms in social services and economic control ran in parallel with the steady increase in HIV/AIDS prevalence in the 1980s and early 1990s. At a time when aggressive prevention measures were needed, countries were reducing formal sector employment, increasing the cost of services to consumers, and shifting attention to reform processes rather than the epidemic
- It intensifies the struggle for political power to control scarce state resources as
  there is an increase in the number of deaths occurring among members of parliaments creating increased need for replacement of cadres who have succumbed to illness or died

- Unusual levels of mortality among the electorate are reflected on the voters' roll via the population register.
- The loss of senior and experienced cadres also has reduced parties' capacities and 'intellectual memory'.
- Political leaders can influence public opinion, through educating their constituents and can increase public knowledge on HIV related issues.
- As advocates, they can mobilize the involvement of government, private sector and civil society to discharge their societal responsibilities in responding appropriately to the epidemic;
- As resource mobilizers, they can allocate financial resources to support and enhance effective HIV/AIDS programmes that are consistent with human rights principles
- As legislators, they vote on acts of parliament and can ensure that legislation protects human rights, and advances effective prevention and care programmes

- Parliamentarians participate in consultative review and reform of the law, also by drafting either government sponsored or private member's bills that will enhance prevention strategies.

The Impact on Children

- As parents and family members fall ill, children take on more responsibility to earn an income, produce food, and provide care for family members.
- It is harder for these children to access adequate nutrition, basic health care, housing, and clothing.
- Often both parents are HIV positive in Africa; consequently more children have been orphaned by AIDS in Africa than anywhere else.
- One of the more unfortunate responses to a death in poorer households is removing the children (especially girls) from school, as uniforms and fees become unaffordable. A good basic education ranks among the most effective and cost-effective means.
- There is an increase in numbers of child rape cases which are being fuelled by the "virgin cure" myth (which wrongly claims that sex with a virgin can cure AIDS).

- Figure 3: Billboard in Zambia tackling the myth

- Source: http://www.avert.org/images/5033-billboard-zambia-confronting-virgin-aids-cure-myth ; Billboard in Zambia tackling the myth that having sex with a virgin will cure AIDS; a myth which has led to the rape of many children in Africa and other parts of the world.
- **The Impact on legal**
- The absence due to sickness and death of the legal professionals, defendants, and key witnesses is contributing to judicial delays

A lack of human rights protection fuels the epidemic in at least three ways:

- Discrimination increases the impact of the epidemic on people living with HIV/AIDS and those presumed to be infected, as well as their families and associates. For example, a person who is

sacked from his or her job because of being HIV-positive is faced with many problems, including the extra economic burdens of health care, as well as providing for any dependent family

- People are more vulnerable to infection when their economic, social or cultural rights are not respected. For example, a refugee may be separated from former sources of support (such as family), and more likely to engage in activities which place his or her health at risk (such as unsafe sex);
- Where civil and political rights are not respected, and freedom of speech and association is curtailed, it is difficult or impossible for civil society to respond effectively to the epidemic. In some countries peer education is hampered by laws that refuse official registration to groups with certain memberships (for example, sex workers). In these cases, a meeting of an NGO or community based organization with such a membership would be viewed as an illegal activity, (UNAIDS / IPU, 1999).

The impact of HIV/AIDS on education

- There will be fewer learners than predicted, as fewer children are born to HIV-infected mothers, who are less fertile and bear fewer children before they die.
- Children who are infected at birth are likely to die before they reach school. Those who continue through school are at significant risk of infection during or soon after completing their education.
- Children infected and affected by HIV have more complex cognitive, social and emotional needs.
- Aids-affected children may be ill and unmotivated. They have to cope with trauma and stigmatization of Aids-related loss in the family.
- Many educators experience lowered morale and stress, and there is an increased workload for those who are well. In these conditions, systems lose efficiency, as they struggle to sustain costs related to educator abrasion, redeployment and replacement, medical aid costs, pensions and sick benefits. Increased labour-related tension is almost inevitable because of poorly managed stress, loss of management and training capacity, and loss of workforce replacement capacity.

There will be high educator attrition, declining quality, reduced access and larger classes, fewer specialists, poor performance and morale, and decline in management expertise.

Types of HIV

Two types of HIV have been characterized: HIV-1 and HIV-2. HIV-1 is the virus that was originally discovered (and initially referred to also as LAV or HTLV-III). It is more virulent, more infective, and is the cause of the majority of HIV infections globally.

HIV – 2 is of lower infectivity as compared with HIV-1. It implies that fewer people exposed to HIV-2 will be infected per exposure. Because of its relatively poor capacity for transmission, HIV-2 is largely confined to West Africa.

ACTIVITY

"If not infected then affected" what are some of the effects that HIV /AIDS have on you?

(write down these effects in your note book)

2.6 Modes of transmission

HIV is transmitted by three main routes:

- Sexual contact
- Parenteral
- Vertical

Sexual contact

Sexually: vaginal (most transmissions), anal or oral sex i.e. having unprotected, penetrative sexual intercourse with an infected person.

Parenterally (Exposure to infected body fluids or tissues)

The second most frequent mode of HIV transmission is via blood and blood products.

Blood-borne transmission can be through needle-sharing during intravenous drug use, needle stick injury, transfusion of contaminated blood or blood product, donated organs or medical injections with unsterilized equipment.

There is no risk of acquiring HIV if exposed to faeces, nasal secretions, saliva, sputum, sweat, tears, urine, or vomit unless these are contaminated with blood. It is not possible for mosquitoes or other insects to transmit HIV.

Mother-to-child (Vertical transmission)

HIV can be transmitted from mother to child during pregnancy, during delivery, and after delivery via breastfeeding. This is the third most common way in which HIV is transmitted globally. In the absence of treatment, the risk of transmission before or during birth is around 20% and in those who also breastfeed it is 35%. As of 2008, vertical transmission accounted for about 90% of cases of HIV in children. With appropriate treatment the risk of mother-to-child infection can be reduced to about 1%.

Self-test questions

The commonest mode of transmission of HIV is through unprotected sex

a. True

b. False

Mother to child transmission of HIV during postnatal period increased by episiotomy.

a. True

b. False

c.

2.7 Prevention strategies

- Abstinence, Be faithful, Condom use (ABC)
- Male Circumcision
- Prevention of Parent to Child transmission of HIV (PPTCT) or Prevention of Mother to Child Transmission of HIV (PMTCT)
- Counselling Testing and Care (CTC)
- Pre and Post exposure prophylaxis

Early treatment of HIV-infected people with antiretroviral drugs protected 96% of partners from infection.

Pre-exposure prophylaxis with a daily dose of the medications tenofovir with or without emtricitabine is effective in a number of groups including: men who have sex with men, couples where one is HIV positive and young heterosexuals in Africa.

Universal precautions within the health care environment are believed to be effective in decreasing the risk of HIV.

Intravenous drug use is an important risk factor and harm reduction strategies such as needle-exchange programmes and opioid substitution therapy appear effective in decreasing this risk

Pre-exposure prophylaxis (PEP)

What is PEP?

PEP is short for Pre-Exposure Prophylaxis. It is a precaution taken after exposure to body fluids of an HIV infected person. It is aimed at preventing people who do not have HIV from acquiring it due to the stated exposure. PEP has been shown to reduce the risk of HIV infection among adult men and women at very high risk for HIV infection through sex or injection accidents and injection drug use. (http://www.cdc.gov/hiv/prevention/research/prep/)

Prevention strategy -post exposure prophylaxis (PEP)

PEP involves taking anti-HIV drugs as soon as possible after you may have been exposed to HIV to try to reduce the chance of becoming HIV positive. There are two types of PEP: (1) occupational PEP, (sometimes called "oPEP"), and (2) non-occupational PEP, (sometimes called “nPEP”). Workplace

exposure (oPEP) is when someone working in a health-care setting is potentially exposed to material infected with HIV. nPEP is when someone is potentially exposed to HIV outside the workplace (e.g., condom breakage, sexual assault, etc.)

To be effective, PEP must begin within 72 hours of exposure, before the virus has time to rapidly replicate in your body. PEP consists of 2-3 *antiretroviral* medications and should be taken for 28 days. To be most effective, treatment should begin within an hour of infection. After 72 hours post-exposure PEP is much less effective, and may not be effective at all. Prophylactic treatment for HIV typically lasts four weeks.

Who Needs PEP?

PEP is usually used for anyone who may have been exposed to HIV. Healthcare workers have the greatest risk. They can be exposed to HIV by:

- Needle sticks or cuts
- Getting blood or other body fluids in their eyes or mouth
- Getting blood or other body fluids on their skin when it is chapped, scraped, or affected by *dermatitis(skin infection)*

The risk of HIV transmission in these ways is extremely low—less than 1% for all exposures. PEP can also be used to treat people who may have been exposed to HIV by accident (e.g., condom breakage) or sexual assault.

Factors associated with an increased risk of occupationally acquired HIV infection

- Deep injury
- Visible blood on device which caused the injury.
- Injury with a large bore needle from artery or vein
- Terminally HIV illness in source patients

Management of occupational exposures to infectious substances

- Clean the Exposure site
- If a skin wound, wash with soap and running water. If the exposed area is an eye or mucous membrane, flush with copious amount of clean water
- **DO NOT USE BLEACH** or other caustic agents/disinfectants to clean the exposure site
- Contact you're on site in-charge/supervisor

- Current treatment regimens typically use lopinavir/ritonavir and lamivudine/zidovudine or emtricitabine/tenofovir and may decrease the risk further.
- The duration of treatment is usually four weeks and is frequently associated with adverse effects (with zidovudine in about 70% of cases, including nausea in 24%, fatigue in 22%, emotional distress in 13%, and headaches in 9%).

Sexual contact transmission prevention – AB Consistent condom use reduces the risk of HIV transmission by approximately 80% over the long term. When one partner of a couple is infected, consistent condom use results in rates of HIV infection for the uninfected person of below 1% per year. There is some evidence to suggest that female condoms may provide an equivalent level of protection

Application of a vaginal gel containing tenofovir (a reverse transcriptase inhibitor) immediately before sex seems to reduce infection rates by approximately 40% among African women. By contrast, use of the spermicide nonoxynol-9 may increase the risk of transmission due to its tendency to cause vaginal and rectal irritation.

Encouraging Sexual **a**bstinence reduce HIV risk in some communities.

Peer education and Comprehensive sexual education provided at school may decrease high risk

Be faithful to one faithful partner- has cultural values that are encouraged in some communities

Comprehensive sexual education provided at school may decrease high risk behaviour

Male circumcision for HIV prevention

There is compelling evidence that male circumcision reduces the risk of heterosexually acquired HIV infection in men by approximately 60%. Three randomized controlled trials have shown that male circumcision provided by well-trained health professionals in properly equipped settings is safe. WHO/UNAIDS recommendations emphasize that male circumcision should be considered an efficacious intervention for HIV prevention in countries and regions with heterosexual epidemics, high HIV and low male circumcision prevalence. (http://www.who.int/hiv/topics/malecircumcision/en/)

The fore skin being vulnerable to various STIs, virologist believe that HIV spreads more easily via special immune receptors known as ***Langerhans cells***, which are highly concentrated in the foreskin and other genital mucosa but largely absent from the circumcised penis. Increasing evidence shows that circumcision, the removal of the foreskin from the penis, confers some protection against HIV infection in men apparently reducing the risk by about half or more. This is highly significant and may confer as much protection as the first vaccines when they are available.

The protective effect extends to several sexually transmitted infections, possibly because circumcision leads to toughening of the skin of glans (head) of penis. Also, in uncircumcised males, smegma, or fluids, can collect under fore skin and harbour pathogens (that could include HIV and other STIs).

Counselling testing and care (CTC)

CTC is an effective intervention in HIV / AIDS prevention, care and mitigation. It is provided in both public and private sectors. It is provided to those who are ill and those without symptoms – men, women, children, rape victims and perpetrators. Zambia's country targets was to increase the number of people on ART by 24 percent from 2010 to 2015)

In 2004 Zambia's National AIDS Council called for mandatory HIV/AIDS testing in all hospitals in an effort to control the epidemic. Their views provoked strong criticism from human rights activists and people living with HIV, who saw mandatory testing as a breach of human rights

In 2005, the Zambian government stated that it would not encourage anonymous (without consent) testing and it would discourage mandatory testing for employment and scholarships. It would, however, encourage (VCT) voluntary counselling and testing, and promote universal routine counselling and testing (i.e. routine opt-out testing) of all at-risk patients entering a health facility.

Prevention of Mother to Child Transmission of HIV

Mother-to-child transmission (MTCT) is when an HIV-infected woman passes the virus to her baby. This can occur during pregnancy, labour and delivery, or breastfeeding. Without treatment, around 15-30 percent of babies born to HIV-infected women will become infected with HIV during pregnancy and delivery. A further 5-20 percent will become infected through breastfeeding (De Cock et al, March 2000).

The WHO guidelines on PMTCT reviewed in 2013

The guidelines are for those women who are HIV positive and they still want to breastfeed.

The following recommendations were made;

- All pregnant and breastfeeding with HIV should initiate triple ARVs (ART) which should be maintained at least for the duration of mother to child transmission risk. Women meeting treatment eligibility criteria should continue lifelong ART.
- In some countries for women who are not eligible for ART for their own health, consideration be given to stopping the ARV regimen after the period of mother to child transmission risk has ceased.

Below you are going to read through the specific indications for each category.

Pregnant and breastfeeding women

Option B+

Provide all HIV-positive pregnant or breastfeeding women with a course of antiretroviral drugs to prevent mother-to-child transmission. A triple-drug antiretroviral regimen should be taken throughout pregnancy, delivery and breastfeeding - continuing for life, regardless of CD4 count or clinical stage. If they not able to adhere to this regime then the next category will be used.

Option B

Provide all HIV-positive pregnant or breastfeeding women with a course of antiretroviral drugs to prevent mother-to-child transmission. A triple-drug antiretroviral regimen should be taken throughout pregnancy and delivery. If the mother is breastfeeding, she should also continue to take the triple-drug antiretroviral regimen until 1 week after breastfeeding has finished.

Pregnant women who are eligible to receive antiretroviral treatment for their own health, based on their CD4 count or clinical stage, should continue taking HIV treatment for life. Eligibility is determined at a country level. WHO recommends women with a CD4 count of ≤ 500 cells/mm3 (or clinical stage 3 or 4) should continue taking antiretroviral treatment for life. This course of medication should be permanent and taken every day in order to postpone the development of HIV into AIDS.

HIV-exposed infants

All infants born to HIV positive mothers should receive a course of medication for PMTCT, which is linked to the drug regimen that the mother is taking and the infants feeding method.

Breastfeeding

The infant should receive once-daily NVP (Nevirapine) from birth until age 6 weeks.

Not breastfeeding

The infant should receive once-daily NVP (or twice-daily AZT- Zidovudine) from birth until age 4–6 weeks.

A child who is being breastfed should continue to breastfeed for up to 6 months, with complementary feed between 6 months and 1 year.

In text Question 2.1

What were the initial guidelines in 2010?

Think of the response you would give in the above question as you look at the algorithm below.

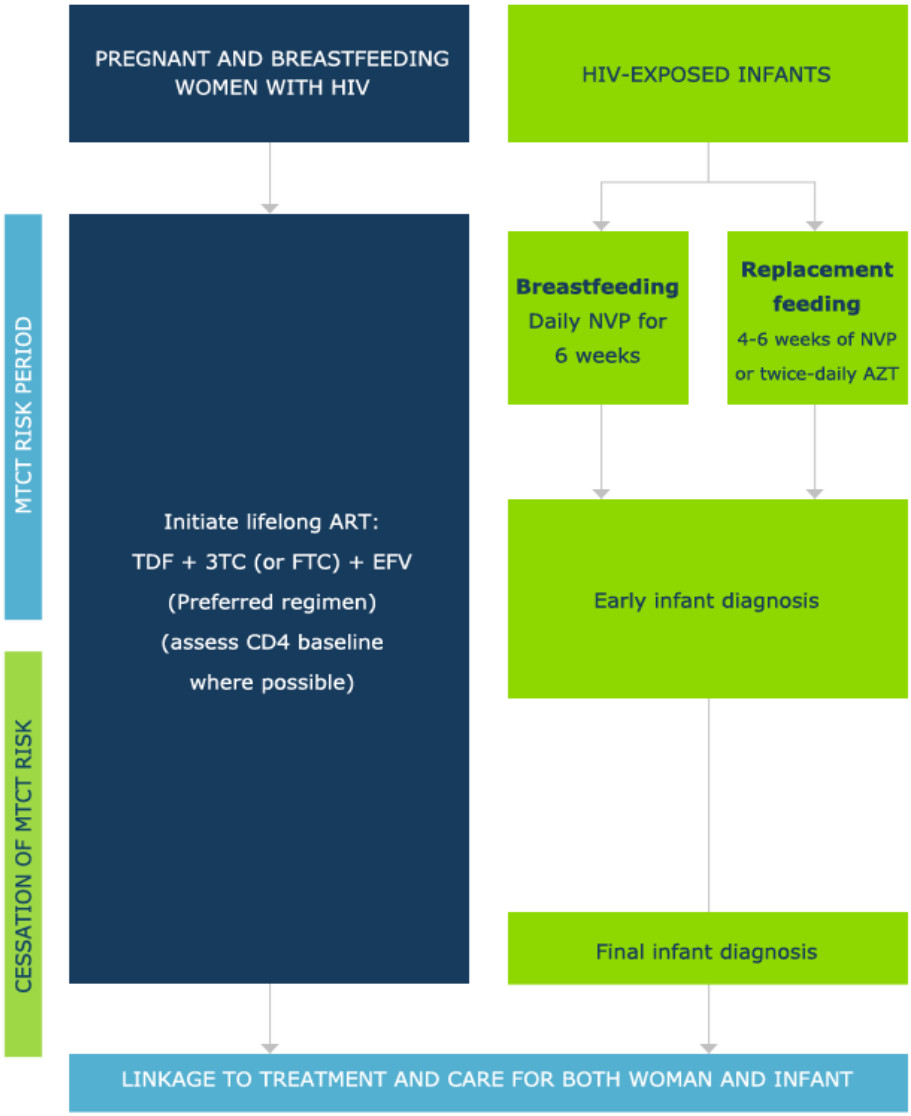

Figure 4: Option B+: Lifelong ART for all pregnant and breastfeeding women with HIV1

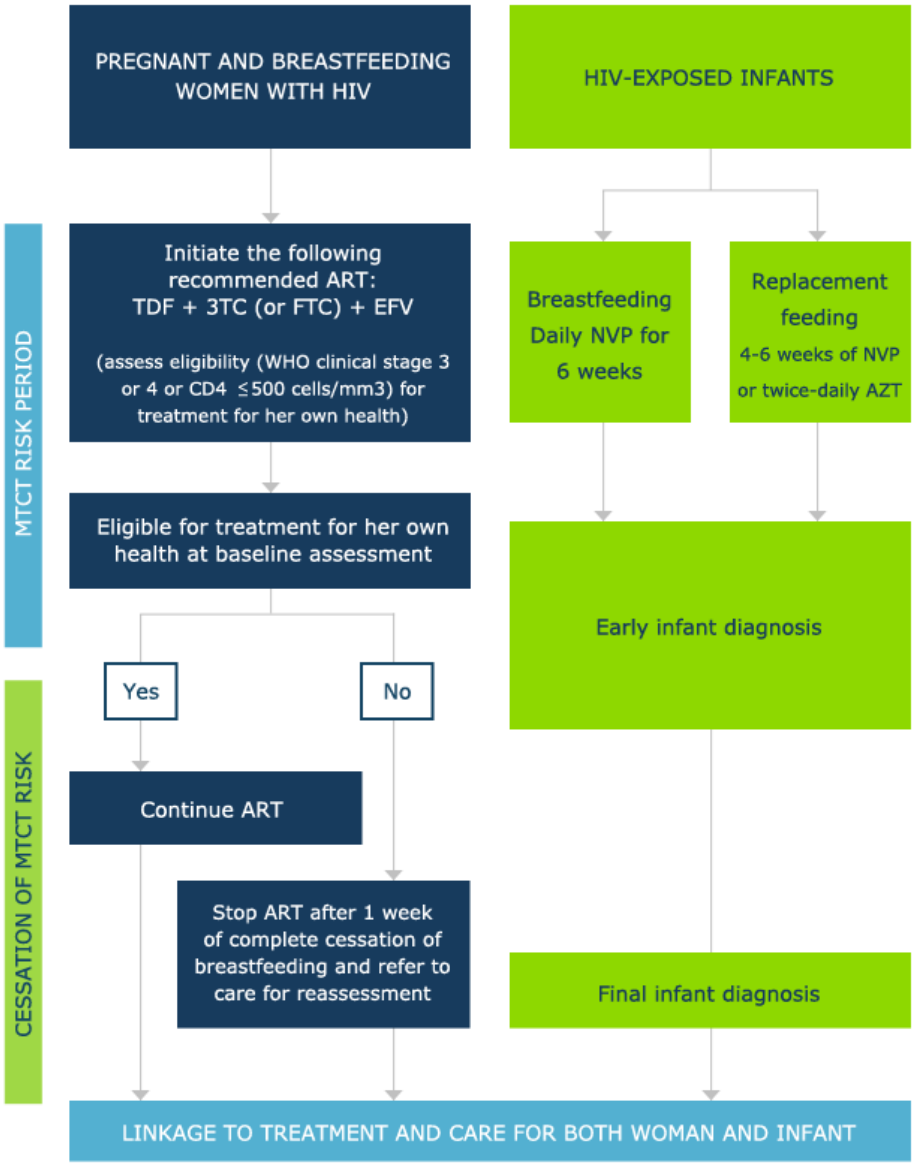

Figure 5: Option B: ART for women with HIV during pregnancy and breastfeeding

WHO (2013, June):'Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: Recommendations for a public health approach' -

To successfully reduce mother-to-child transmission of HIV, population-level efforts to prevent HIV infection among women of childbearing age must be realized. For the individual woman, a comprehensive, coordinated continuum of services must be provided beginning with increased access to counselling, testing, and primary prevention services, as well as reproductive health choices enabling either the prevention of unintended pregnancies or appropriate planning for intended future pregnancies for women living with HIV. For HIV-positive women who become pregnant, access to and follow through on effective interventions to prevent transmission to the infant and to provide treatment for the woman herself and her child if infected must be provided to maximize maternal health and infant HIV-free survival. This continuum of services is often referred to as the PMTCT cascade and includes:

Antenatal care attendance

- HIV counselling and testing with same day return of results to the woman
- Determination of eligibility for HIV treatment through CD4 count assessment (or less optimally, through clinical staging) with rapid return of results to the woman and her provider
- Provision of antiretroviral therapy for women who require therapy for their own health and antiretroviral prophylaxis to prevent mother-to-child transmission to women who do not yet require therapy
- Adherence to HIV treatment or prophylactic regimens as medically appropriate
- Safe labour and delivery services
- Timely provision of HIV prophylactic regimens and cotrimoxazole for the infant
- Safe feeding practices for the infant
- Early follow-up HIV testing for the infant with rapid initiation of antiretroviral treatment for those who are infected, and testing to determine final HIV status in breastfed infants.
- Ongoing, clinical, psychological and social care, support and monitoring for the mother, infant and family

Infant feeding options for HIV positive women

- Replacement feeding
- Exclusive feeding up to six (6) months with abrupt cessation of breast milk only when acceptable, feasible, affordable, sustainable and safe.
- Heat treated expressed breast milk
- Wet nursing – only if HIV sero-status of wet nurse is known

Replacement feeding

Replacement feeding includes feeding with commercial or home prepared formula. Formula milk is regulated to meet nutritional specifications for the first six (6) months of life, is often fortified with micronutrients including iron and is usually in powder form to be reconstituted with water. Home prepared formula can be made with fresh milk and full cream milk. **Exclusive breastfeeding**

Exclusive breast feeding means giving only breast milk and no other liquids or solids, not even water, with the exception of vitamin drops, mineral supplements or medicine. Women who choose to breast feed should be supported to maintain breast health and minimise cracked nipples or abscesses. They should discontinue as soon as replacement feed is acceptable, feasible, affordable, sustainable and safe (AFASS) for them

Heat treated expressed breast milk

Flash-heating is a type of pasteurization that brings the milk to a higher temperature for a shorter period of time, a method known to better protect the anti-infective and nutritional properties of breast milk than the one typically used in human milk banks, the technique involves expressing breast milk into a glass jar that is placed in a small pot of water and heated until the water boils. This will be done to ensure that the free floating HIV virus is destroyed and made safe for the baby to drink the milk.

Wet nursing

This refers to breastfeeding by another woman, who is HIV negative. This may only be considered in special situations such as in case of an orphaned infant and the family do not meet the conditions for providing safe replacement feeds such as formula milk, this can be assessed using AFASS (Acceptable, Feasible, Affordable Sustainable and Safe). The wet nurse should be tested every three months. The wet nurse needs to protect herself from HIV infection the entire life that she is breastfeeding. In addition, the wet nurse should be available to feed the baby on demand.

Self test questions

What do the letters PMTCT, CTC and PEP stand for?

What are infant feeding options that have been recommended by WHO?

2.8 Basic principles of nursing management

We have looked at preventive strategies of HIV and AIDS, and we discussed counselling and testing and prevention of mother to child transmission of HIV. We are now going to learn basic management of HIV. Who can remember what HIV is? Why do people fear to be tested? Do you know the answer? By the end of the lesson, the answers will be given.

Management

key points to consider in care and support

- The health worker will need the support of the community (community based organisations or support groups, community based volunteers, or individual community members) in the management of HIV/AIDS. It is also important to know and keep an inventory of locally available community services.
- Ensure that the patient's HIV results are kept confidential.
- Give psychological support by being available and answering questions whenever possible.

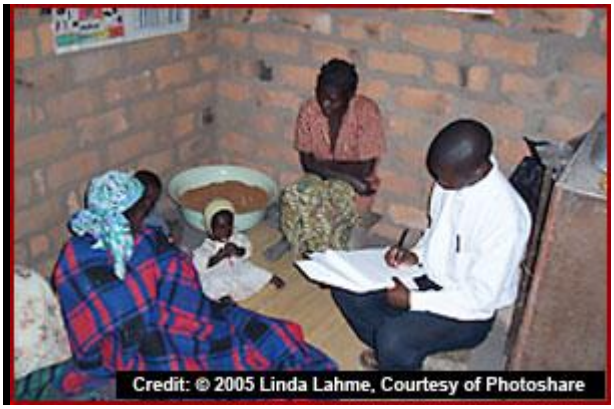

Figure 6: CHN visiting a family

- For questions and issues that cannot be handled at the health centre, refer the patient or family to appropriate service providers, especially home based care, counselling services, peer support group, and religious groups.
- Exhibit a hopeful and caring attitude to the patient, *i.e.* provide care with empathy.
- Ensure that the patient is kept clean and comfortable. Instruct the patient and family in basic hygiene and safe drinking water.
- Provide caregivers with food supplements for AIDS patients where available, otherwise advise on appropriate foods for positive living.
- Advise patients and caregivers to give liquids to patients with diarrhoea and with signs of dehydration, or who are losing significant quantities of body fluids. In a home environment, locally available fluids such as Mazoe, juices, weak tea, or sugar and salt solution (ORS) should be given.
- Encourage patients with diarrhoea to continue taking what the solid foods they can tolerate.
- Advise patients and caregivers concerning household infection control measures and procedures, with particular attention to hand washing (with soap and water). Razors should not be shared. It is not necessary to wear gloves when attending to an AIDS patient, unless the patient has open sores.
- Provide continuous encouragement and support to caregivers, and at times also counselling, to help them cope with the burden of care.

ACTIVITY

Write down your roles as public health nurse in caring for people with HIV/AIDS in the community.

Identify some other people or organisations that you are going to work with in managing HIV/AIDS in the community.

2.9 Critical analysis Of The role Of stakeholders In management Of Hiv And Aids And related diseases

I welcome you once again to today's section, of critical analysis of stakeholders. We looked at basic principles of nursing management of HIV and AIDS. I am sure you have heard about the role of stakeholders and you know some of them. At secondary school you heard about some organisations dealing with HIV/AIDS and people involved with HIV/AIDS.

A stakeholder is a party that has an interest in an enterprise or project. The primary stakeholders in a typical corporation are its investors, employees, customers and suppliers. However, modern theory goes beyond this conventional notion to embrace additional stakeholders such as the community, government and trade associations (http://www.investopedia.com/terms/s/stakeholder.asp)

According to world health organisation, stakeholders include:

- People with HIV;
- Local community and traditional leaders;
- Health-care workers;
- Governments;
- Nongovernmental organizations (NGOs);
- Community-based organizations (CBOs);
- Faith-based organizations (FBOs);
- Medical associations;
- Drug regulatory authorities;
- The private sector, i.e. employers, unions;

- Donors / cooperating partners;
- Academic institutions.

HIV is not just a health problem but also has social, political, legal and economic implications. Consequently, it is important to involve, coordinate and mobilize a range of stakeholders in order to confront the epidemic, both because they are affected and because they can play various roles. This means making serious efforts to build and maintain both formal and informal relationships within and between governments, communities, business and civil society.

Involving and mobilizing stakeholders should happen at both the central level and the implementation level and should be coordinated.Each stakeholder has her or his reasons for entering into partnership or collaboration on testing and counselling services. It is important to keep differing interests balanced and focused on the primary purposes, namely those of supporting people with HIV and promoting public health. Moreover, for the public policy environment it is important to facilitate partnership between different stakeholders.

Role of stakeholders

The role of the stakeholder is to make sure that all interested parties have their interest heard and considered. This is important when there are many different customers or member to consider. Stakeholders are responsible for representing an interest group whose needs must be satisfied by a given project. According to WHO, the following are the roles of stakeholders in the management of HIV/AIDS:

- **Roles of the government**

The important areas of responsibility are:

- *• Governance and coordination at national and sub-national levels* the government through the responsible ministries they put in place activity outline how the programmes are going to managed so that all the areas are covered. They provide guidance to other stakeholders according to identified needs of different societies.
- *• Resource mobilization*
- Resource mobilization means identifying possible sources and opportunities, finding appropriate personnel and funding, setting clear priorities, demonstrating success, sharing strategic information and building capacity to strengthen programmes of high quality.
- As they collect funds and resources from the government or other partners they redistribute to others accordingly.

• Provision of general policy and programme direction for the management of activities

Various health sector policies have an impact on HIV testing and counselling services. Such policies may be enshrined in national legislation on health or HIV/AIDS and regulations may be in place to enforce them. It is important to assess these health sector policies as part of the process of planning and implementing HIV testing and counselling. They develop strategic plans and policies that are

prepared for the needs of persons with HIV in the country and how these will be managed. Ensure that a supportive social, policy and legal framework is in place to maximize positive outcomes and minimize potential harms to clients or patients;

• Capacity-building including training

They provide training to health workers and other community volunteers on how to provide ART, Counselling and testing and how to care for the sick.

• Ensuring coherence of communications about TB and HIV

They ensure there is an appropriate network of communication on issues related to HIV/ AIDS. This is where the media may also be involved.

• Ensuring the involvement of civil society, nongovernmental and community organizations, and individuals

Building and maintaining political commitment

Why is it necessary to build and maintain political commitment? Experience has shown that endorsement, active involvement and leadership by people in positions of authority are vital for the implementation of successful HIV testing and counselling services and care, treatment and prevention programmes, as well as for combating stigma and discrimination. The term 'political' is used here in its broadest sense, meaning the involvement of people who have influence and decision-making capacity in respect of the lives of people and communities affected by HIV.

Political commitment to the mobilization of resources is critical to the successful planning and implementation of testing and counselling services. Ensuring greater involvement of people with HIV

Ensuring greater and more meaningful involvement of people with HIV in all aspects of the planning and implementation of HIV testing and counselling service planning and implementation is a true reflection of political commitment.

s. Supporting people to play an effective part in such decisions is vital for ensuring greater involvement. This applies as much to HIV testing and counselling as to any other area of policy or action

- *Promoting a rights-based approach to HIV testing and counselling*
- The involvement of people with HIV in all aspects of HIV testing and counselling services is also consistent with a rights-based approach, acknowledging that people have a part to play in decisions that affect their lives. The promotion of a rights-based approach to HIV testing and counselling services helps to normalize them in health facilities and in communities. It is also critical for improving people's perceptions about the benefits of HIV testing and counselling; this has a direct impact on the uptake of services.

The rights-based approach to HIV testing and counselling means that:

People have a right to know their HIV status;

Establish a monitoring and evaluation system that promotes an enabling environment.

The government provides the tools for evaluating HIV/ AIDS programs in conjunction with cooperating partners. This may be achieved through the involvement of provincial departments throughout the country. They monitor the programs and initiatives within their catchment areas.

-

Regulatory environment

The regulatory environment for medicines and medical supplies involves cooperation and collaboration between ministries of health, trade, finance and home affairs. It covers transactions in particular countries and extends to goods sourced outside these countries. Intellectual property rights are an important consideration in the use and availability of medicines and other technologies. A complex regulatory environment affects medicines and essential commodities, including laboratory and prevention supplies. Close attention to detail is necessary in order to ensure that the supply chain can deliver the materials required for HIV testing and counselling services.

- *. Health sector policies*
- The government through involvement of National Aids Council has ensured that all institution develop their work place policy on HIV.

  They include the following:

  - HIV prevention and care policies, which are likely to cover HIV testing and counselling ,PMTCT, post-exposure prophylaxis (PEP), universal precautions (UPs), TB prevention and treatment, and provision of antiretrovirals;

  - Public health approaches to HIV/AIDS, including the provision of HIV testing and counselling should also consider who should be authorized to conduct HIV tests and how HIV testing and counselling should be supported in order to achieve the best public health benefit. Because of the increasing numbers of people seeking HIV testing and counselling the best possible use should be made of human resources. In the case of PITC, epidemiology and available resources influence where such testing and counselling are first implemented. These requirements have implications for financing, recruitment, training, quality assurance and the accreditation of facilities and health care workers.

  - The quality and safety of medicines and medical supplies for use in HIV testing and counselling programmes are a responsibility of the drug regulatory authorities (DRAs) of health ministries and other bodies responsible for regulating medical supplies. The regulations of these bodies should indicate the conditions under which new supplies may be registered and should specify who is allowed to dispense or sell these commodities.

- Regulations for the selection and use of medicines and medical supplies, including laboratory and prevention commodities, may exist at the national level or may be developed for local use in accordance with existing regulations determining strategies for HIV testing and protocols for HIV testing and counselling in different health care settings.

- Funding mechanisms for medicines and medical supplies, including laboratory and prevention commodities, with reference to how HIV testing and counselling services will be funded and how or if the public or programme users will be expected to contribute towards costs through cost-sharing mechanisms, subsidies, service fees or other models.

- Monitoring and evaluation

Roles of Non-Governmental Organisation, community based and faith based organisation

- They provide mainly home based care services which generally look after people with HIV/AIDS and other chronic illnesses. People on home based care are therefore very likely to require ART.
- Counselling and effective referrals between home based care and health facilities must be enhanced to ensure that people requiring treatment are effectively treated and followed up.
- Programmes for Orphaned and Vulnerable Children's care
- Stigma and discrimination reduction,
- Prevention for sex workers and testing and counselling.
- Involvement in research activities

- **Roles of Cooperating partners**

  These provide funding for projects to support those who are positive such as information dissemination.
- They provide technological equipment required for testing and also drugs that are required to scale up HIV management and treatment.
- They also provide technical support in relation to human support to ensure that objectives are achieved.

ASSIGNMENT

With relevant examples discuss how stakeholders help in the care of HIV/AIDS patients in the community?

2.10 Partnerships in management of HIV and AIDS

In the last session, we discussed the role of stakeholders and today we are going to discuss partnerships in management of HIV and AIDS clients.

Almost three quarters of funding for HIV and AIDS in Zambia is from foreign cooperating partners. The majority of Zambia's cooperating partner funding comes from PEPFAR, followed by the Global Fund through the United Nations Development Program (UNDP) and the World Bank. Others funders are the Canadian International Development Agency (CIDA).

The Copperbelt Health Education Project (CHEP) which uses music, drama, group discussions and role play exercises to raise AIDS awareness, particularly in rural areas. Through its in-school youth programme, the CHEP educated some students using these methods. Peer-centred education was also used to reach sex workers, street children and soldiers, and the CHEP has established youth-friendly health services, in which it trains peer educators who work alongside clinic staff

'Corridors of Hope' was a project funded by USAID and implemented by RTI International and Family Health International. Its aim was to reduce HIV transmission among transportation corridor communities in seven countries, including Zambia. Truck drivers were identified as key players in the spread of HIV due to the high levels of mobility along main transport routes.

Religious groups and community based groups have formed home based care groups that provide care and support to the chronically ill due to HIV. The support is to the patient and the family.

2.11 Summary

We have now come to the end of the unit. We discussed HIV/AIDS starting with the historical background for HIV and AIDS. We discussed that the emergency of HIV/AIDS dates back in the early 1980s.We also defined HIV as a virus responsible for causing infection and that AIDS is when the persons immune system is very compromised and that it is the final stage of the disease.. We looked at the epidemic and its impact on the health sector, economy, social aspect, individual family and the community. We discussed the various modes of spread like sexual contact, contact with body fluids of an infected person etc. We discussed the preventive strategies of HIV and AIDS like PMTCT, PEP, and feeding option among others. Then we discussed basic principles of nursing management of HIV/AIDS clients in the community that there is need to engage stakeholders in the care. We ended by having a critical analysis of the role of stakeholders in the management of HIV and AIDS and partnerships in management of HIV and AIDS.

ASSIGNMENT

READ on family and the community health in preparation for the next session.

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UNIT 3: FAMILY AND THE COMMUNITY

3.1 Unit-Introduction

Welcome to this session of PHN which is the continuation of what you have learnt so far in the other courses like sociology, psychology and fundamentals of nursing. This unit is focusing on the family. The family's health and vital statistics are essential to the world's future. This is because all family members are affected by what the family has invested in the members or failed to provide for their growth and well-being. The family provides the most important social context within which health is maintained and illness occurs and is resolved.

This section focuses on the definition of the family, the types of the family and their developmental life cycle. It then focuses on the family as a unit of service and the perception of health and illness in the family situation. As we have better understanding of the family we will then discuss how to conduct a family assessment and finally look at the factors that affect the health of the family. Then we will look at the community as a broader view of the family. We will define the community and mention the types of the community which will followed by assessment. Then we will look at the factors affecting the health of the community, the water supply and the community partnerships. Then we will progress to look at the selection training, support and supervision of community volunteers, and then we will focus on the neighbourhood health committee and traditional healers.

3.2 Unit Objectives

By the end of this unit you should be able to:

At the end of this unit the learner should be able to;

1. Define key terms
2. Discuss family
3. Discuss Community
3. Discuss food safety
4. Describe the water supply

5. Discuss community partnership for health

3.3 Family

3.3.1 Define family

-This is two or more individuals who depend on one another for emotional, physical and financial support

- A group of persons directly linked by kin connections, the adult members assumes responsibility of caring for the children, (Giddens, 1998)

Family Nursing – it consists of nurses and families working together to improve the success of the family and its members in adaptive to normative and situation transitions as well as responses of health and illness.

Explain the types of the family

Nuclear family

This consists of a married couple and their children while they are still regarded as dependants. This means that the father, mother and children while they still staying and being supported physically and financially by their parents.

Extended family

It consists of two or more adults who are related, either by blood or marriage, living in the same home. This family includes many relatives living together and working towards common goals, such as raising the children and keeping up with the household duties. Many extended families include cousins, aunts or uncles and grandparents living together. This type of family structure may form due to financial difficulties or because older relatives are unable to care for themselves. Extended families are becoming increasingly common all over the world. However it used to be more common in the rural areas than urban areas.

Single parent Family

It consists of one parent raising one or more children on his/her own. Often, a single parent family is a mother with her children, although there are single fathers as well. The single parent family is the biggest change society has seen in terms of the changes in family structures. One in four children is born to a single mother. Single parent families are generally close and find ways to work together to solve problems, such as dividing up household chores. When only one parent is at home, it may be a struggle to find childcare, as there is only one parent working. This limits income and opportunities in many cases, although many single parent families have help from relatives and friends.

Blended (Step) family

Over half of all marriages end in divorce, and many of these individuals choose to remarry. This creates the stepfamily, which involves two separate families merging into one new unit. It consists of a new husband and wife and their children from previous marriages or relationships. These families tend to have more problems, such as adjustment periods and discipline issues. They need to learn to work together and also work with their exes to ensure these family units run smoothly.

Grandparent Family (Skip Generation)

Many grandparents today are raising their grandchildren for a variety of reasons. One in twelve children is raised by his grandparents, and the parents are not present in the child's life. This could be due to

parents' death, addiction, abandonment or being unfit parents. Many grandparents need to go back to work or find additional sources of income to help raise their grandchildren.

Childless Family

While most people think of family as including children, there are couples who either cannot or choose not to have children. The childless family is sometimes the "forgotten family," as it does not meet the traditional standards set by society. Childless families consist of a husband and wife living and working together. Many childless families take on the responsibility of pet ownership or have extensive contact with their nieces and nephews as a substitute for having their own children

Mixed Family

This is a family which has both the matrilineal and patrilineal to strike a balance. Both husband and wife have equal control over their children. This is common among inter-marriages where two people come from different cultural background.

Foster Family

This is a family where one or more of the children are legally a temporary member of the household. This temporary period may be as short as a few days or as long as the child's entire childhood.

Kinship care Family

It is another type of foster family in which there is legal arrangement for the child to be cared for by the relative of one of the parents.

Figure 7: Diagram of the Family

Case study

A blended family has its pros and cons. Identify one family with such characteristic and make a case study.

3.3.2 Family Developmental Cycle

The family life cycle is a continuous flow; before one family ends another begins. Almost everyone has two families in their lives. Family of orientation in which one is born into and/ or raised by and the family of procreation the one the individual will help create. Family development involves the biological perspective which depends on the family structure and age of the members. It also involves social which is affected by the society and the culture in which one is raised and psychological. Family life cycle has the emotional and intellectual stages you pass through from childhood to your retirement years as a member of a family. In each stage, you face challenges in your family life that cause you to build or gain new skills.The following are the stages:-

Stage 1: Independent Stage

Independence is the most critical stage of the family development cycle.
As you enter young adulthood, you begin to separate emotionally from your family.

During this stage, you strive to become fully able to support yourself emotionally, physically, socially, and financially. You begin to develop unique qualities and characteristics that define your individual identity. Intimacy is a vital skill to develop during your independent, young adult years. Intimacy is the ability to develop and maintain close relationships that can endure hard times and other challenges.

In an intimate relationship, you learn about:

- Commitment.
- Commonality or similarity.
- Compatibility.
- Attachment.
- Dependence on another person who is not in your family.
- Shared emotion in a relationship.
- You also learn who you are outside of your identity within your family.

Your ability to develop an intimate relationship depends on how successful you were at developing your individual identity earlier in life and establish yourself in career.
You develop trust, morals, initiative, work ethics and self-identity

Stage 2: Beginning family/Coupling or Marriage Stage

The married couple have a home but have no children. They explore their abilities to commit to a new family and a new way of life. Although being in a relationship with someone does involve a process of adaptation and relationship building, a marriage or committed union often requires unique skills. When you join families through a marriage or committed union, you form a new family system. When you marry or form a union, you combine your family system with your spouse's or partner's. This requires reshaping your goals and your partner's goals.Developmental tasks here are establishing a satisfying

home and marriage relationship and preparing for childbirth. You may find that some of the ideas or expectations that you held in the past are not realistic at this stage. Some common areas of adjustment include: -Finances, lifestyle, recreational activities or hobbies, relationships with in-laws, sexuality or sexual compatibility, friendships and putting another person's needs before your own.

The relationship skills you learn in coupling serve as a foundation for other relationships, such as parent-child, teacher-student, or physician-patient.
Within a couple, you learn: - Advanced interpersonal communication, problem-solving skills,common spiritual and emotional development goals, how to form boundaries in relationships and when to place the needs or importance of the other person above your own.

Your specific goals for this stage of the family life cycle are:

- Forming a new family with your partner
- Realigning your relationships with your family of origin and your friends to now include your spouse

Stage 3: Childbearing Family/Parenting

At some point in your relationship, you and your partner will decide if you want to have a baby. Some couples know before going into a relationship that they do not want children. Parenting is one of the most challenging phases of the family development cycle**.**
Along with the joy that comes from having a child, you may feel a great deal of stress and fear about these changes.
A woman might have concerns about being pregnant and going through childbirth. Fathers tend to keep their fears and stress to themselves, which can cause health problems. Talking about your emotional or physical concerns with your physician, obstetrician, or counselor can help you deal with these and future challenges. Your child's healthy development depends on your ability to provide a safe, loving, and organized environment. Children benefit when their parents have a strong relationship. Divorce and extramarital affairs often occur during the raising of small children when the parents have not learned proper life.

Specific goals when young children join your family are:

- Adjusting your marital system to make space for children
- Taking on parenting roles
- Realigning your relationships with your extended family to include parenting and grand parenting roles
- It's also a time for positive growth and creative exploration for your entire family. In this stage as children grow; there are different tasks at each phase of child development. Below are the different phases and their tasks:-

From birth of 1st child until that child is 2 ½ years old

Developmental Task: Adjusting to increased family size and providing a positive developmental environment

: Family with Preschoolers

Oldest child is between 2 ½ and 6, there is also possibility of younger sibling

Developmental tasks: coping with demands on energy and attention with less privacy at home

: Family with School Children

When oldest child is between ages of 6 and 13 and possibility of younger siblings

Developmental Task: Promoting educational achievement and fitting in with the community of families with school-age children. They also re align with extended family. The family gets involved in financial and household tasks.

*: Family with adolescent*Oldest child is between ages of 13 and 20 and a possibility of younger siblings

Developmental Task: Allowing and helping children to become more independent

Refocus on marital and career issues

Stage 4. Launching Children and moving on/Empty Nest

- The stage of launching adult children begins when your first child leaves home and ends when the youngest leaves home. This is called the "empty nest." When older children leave home, there are both positive and negative consequences. If your family has developed significant skills through the family developmental cycle, your children will be ready to leave home, ready to handle life's challenges.. At this stage there is development of adult to adult relationship between the grown children and their parents. If you have not moved through the phases with the appropriate tools and attitudes, you may not have taught your children the skills they need to live well on their own. If you and your partner have not transitioned together, you may no longer feel compatible with each other. But remember that you can still gain the skills you may have missed. Self-examination, education, and counseling can enhance your life and help ensure a healthy transition to the next phase.
  Health issues related to midlife may begin to occur and can include:
  - Hypertension
  - Weight problems
  - Arthritis
  - Menopause
  - Osteoporosis,
  - Coronary heart disease,
  - Depression and stress related illnesses.

Development Task:

Releasing young adults and accepting new ways of relating to them; maintaining a supportive home base. There is also realignment of relationships to include in- laws and grandchildren

From time children are gone till couple retires

Developmental Task: Renewing and redefining marriage relationship; preparing for retirement years. There is exploration of new familiar and social roles.

Stage 5: Retirement/Aging Family

Specific goals to reach for at this final stage of your family life cycle include:

- Maintaining your own interests and physical functioning, along with those of your partner, as your body ages
- Exploring new family and social roles
- Providing emotional support for your adult children and extended family members
- Dealing with the loss of a partner, siblings, and other peers, and preparing for your own death
- Reviewing your life and reflecting on all you have learned and experienced during your life cycle.

Developmental Task: Adjusting to retirement; coping with death of the loved one and living alone.

ACTIVITY

Look out for your own family experience, at what level are you or your family? What are some of the challenges being faced in your families? How do you think you can be helped to meet those challenges? Write down in your note book.

3.3.3 Family As A Unit Of Service

The family has always served as the basic unit of society; this is in the view that the smallest unit of any community is a family. It consist of the nurses and families working together to improve the success of the family and its members in adapting to normative and situation transitions as well as responses of health and illness,(Lancaster & Stanhope, 2004). As a nurse you will face certain challenges in the care of the family including the following;

When meeting an individual who is seeking help, the environment in which they coexist with other family members and the community and the interactions existing among them will matter.

What resources are available for the nurse?

In order to understand better family nursing you will use the following approaches

Family as the context- this places the individual first and the family second. Therefore you will need to have an understanding of the individual illness and its impact on the family as a whole. When one has a chronic illness how does it involve the family? E,g. you are diagnosed with HIV and you have to on HAART, how will you family respond to the news and support to be rendered.

Family as the client- This area identifies the family as the primary focus and the individual is secondary. You will look at each individual put together to form a family and how they are going to affect the family as a whole. As a nurse you look at the individual and how each member reacts to the sickness of one

member. For example; how do the family members react when they discover their father has been diagnosed with HIV/ AIDS?

Family as a system- A system is looked as a group of interacting, interrelated or interdependent elements forming a complex whole. Therefore the family will be viewed as interaction and interdependency between the individuals making the family. This will imply that whatever problem that affects one member of the family the other members will be affected either directly or indirectly.

For example if a son breaks his bone and cannot walk wil,l affect everyone else in the roles they play. Some may need to start doing the chores of the sick member or will have to care for him.

Family as a component of society- The family is seen as one of many institutions in society, along with health education religious and financial institutions, (Ibid). This means you have to view the family in terms of their role and contribution to the well-being of the society they live in. You look at them as how they interact with other members, how they access the health services and what contribution they will make toward the health of the society at large. As a nurse you will also focus on the linkages between the families and the other community agencies.

Perceptions of health and illness in family situation

The way individual members of the family perceive their illness and health seeking behaviours normally differ, you will identify the following factors as some that will influence each particular family:

their social - economic factor

- Traditional and cultural beliefs of the society and family and will have influence on those who makes decision on health seeking and how they respond to the wellbeing of each member of the family.
- The environment in which the society lives in
- The educational level of family members
- Social cultural differences between the families and nurses may affect the nurse patient family relationship and the quality of the care to be provided.

Therefore the public health nurse needs to have an understanding of these factors and be able to assess how they are influencing the health seeking behaviours and the response to care. You will also be able to determine the level of prevention required.

Family assessment

This is the using a systematic process of identifying family problem areas and their strengths and used as building blocks for interventions and to facilitate family strength. It can also be said as a systematic process of learning from family members their ideas about member's development and the family strengths. This can result from commitment from the family and the health care provider in identifying and implementation of the solutions.

They are two models that will be used to develop a clear understanding. As we relate to fundamentals of nursing, a model can be defined as a set of abstract and general statements about the concepts that

serve to provide a framework for organizing ideas, their environment, health and nursing. The following are the models;

Family assessment intervention model and Family systems stressor – strength inventory

The initial model uses the family as the client model and the other one uses the systems approach. The family is subject to tension when problems affect their defence system. The outcome will depend on how deeply the problem affects the family unit and their ability to adapt to the existing situation.

The family's structure will be protected depending on its normal functioning and energy resources. The main areas of focus are on:

- *Health promotion*- what activities are the family engaging in to maintain their wellness, what do they do that can affect their health. What problems are they encountering and what measures have been put in place to protect them and provide their strength.
- *Family reaction and stability* – It identifies the stressful situations and what strengths does the family have to maintain their health function despite their problems.

Restoration of family stability and family functioning at the levels of prevention

This measurement instrument provides numbers and important contribution from all family members. It helps you identify problems within the family and how they are able to handle then. It also helps come up with a plan on what programs you need to come up with in order to meet the needs of the family. It identifies three main areas of interest that is; the general overview of the family, specific issues affecting the family and available mechanism of support. The data you collect will guide you in identifying the level of prevention that will be appropriate for your client. This could be primary, secondary and tertiary. These are the same levels that were discussed in the first unit.

- The primary prevention will be used to help the individual and the family maintain their health or continue with their health promotion activities. You encourage the family to continue with their coping mechanism and improving by giving them advice on the new available approaches.
- The secondary prevention addresses activities to be done in order to sustain health after the family has been exposed to different problems which have affected health. It involves helping the family solve their problems, helping them come up with the right diagnosis and find the available treatments and approaches of handling their problems.
- The tertiary prevention will be those approaches that you will use after treatment has been done, for example a sick member has been discharged and you rehabilitating them to their previous health state. This could be even helping the family copy with a disability and make necessary adjustments.

This will be achieved by developing a schedule with questions that will guide you on the information to look for.

Friedman Family Assessment Model

In this model you will focus on the family as a subunit of society, hence an open social system. You look at how that family is organized, its functions and the way it relates to the society as a whole. As the nurse it gives you an opportunity to look at the family as a whole.

You look at –

Demographic data,

Developmental stage and the history of the family,

The structure of the data that is the communication system, power structure, role responsibilities and the values of the family

Family functions which includes- socialization, health care and how affection is done

You finally look at how the family copes with different events.

This guideline helps you get a clear understanding of what is going on in that family and what interventions will be required.

Take Note

Assessment is interactive; as you are evaluating the family they are also evaluating you.

RECUP TIME!!!!

1. What is a family
2. What are the different types of families that you have learnt?
3. What do you understand by "family as a unit of service?"
4. What are some of the factors that affect the health of the family?
5. Discuss the family developmental cycle.

3.4 Community

Welcome to another session of unit three. We are going to look at the community. This is looking at a broader view of integration of families. Thus would like to request you to feel welcome and participate actively.

Activity:

We have just ended the discussion on family. Now, take your note book and define community. Also, write down 4 types of communities you have heard of.

Good try!

I hope your answers covered some of the information below:-

3.4.1 Definition of Community

A community is a social group determined by geographic boundaries and/ or common values and interests, it functions within a particular social structure and exhibits creates norms, values and social institutions, (Lancaster &Stanhope, 2004). 3.4.2 Types of community

There are different types of communities. Some of them are;

- - Face- to – face community
- - Neighbourhood community

These two communities mentioned above are usually referred to as **community of place**. The people in this community's interactions occur within a specified geographic area. Examples are school, township and markets.

- **Community of identifiable need** this is where the members have specific needs that are putting them together like campaigning for a borehole, clinic or a police post in their area.

- **Community of problem ecology**- this will occur when a given area is affected by an environmental problem. For example there are floods covering a large area and those affected are put together to start afresh. This can also be called a community of concern.

- **Community of special interest**- this you look at a group of persons with similar concerns, interests and passions. These may be over time or within a short period of time. e.g. Support anti-smoking free zone.

- **Community of action capability** – these are a group of people who are brought together due to a common achievement like miners, nurses and others.

- Community of political jurisdiction – this is a group of people who are brought together due to their political beliefs and affiliations.

3.4.3 Conducting a community assessment

Remember in secondary school you used to write tests to measure your academic progression. Even in the community there is need to assess the way of life and how it affects their health. At the end of this topic you will be required to conduct a community diagnosis.

Hence, what is community assessment?

-Community Assessment is an exercise by which information is gathered on the current strengths, concerns and condition of children, families and the community.

-It may also be defined as a broad look across agencies, systems and community members to learn more about the circumstances that a partnership has identified as crucial to its area of interest.

- It is a developmental process that describes the state of health of local people, enables the identification of the major risk factors and causes of ill health and enables the identification of the actions needed to address these,

- It is a logical, systematic approach to identifying community needs, clarifying problems, and identifying community strengths and resources, Lancaster & Stanhope,2004)

Principles Of Conducting Community Assessment

The theme should guide the assessment. The objective points you toward the information you need in order to take action; the clearer your objective, the more focused and useful your assessment will be. Refer to your objective as you make choices about what information to look for and how to interpret what you learn. If your objective emphasizes prevention, your assessment will focus on, among other things, young children's health and nutrition

An assessment should focus on specific information topics such as safety of children or resources for families. Don't try to address all topics at once or you may be overwhelmed by the process and lose sight of what you are trying to accomplish.

Assessment is an ongoing process. Continuing your review of the community's assets and needs over time will help you fine-tune your activities. Ongoing assessment enables your partnership to respond to changing conditions--both those changed by your partnership and those that are beyond your control.

An accurate assessment views the community from multiple perspectives. It recognizes cultural, linguistic, ethnic, and economic diversity as well as special needs. Information from diverse stakeholders including families, community members, and agency staff produces a more complete picture of the community. People's views vary regarding programs, agencies, services, and the relationships between agency staff and community members. People may also have different views on the issues strategies should address.

An effective assessment takes an in-depth look at diversity within a community. Because ethnic groups often differ in their opinions about services, you may want to separate some information by ethnicity. You should also note differences among people who may be ethnically similar but culturally or linguistically different--for example, the many groups of people of Zambia. There may be differences among first-, second- and third-generations. And don't forget that people who share racial or ethnic backgrounds may or may not live in similar economic and social circumstances.

An information coordinator can facilitate information gathering by many participants. This role is often filled by the health care provider from the nearby health facility. The coordinator should have first-hand knowledge of the community and a thorough understanding of the objectives.

The Process Of Conducting Community Health Assessment

Introduction

You should read through the process of conducting a health assessment so that you are familiar with the steps to be taken.

Approach the key local people and professionals whom you like to be involved in the work. These will form the working group.

- Identify the scope and purpose of the assessment so that you make decisions on the approach you will take.
- Identify the people who will be able to offer help for example Local community leaders whose approval may allow greater access to communities or Local community staff who may have useful information
- The nurse must decide how much time and resources he/she is realistically able to give to the work and adapt each stage of the process to take account of this.
- Give consideration to the ethical issues regarding ownership and use of information, confidentiality, raised expectations and stigmatizing groups and communities.

Data Collection

The main purpose is to get usable information about the community and its health.

You assemble the already existing information so that you know where to start from. This data is mainly about the demography of the community that is; age, sex, socio economical and racial distributions. They also include vital statistics such as mortality rates and morbidity data.

Data gathering

Collect information about the characteristics of the population which will include; location of the community, the age of its members, gender distribution (how many are females and how many are males), religion and the commonest languages spoken. You take note of the pattern of the population and how many deaths do they have per year? You take not of their source of income, type of housing, source of water and entertainment facilities. You also identify the social network available. You also assess on the health status of the members, local factors affect their health what is the impact. Then check on the health services that are in place and what to see as their health needs. Then relate these needs according to the national priorities. All this data will help you get the basic information about the community in order to identify the nursing needs for this community.

Data generating

This is a process of developing data that do not already exist through interaction with community members or groups, (Lancaster & Stanhope, 2004)

The information collected will be based on information about the knowledge of the community, their beliefs, values and sentiments. It also looks at what the community want to achieve, problem solving processes, power, leadership and influential structures.

Develop an interview schedule or a list of questions to guide you in collecting data. You may use a questionnaire or an interview schedule with questions planned according to the objectives you want to achieve. With these instruments you may collect data or conduct a focus group discussion. These techniques have been well explained in nursing research, I would like you to refer to it so that you know what they are. If the community you are dealing with is illiterate then you may get diagrams of photographs from them to illustrate the information. Meet the local professionals and collect important information such as the public health department, government departments which may provide you with information on the social and economic structures.

You may collect data from members of the health team and nurses. As a nurse you will be able to collect data through observation, interviews and asking questions. You also go through the available records and get information on disease pattern, social well-being and the disease patterns.

Data analysis

This is the process of making sure the data is collected in the most appropriate and examine the data to ensure that it is complete. The information will be analysed to identify the key health issues and plan actions to address them.

Ensure that you read through the collected data with those who assisted in the collection and take note of the common information. Compare the collected data with the previous or available group for a similar community to identify any high rates of disease or health issues.

Compare the results with previous findings to note the trends overtime. Identify any significant gaps in the information and the good information in order to plan for actions to be taken. Ensure you take note of observations made by others as well.

After you are satisfied with the data you prioritize your action points according to the needs and suggestion of the local people or the significant others and your understanding of the most important.

You consider how many are affected, are they disadvantaged with high needs for care, what is the impact on peoples' lives, are there appropriate and effective interventions and are the services adequate. You also assess whether the identified health need relates to the known priorities and strategies and is the expertise and training available.

When all has been evaluated, you plan how you will take action. You have to put into consideration the following; be creative so that you take into consideration those who are affected and those who have been taking care of them this will include them in the care. Involve more people so that you are able to provide care to a larger population.

You will need to involve the community so that priorities of the community are acted upon and they will be motivated to participate in the implementation of the planned activities.

In order to achieve your objectives you need to work hand in hand with other interested persons or those you had identified as key persons. Involve them in the planning and so that they assist in the input whether professionally or guiding or giving permission like for example you were using a village headman.

Identify those activities that members can do to promote their health. It could be participating in developing policies, identifying the activity that the community can do and ways of improving their environment so that they can have healthy life styles.

From those needs that you have identified promote those activities that can prevent occurrence of disease for example according to the data there are a lot children below five and from same families it means you introducing programs of family planning to reduce on high birth rates and problems that will come along with too many children. Then you may provide examination services if you suspect cervical cancer so that women receive treatment before the disease spreads. When this community have members with chronic conditions then identify services that will in rehabilitating them. This will cover the three levels of prevention which are primary, secondary and tertiary.

All these activities that you plan for, you need to come up with a plan on how to ensure that the activities you want to be done are done. See below a chart that you may develop;

Table 2: Table of planned Action

Identified Need	**Objective**	**Actions to be done**	**Responsible person**	**Time frame**	**Evaluation**

Put in place ways how you will ensure that the planned activities are done. Plan on how you will carry out monitoring and evaluation of these activities. Make sure you write down all things you have done and those you plan to do. Give report to all those that are relevant, for example the Health District Office, the community leader or any other key person.

Note: The above community assessment can be done using the guidelines of the nursing process, it has specific steps that are similar to the ones mentioned above but you will understand it in detail in fundamentals of nursing on how to write and utilize the nursing care process.

3.4.4 Factors Affecting The Health Of The Community

We all live in different communities and we have seen people in good health as well as those that as sick. There are several factors that determine one's health. We are now going to look at them one by one.

Poverty

Activity: Take your notebooks and write 3 factors which lead to poverty in Zambia.

Good!

I believe your answers were similar to these below

- **Economy** (employee health care benefits), economic status (number of people below poverty level)
- There are few people in formal employment. Moreover, despite being in formal employment most of these have salaries which cannot sustain their homes.

-**Physical factors** - geography (parasitic diseases) frequent outbreak of parasitic diseases have led to families diverting income to medical attention leading to lacking on other goods and services.

-**Environment** involves the availability of natural resources. In some areas the soil is not fertile for crops, while in other areas there is lack of adequate water resources.

Community size (overcrowding), and industrial development (pollution) - in overcrowded areas there is poor housing, poor sanitation, large family sizes with no or inadequate food for the families. Communicable diseases and outbreaks are more common in these areas.

-Social and cultural factors - beliefs, traditions, and prejudices (smoking in public places, availability of ethnic foods, racial disparities) This means, some traditional beliefs and acts hinder good practices such as failing to eat a balanced, smoking in public which is dangerous not only to smokers but to those inhaling the smoke. Moreover, some races are more advantaged and accesses health food while others are having inadequate supply.

Social norms (drinking on a college campus), Such behaviour deters students' progress, leads to riotous behaviour and even after completion, these students become a menace to the society.

-Political (government participation), religion (beliefs about medical treatment) the political commitment to improve communities, create jobs and assist in medical supplies determines the health status of the community. However in most communities number of the unemployed and those unable to access quality health services is high..

-Health care delivery/ Community organization- available health agencies (local health department, voluntary health agencies), and the ability to organize to problem solve (lobby city council).

-**Individual behaviour** - personal behaviour (health-enhancing behaviours like exercising, getting immunized and recycling wastes) **–** change is slow among people such that it takes time for most people to accept and adopt behaviour which is health and prolongs life. Community needs continuous reminding and sensitization on importance of positive behaviour that prolongs life.

3.5 Food safety:

We have just finished discussing the family and the community. A family or community at largr cannot live healthy lives without healthy well prepared food. Food safety, storage and preparation is discussed in detail in nutrition.

Activity:

Take your notebook and write down 4 ways of maintaining food safety?

Well done!

Some of your answers were like these:

A CHN should educate street vendors selling food, shopkeepers and marketers to use protected food store in order to avoid exposing food to dirt and flies

Food handlers do medical exams every after 6 months (twice a year)

There is proper storage and handling of food stuff sold at the market.

Hand washing is observed at critical times to avoid contamination of food .e.g. before handling any food, after visiting the toilet, etc.

Figure 8: Hand washing under running water

- There are adequate public toilets at market places to maintain high standard of hygiene by working hand in hand with the environmental health technicians and local authority.

3.6 Water supply and sanitation

It is the provision of water by public utilities, commercial organisations, community endeavours or by individuals usually via a system of pumps and pipes. In Zambia at national level, about 57% of households have access to safe water supply while 43% have access to water from unsafe sources.

Safe drinking water and proper sanitation are important elements of maintaining health of the people and prevention of diseases.

Public Health Care has incorporated these two elements to improve the health status of the community.

In the history of Community Health Nursing, Chadwick in 1932 was very famous for his policies against poor sanitation and initiated the campaign against filth which is the major cause of diarrhoea.

Diarrhoeal diseases are indicators of poor water supply and inadequate sanitation hence the need for strict application of control and preventive measures. These measures are washing of hands after using the toilet, boiling drinking water.

Questions to work on

1. What is a community
2. What is a community of problem etiology
3. What are the factors that affect the health of the community?
4. What is community diagnosis?

Definitions

- **Water**

a. Commonly applied to the liquid state of the hydrogen-oxygen compound (Encarta, 2004).

b. Clear thin liquid lacking taste or smell, and is essential for life (Inebstor's reference library, 1999).

- **Sanitation**

This is a safe and adequate disposal of faecal matter and solid waste. (ITG, 2002)

- **Vector**

A carrier, especially the insect (usually an arthropod) that transfers an infective agent from one host to another (Novak, 2005)

WATER

Water is a prime necessity of life, without which, animals and vegetable life must cease to exist. Water helps man in many ways and includes replacement of lost fluids from tissues, maintenance of fluidity of blood and lymph, in excretion of waste products, dissolving food and helps in digestion.

Sources Of Water

There are basically three main sources of water supply and these include surface, rain and ground water*:*

a. Surface water

Surface water is easily accessible and most contaminated of the (3) three sources. Examples include rivers, streams, ponds, lakes and marshes. This water must be purified before use.

Figure 9: A river as example of surface water

In Zambia, 65% of water consumed by citizens is from rivers, streams, ponds and lakes. Urban areas have water piped to their homes by the water supply companies e.g. Lusaka water and sewerage company. People in rural areas draw their water from rivers, streams, ponds, lakes and springs and this water is unsafe.

b. Ground water

Ground water is superior to surface water, because ground water itself provides an effective filtering medium. The characteristics of ground water include:

1. Likely to be free from pathogenic organism

2. Usually requires no treatment

Sources of ground water

1. Open, shallow and hand-dug wells: These are commonly found in rural areas, peri-urban and shanty compounds

For Hand- dug Wells

Figure 10: Picture showing men digging a well

i. Presence of a water raising system (buckets, ropes) that is inaccessible to animals and unauthorized users.

ii. Presence of walls that have an impermeable parapet surrounding the well to prevent water from seeping through.

1. **Boreholes**

Figure 11: A borehole – hand pump

If properly done, are less likely to be contaminated because they reach water deep in the ground, far from the surface. The surface is protected by concrete and hand pump which enhances drawing of water without difficulties.

3. Springs

Spring water normally comes from the ground and is free from contamination at the collection site.

c.) Rain water

Rain water is one of the most common sources of water supply as it provides some communities with safe water because it is the purest water in nature. Physically, it is clear, bright and sparkling but chemically it is a very soft water, hence it has a corrosive action on lead pipes. Zambia has a reliable and predictable rainy season from November to March.

Rain water harvesting:

Rain water harvesting is the collection of rain in a sanitary manner, so that it can be used for domestic purposes. In practice, at the household level this is limited to a few litres Water is collected from the gutter and stored in the .e tank.

Water quality

The objective of water quality monitoring is to ensure that water used by the community meets national water standards for drinking and is acceptable to users. Water for drinking or domestic use should be clear, free of suspended materials and contamination, and should taste good.

- Water quality monitory is necessary and is done by Environmental Health Technologist /Community Health Nurse in various water sources. When to conduct water assessment.
- When new water sources are established
- Routine for regular monitoring so as to protect water sources
- iii. If water source is below standard
- iv. When there are changes in environmental conditions, i.e. rainfall, drought, etc.
- During disease outbreaks.

Physical parameters of water quality

Zambia has adopted the WHO water quality guidelines. The tables below show the WHO guidelines for the physical, chemical, and bacteriological quality of drinking water.

Parameters	**Normal**
color	0.15
Appearance	Clear
Turbidity	0.5 NTU

PH	6.5-8.5
Odour/Smell	Inoffensive
Residual chlorine	0.2-0.5 mg/Liter

Table 3: Physical Parameters of water Quality

The presence of some physical parameters (turbidity, color and odour) can be objectionable to consumers and this requires simple treatment procedures as discussed in the physical treatment of water.

Storage of water

Water is stored for domestic, industrial and agriculture purposes. The method used depend on the intended use. The following are recommended ways;

-20-liter, durable, plastic storage vessels with a lid and spigot, designed to prevent recontamination

Water Purification Methods

This is done in an effort to provide safe water supply from surface water sources.

1. Physical treatment of water a. Simple Straining or filtration

Polluted surface water usually contains suspended impurities and eggs of worms. Communities can use this method, where a clean piece of cloth is stretched over a pot and the dirty water is poured through the cloth into the pot.

b. Simple Stone-Sand Filters / **Charcoal Filters**

This works on the principle of passing untreated water over stones, gravel, and sand. The process is known to remove bacteria, suspended impurities and ova. This type of filter can be constructed from different containers. For good results, the sand and gravel bed must be changed from time to time to avoid clogging. Sometimes crushed charcoal is used instead of sand in this process. The method is known for removing bad taste, odour and colour from water.

c. Boiling

the water is subjected to intense temperatures to kill bacteria and other form of germs. Boiling of water is a useful intervention for destroying pathogens, especially during epidemics. The method can be reliable if properly used: Water should boil for 5-10 minutes; water should then be stored in narrow necked containers e.g. 5 or 20 litres containers . Charcoal or fire wood can be used as fuel. After boiling the water is let to cool and then stored in containers with tight fitting lids. This is the best way of physical treatment of water though it tends to be expensive.

d. Solar or Sunlight Disinfection

The sun emits ultra violet rays which have the potential to kill germs. Water is drawn and is put in the sun for some time. The larger the surface area of the storage container being used for this type of water treatment the better the results. The ultraviolet rays from the sun kill harmful bacteria and make the water potable; this principle can be easily utilized at community level: Draw and transfer silt-free water (not too turbid) to a clean and transparent plastic container (i.e. bottle). Keep the container covered, and place it in constant sunlight for 4-6 hours. Care should be taken to avoid other forms of dirt and flying particles to come in contact with water.

e. Commercial Filters-Ceramic/Candle Filters

The part that filters water is made up of ceramic material, baked clay or ceramic and is porous. This process removes bacteria and other suspended impurities. Ceramic or candle filters are suitable for use in homes, offices and health facilities.

f. The Three - Pot System of Water Storage

The drawing and storage of untreated water and allowing it to stand for a long time has an effect on some ova, which are known to die off. This system is suitable at community level and is done in the following sequence:

Use two big pots to fetch water on alternative days

Allow the first pot to stand for 24 hours

Carefully pour out the clear top water into a smaller pot for drinking, and use the remaining water for washing. When the first pot is empty, clean, refill and allows standing for 24 hours. In this way, each day's water has been standing for 24 hours (one day) before it is used.

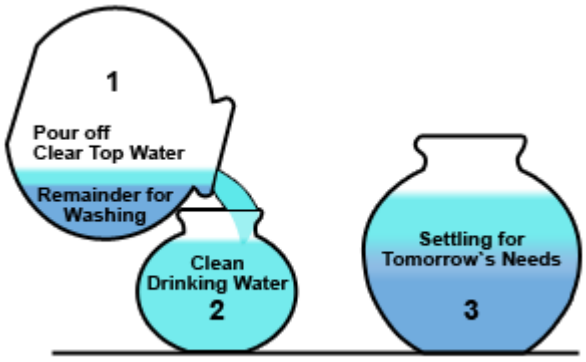

Figure 12: Three pot system

2. Chemical treatment of water

i. Calcium hypochlorite 30-70% concentration; this can be either in powder form, granules, or tablets

ii. Sodium hypochlorite (bleaching powder); this is normally in solution form, ranging from 1 to 18% strength.

iii. Chlorine; this is used for household water treatment, and is manufactured by companies authorized to manufacture such products.

To use chlorine, it is important to:

i. Know the type and strength of chlorine compound

ii. Know the amount of water you want to treat, because the more the water the more the chlorine.

iii. Make sure that the water does not contain much clay (low turbidity).

Careful calculation of the quality of water to be chlorinated is essential for accurate results.

Allow chlorinated water to stand for 30 minutes in order to kill harmful germs.

Contamination

-***Water borne diseases****:* These are diseases transmitted through drinking contaminated water. (i.e. Cholera, Typhoid, polio, Dysentery etc) (*Merck Manual, 1997)*

-***Water washed diseases***: Diseases that come about due to inadequate or lack of water (i.e. Scabies, Trachoma etc) (*CBoH, 2002*)

-***Water Vector Diseases****:* Diseases that are transmitted by organisms that breed in water (i.e. Malaria, Schistosomiasis etc) (*CBoH, 2002*)

-***Water related diseases***: Diseases whose transmission is by animals, which live near streams or rivers. (i.e. Trypanosomiasis) (*CBoH, 2002*.)

The role of a community health nurse in connection with water

The CHN plays an important role to ensure proper water supply and its advantages and dealing with hazards of water pollution. She or he must help people to learn both how to conserve water and how to avoid polluted water. In his visits in the community the nurse:

-Survey the water sources in the community.
-Chlorinate the public water sources.
-Ensures the pumps fitted to the community wells are intact, if not has to report to the appropriate authority.
-Advising proper methods of storing water.
-Advising methods of water disinfection.
-Taking certain steps during epidemics to safeguard the health of the people.

Activities in the community in connection with water

Some of the topics the Nurse has to teach the community are:

- -The importance of drinking chlorinated water.
- -The importance of boiling water.
- -The water-borne diseases and their prevention.
- -The importance of keeping the areas clean around open water supplies.
- -The need for the community to seek advice whenever problems relating to the supply and utilization of water arise.
- -The hazards attached to drawing drinking water from surface sources.

Exercise
Explain what water safety is and why it is important in the community

Sanitation

The hygienic disposal of human excreta is of the utmost importance to the well-being of communities. Diseases such as cholera, dysentery, typhoid, etc. are common in areas with poor and inadequate sanitation, and can easily be prevented at community level with the promotion of sanitation activities.

Provision Of Affordable Sanitary Facilities that are acceptable to The Community

A good excreta disposal system must

i. Provide privacy
ii. Be free from vectors, e.g. flies
iii. Be safe to use and have an adequate size of orifice
iv. Be easy to operate and maintain
v. Be easy to construct
vi. Not contaminate the user

-**Common sanitary facilities in Zambia include**

a. Wet sanitary systems

i. Aqua privy
ii. Septic tank
iii. Water closet.

b. Dry sanitary systems

i. Traditional pit latrine
ii. Ventilated Improved Pit latrine (VIP).

Pit latrines

There are two types of latrines namely; the traditional pit latrines and VIP latrines

Differences between traditional and VIP latrines
Ventilated Improved Pit Latrine

The VIP latrine is designed to reduce two problems frequently encountered by traditional latrine systems, smells and the harboring of insects.

- i. A VIP latrine differs from the traditional pit latrine because the VIP latrine includes a vent pipe covered with a screen, to prevent insects from flying through it.
- ii. The roof is usually made of grass or roofing sheets, to protect the floor and people.
- iii. It has a flytrap, located on top of the vent pip

Features of well-constructed VIP latrines

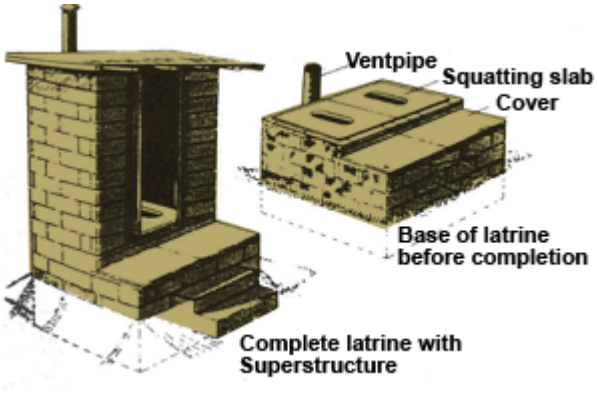

Figure 13: VIP well-constructed toilet

i. Pit should be square or round (normally 1m in diameter).

ii. A floor strong enough to stand on, and easy to clean, preferably with san plat.

iii. The orifice, which is big enough to allow faeces and urine to pass through, but small enough to prevent accidents, especially for children.

iv. A tight fitting lid for the orifice to keep flies out of the pit. The handle should make it easy to remove and replace the lid.

Disposal Of Waste Water (Sewerage)

Sewerage is waste water resulting from washing clothes and kitchen utensils, shower or bath water, or other domestic waste water not containing excreta. It can contain many germs, hence the need to dispose of it carefully.

Drainage of water

Good drainage is important for the health of the community because it prevents the breeding of mosquitoes in stagnant pools and it removes flood water.

Flood water can contaminate drinking water supplies. Communities need to be encouraged to clear temporary water ponds that encourage bilharzias snails and diarrheal diseases for those people who draw their water from this source e.g. vibrio cholera

Solid Waste Management

Poorly managed solid waste is known to contribute to the breeding of vectors/rodents. Clean all drainage channels to avoid blockages.

Weeds should also be removed to avoid blockages which in turn contribute to the transmission and spread of vector/rodent related diseases in the community, e.g. plague, cholera, etc

Methods of solid waste management

- a. Refuse Pits- These are holes dug in the ground at least 1m deep, sited 20m away from the house and 30m away from the water source.
- b. Sanitary Landfill- In this system, the solid waste is covered with soil to avoid breeding of vectors.
- c. Incineration- Incineration is the best method of disposing the infectious materials for hospital wastes (syringes, needles, used drips, soiled beddings, clothing, placenta etc.).
- d. Composting- Composting is the treatment of infectious materials to such an extent that it is rendered harmless.

Self test

State whether true or false

1. A good excreta disposal system must be free from vectors. **TRUE/FALSE**
2. Example of wet sanitary system is VIP. **TRUE/FALSE**
3. Flood water can contaminate drinking water supplies. **TRUE/FALSE**
4. Poorly managed solid waste contributes to vectors /rodents. **TRUE/FALSE**
5. Composting is harmless. **TRUE/FALSE**

Epidemiological Control nd Preventive Measures

Successful control of diarrheal diseases can be accomplished by interruption of faecal oral transmission of the diarrheal agents through proper use of effective clean water supplies, personal and food hygiene, and the elimination of the vectors such as flies which carry the infecting organism.

In dealing with control and preventive measures, consider the following:

- i. Identify how disease can be recognised e.g. signs and symptoms.
- ii. Occurrence when does the disease occur?
- iii. Who are the susceptible people?
- iv. Where is the outbreak?
- v. Mode of transmission e.g. food or water.
- vi. Incubation period.
- vii. Communicable period.

Preventive measures

Hand washing facility, with soap

Purify all drinking water through boiling or chlorinating

Waste water should be disposed in a drainage system

D Purified water should be kept in clean, covered containers

Control fly breeding by adequate collection and disposal of garbage and ensure that waste is not left to create breeding places for cockroaches

Maintain cleanliness in food preparation and handling

Enforce suitable quality control procedures in all plants preparing food and drink.

Encourage exclusive breast feeding throughout infancy.

All food handlers should be screened against infectious conditions every 6 months and those found infected are excluded from handling food.

Control measures

1. Prompt reporting or notification of cases to the local authorities
2. Strict isolation measures should be employed for those who present with signs of infection.
3. Concurrent disinfection of faeces, urine
4. Separate and restrict movements of all international travelers and immigrants from suspected areas (Quarantine).
5. Provide regular bulletins for giving information of outbreak.
6. Wash hands before and after each contact with a patient.
7. Water, Sanitation and Health education [WASHE]

The Community Health Nurse should participate in promoting the WASHE basic need package in the community to improve the environmental sanitation, these include:

- 1. Protected wells, sanitary facility for each house hold preferably VIPs.
- 2. Dish rack and hand washing facility for each household.
- 3. Water storage facility with a narrow necked container, food storage facility in the home.
- 4. Each household should have a refuse pit and maintain surroundings clean.

Construction of wells:

The CHN should work in collaboration with the community, environmental health technician and health inspectors when seeking protection of wells.

1. They should ensure the depth is at least 20 metres with diameter of 1.2- 1.5 metres.2. It should be at least 30 metres away from latrines, bath places and sources of pollution.3. They should construct the wells during the dry season when water table has stabilised and is at its lowest level.

EXERCISE

Pick up you note book and write down the control, preventive and protective measures that you would undertake against contracting water bourne / water washe diseases.

Housing

The CHN should educate the community to build houses with well drained surroundings and it should be well situated away from water logged areas and from offensive trades such as kraals or abattoirs.

Faecal – oral transmission

In order to prevent faecal oral transmission the CHN encourages the community to wash hands:

Before handling food, eating and handling water as well as after using the toilet and cleaning baby's bottom, before preparing and serving meals.

Suggestions on how water and sanitation can be improved in Zambia.

Water and sanitation can be improved by the Government and its cooperating partners by ensuring;

- Sinking Boreholes in rural areas to cater for the 43% of Zambians who access unsafe water.

-Free distribution of chlorine to all citizens of Zambia.

-That all households have toilets, refuse disposal pit and good drainage.

-The local Government to collect the rubbish which accumulates in dumping areas regularly and also ensuring general cleanliness of all compounds and urban areas.

What is faecal-oral transmission?

Housing

We were looking at the family and the community in the previous session. At this time we would like to focus on the basic needs of the person within a family or community. Read through the next lesson as we look at the housing and how it can affect health of an individual.

Housing relates to the health and safety outcomes both physically and mentally.The relationship between housing and health is multi-faceted. A healthy home needs to have sound structure, to be free of hazards, to provide adequate facilities for sleeping, personal hygiene, the preparation and storage of food, to be an environment for comfortable relaxation, for privacy and quiet, and to provide the facility for social exchange with friends, family and others. The local environment is also important in determining such factors as fear of crime, access to local services and facilities and in promoting social interaction. Below are the principles that may be considered.

In principle, every dwelling should deliver a variety of qualities. In particular, it should:

- Be comfortable, pleasant and safe to live in
- Be designed to meet its residents' needs, both current and future
- Look attractive, and fit into its neighbourhood.
- Respect neighbours' privacy and amenity.
- Overlook any adjacent street or parkland opposite to provide better 'neighborhood watch'
- Be well designed for the local climate and not rely substantially upon mechanical cooling or heating systems
- Respond sensitively and creatively to the characteristics of its site
- Represent value for money for the community.

Principles

The good house should be:-
1. Dry
2. Clean
3. Ventilated
4. Pest-Free
5. Safe
6. Contaminant-Free
7. Maintained

Types

Multi-Family Dwellings

This housing is designed for many families to live on the property where each family only has exclusive use of the portion of the property (unit) that they are leasing or own

Single Family Dwellings

A single family dwelling refers to a dwelling ***(***house***)*** on a property designed to be occupied by only one family.

Single Room Occupancy (SRO)

An SRO unit is a single room designed to house only one person at a time. It may be smaller than a typical bedroom, and may only include a bed and storage space for personal belongings. An SRO unit provides living and sleeping space for the exclusive use of the tenant, but requires the tenant to share bathroom and/or kitchen areas.

Manufactured Home (or Mobile Home)

A manufactured home is a mobile home that is connected to permanent utility hook ups, is located on land owned by the home owner or on land at which he/she leases a space (such as a mobile home park), and is attached to real property (with a permanent foundation). This includes mobile homes, but excludes motor homes, trailers, recreational vehicles, and other like vehicles with wheels on the ground.

Boarding Homes, Rooming Houses,

A boarding (or rooming*)* house is an establishment primarily engaged in renting rooms, with or without board, on a long-term basis. A rooming house typically provides only for the rental of rooms, while a boarding house provides meals and may offer such amenities as maid service and laundry service. A boarding or rooming house may be a single family dwelling or a larger structure in which the owner rents out rooms to multiple families.

Group Homes

These tend to look like boarding homes, but they are typically a state-licensed facility intended for occupancy by elderly persons and/or persons with disabilities for example an old people's home.

These are the different types that you may come across and they have different challenges that may impinge on health. Continue reading so that you may learn effects of housing on health.

Shared Housing

People who have a roommate are said to be living in “shared housing.” For example, if you share your 2-bedroom apartment with another person who is not part of your family, then you are living in shared housing – meaning there are two families living there, you and your roommate.

Effects Of Poor Housing On Health

key housing-related health risks include:

- respiratory and cardiovascular diseases from indoor air pollution;
- illness and deaths from temperature extremes;
- communicable diseases spread because of poor living conditions
- risks of home injuries.
- Inadequate ventilation is also associated with a higher risk of airborne infectious disease transmission, including tuberculosis, as well as the accumulation of indoor pollutants and dampness, which are factors in the development of allergies and asthma.
- Utilisation of pesticides and other chemicals can lead to organ damage such as the kidney
- Presence of pests can lead to different disease for example allergy
- Lack of sidewalks, bike paths, and recreational areas in some communities discourages physical activity and contributes to obesity and adverse mental health outcomes

These are some of the many effects of housing that may occur. As you read further you will learn of the individual outcomes as you look at the individual problems that relate to housing.

Prevention And Control Of Parasites And Pests

Parasites

Parasitism is a non-mutual relationship between organisms of different species where one organism, the parasite, benefits at the expense of the other, the host.

A parasite is an organism that lives in or on another organism (its host) and benefits by deriving nutrients at the host’s expense.

External parasites

Chiggers cause skin irritation

Sarcoptes scabiei causes scabies

Ticks and mites cause irritation and can spread disease

Internal parasites
Tapeworms
Pinworms
Roundworms
Hookworms
These conditions will be looked at in medicine 1

Pests

A pest is "a plant or animal detrimental to humans or human concerns. In its broadest sense, a pest is a competitor of humanity.

Pest insects

Cockroaches, flies are household pests, typically they consume human food. Lice, fleas and bed bugs can all cause skin irritation and mosquitoes.

Mammal pests

Mice, rats and other small rodents cause infestations

Cockroach Control

Identification: - Identification of the infesting cockroach is crucial to successful management. Knowledge of the preferences and habitats of each species will help to provide more accurate and effective control.

Sanitation: - Anything that can be done to eliminate the sources of food and water for the cockroaches from the home environment will help in their control:

- -Do not allow dirty dishes to accumulate in the sink and remain there overnight.
- Keep food scraps in the refrigerator or in containers with tight-fitting lids.
- -If pets are in the home, keep the pet food in tightly sealed containers, and do not allow food to remain in the bowls overnight.
- -Feed only what the animal will eat at the time of feeding.

- Remove garbage from the home on a routine basis.
- Keep outside containers covered, especially at night.
- Periodically check and clean the evaporation pan under the refrigerator or freezer.

A critical point may be the area between the stove and cabinet, where grease and food scraps often accumulate.

-Pull the stove out periodically and clean thoroughly.

Figure 14: A Mosquito

Mosquito Control

Many methods are used for mosquito control. Depending on the situation, the most important usually include: source reduction (e.g., removing stagnant water) biocontrol (e.g. importing natural predators such as dragonflies) trapping, and/or insecticides to kill larvae or adults exclusion (mosquito nets and window screening).

Source reduction means elimination of breeding places of mosquitoes. It includes engineering measures such as filling, levelling and drainage of breeding places, and water management (such as intermittent irrigation). Source reduction can also be done by making water unsuitable for mosquitoes to breed, for example, by changing salinity of water.

Exclusion

In combination with scrupulous attention to control of breeding areas, window screens and mosquito nets are the most effective measures for residential areas. Insecticide-impregnated mosquito nets are particularly effective because they selectively kill those insects that attack humans, without affecting the general ecology of the area.

An ideal mosquito net is white in color (to allow easy detection of mosquitoes), rectangular, netted on sides and top, without a hole. Window screens should have copper or bronze gauze.

Repellents

Insect repellents are applied on skin and give short time protection against mosquito bites. The chemical DEET repels some mosquitoes and other insects. Some CDC-recommended repellents are picaridin, Eucalyptus oil (PMD) and IR3535. Others are indalone, dimethyl pthalate, dimethyl carbate and ethyl hexanediol. Plants can also repel mosquitoes, such as citronella, catnip, marigolds, ageratum and horsemint, to name a few.

Housefly

Prevention and control of housefly

Sanitation

The key to managing all filth flies is *sanitation*. Eliminating fly breeding sites, i.e., the material to which they are attracted to and on which they lay eggs, is usually sufficient to eliminate and prevent fly infestations. Conversely, without thorough sanitation, other control methods are largely ineffective. Therefore, trash should be kept in sealed containers (in trash bags and/or cans with tight-fitting lids).

Dumpsters should be kept as clean as possible, emptied regularly and kept as far away from buildings as is practical. Manure and other decaying plant and animal material should be promptly removed. Also, eliminate areas of excessive moisture.

Inspection

Just as sanitation is the key to successful filth fly management; *inspection* is the key to sanitation. To eliminate fly breeding sites, one must first locate the attracting material. Often this can only be accomplished by conducting a thorough inspection of the premises, and by knowing what to look for and where to look. First, identify the flies involved, inspect for material that attracts that species and then eliminate the material.

Exclusion

Another important step in fly management is to exclude them from the premises. This is done by keeping doors, windows and vents closed as much is practical, and by screening and sealing around these and other fly entry points. Automatic door closing devices and air curtains that blow air away from doorways also can be installed to supplement an integrated fly management program.

Mechanical Control

In addition to fly swatting, mechanical fly control includes trapping. Sticky fly paper is one type of fly trap. Ultraviolet light traps are another, often used to supplement fly control in commercial buildings. To be effective light traps must be properly placed. This type of trap should be placed where it cannot be seen from outside the building, no more than 5 feet above the floor (where most flies fly), and away from competing light sources and food preparation areas. Bulbs should be changed at least once per year.

Chemical Control

While the use of pesticides is usually *not* the best means of managing filth fly problems, sometimes chemical control can be a valuable component of an integrated fly management program. Pesticide-releasing fly strips can be placed in attics and smaller, *unoccupied* enclosed rooms where filth flies are a problem. Contact (*non-residual*) pesticides labeled for fly control can be applied as a space treatment ("fogged") to kill adult flies.

This type of control provides only temporary relief, however, and cannot be relied upon to eliminate the problem. *Residual* pesticides – those that remain active for some time – can be applied to *outdoor* surfaces where flies rest, such as the outside surfaces of barns, stables, restaurants and houses. Some pesticide bait formulations are also available for outdoor fly control, including use around dumpsters.

Lice control

Lice can be controlled with lice combs, and medicated shampoos or washes. Adult and nymphal lice can survive on sheep-shearers' moccasins for up to 10 days, but microwaving the footwear for five minutes in a plastic bag will kill the lice.

Bed bug

Management

Eradication of bed bugs frequently requires a combination of pesticide and non-pesticide approaches. Pesticides that have historically been found to be effective include: Pyrethroids, dichlorvos and Malathion.

Mechanical approaches, such as vacuuming up the insects and heat treating or wrapping mattresses, have been recommended.

A combination of heat and drying treatments have been found to be most effective.

For public health reasons, individuals are encouraged to call a professional pest control service to eradicate bed bugs in a home, rather than attempting to do it, themselves, particularly if they live in a multi-family building

Predators

Natural enemies of bed bugs include the masked hunter insect (also known as "masked bed bug hunter"), cockroaches, ants, spiders (particularly *Thanatus flavidus*), mites and centipedes. The Pharaoh ant's (*Monomorium pharaonis*) venom is lethal to bed bugs. Biological pest control is not very practical for eliminating bed bugs from human dwellings.

Flea

Figure 15: Flea

For combatting a flea infestation in the home takes patience because for every flea found on an animal, there could be many more developing in the home. A spot-on insecticide will kill the fleas on the pet and in turn the pet itself will be a roving flea trap and mop up newly hatched fleas.

The environment should be treated with a fogger or spray insecticide containing an insect growth regulator, such as pyriproxyfen or methoprene to kill eggs and pupae, which are quite resistant against insecticides.

Frequent vacuuming is also helpful, but the vacuum bag must be disposed of immediately afterwards.

Mice and rats

Methods of eradication and prevention

Traps

Begin by baiting a number of traps without actually setting them. Place food on the triggers, and bait the traps for two or three nights in a row. Once the vermin are comfortable coming in contact with the traps, add bait as directed, and carefully set them.

Rats are intelligent and have a keen sense of smell. They are naturally suspicious of the human scent, so wash and rinse your hands well, or consider wearing latex gloves before handling and baiting traps. It may be necessary to bait spring-loaded traps several times before achieving success

Poison

Poison kills rats and other rodents by causing internal bleeding over a period of time, and poisoned rats bleed to death while searching for water outside the nest.

Prevention

The best method of controlling rats is preventing them in the first place. Examine the foundation of your home and storage buildings. Look for openings where rats could gain entry and repair any cracks or gaps. Fill in areas around pipes and plumbing with steel wool.

Rat proofing of dwelling houses and food establishments, using “kick plates” (small piece of metal nailed at the bottom of a door to discourage rats gnawing)

Using pets, like cats and dogs, to help control mice and rats.

Don’t provide rats with food and shelter by letting trash accumulate on your property.

Store trash in covered containers, and remove it on a regular basis. Haul away old appliances, and keep grass and weeds mowed. Make your property and yard less accommodating to rats and they won’t make themselves at home in your home.

External parasites

Scabies

Scabies is a contagious skin infection caused by the mite *Sarcoptes scabiei*. The mite is a tiny and usually not directly visible parasite, which burrows under the host's skin, causing intense allergic itching.

Cause- Sarcoptes scabies

Prevention

Mass treatment programs that use topical permethrin or oral ivermectin have been effective in reducing the prevalence of scabies in a number of populations.

There is no vaccine available for scabies.

The simultaneous treatment of all close contacts is recommended, even if they show no symptoms of infection (asymptomatic), to reduce rates of recurrence

Asymptomatic infection is relatively common. Since mites can only survive for two to three days without a host, objects in the environment pose little risk of transmission except in the case of crusted scabies, thus cleaning is of little importance.

Rooms used by those with crusted scabies require thorough cleaning.

Self-test questions

External parasites include

a) Scabies

b) Rats

c) Fleas

d) Bed bugs

3.7 Community partnerships For Health

Having learnt about food safety, water supply and sanitation, you must now understand that a public health nurse does not work in isolation. She needs the services of other partners within the community. Therefore, we are now going to discuss community partnership for health. Be free to contribute and ask questions.

Definition ; This is working together with others for a mutual benefit to achieve results and or a well-defined relationship entered into by two or more organizations to achieve results that they are more likely to achieve together than done alone.

Community participation; this is when Government shares responsibilities of the expenses of meeting the health needs of the people by sharing the cost.

Key Features Of A Successful Community Partnership:

Being informed – community members and professional partners must be aware of their own and others' perceptions, rights, and responsibilities

Flexibility – The partners must recognize the unique and similar contributions that each can make to a given situation.

Negotiation – Negotiate the distribution of power at each stage according to the present contributions and situation.

Community-based - Decision making and services are rooted in the community or neighbourhood.

Family-centred - Services are coordinated to respond to each family's situation and build on the family's strengths.

Participatory - Stakeholders representing a broad range of fields are encouraged to play a role in safeguarding children and supporting families.

Responsive - Partnerships make services accessible to families, mobilize resources, and adapt to community needs.

Results-oriented - The partnership is held accountable for achieving results that are reflected in measurable improvement in child, family, and community outcomes.

Benefits of Community Partnerships

• Creation of an integrated array of services that meets the multifaceted needs of individual children and families
• Less duplication of services and a greater efficiency in the use of resources
• Greater awareness of available services for children and families, as well as an understanding of how to obtain those services
• Improvements in the ability to share information and track families across agencies
• Leveraging of interagency resources and the subsequent reduction in the financial and staff burden on individual agencies
• Improved access to community leaders, target audiences, and additional resources for community agencies and organizations
• Increased accountability of all parties

Examples Of Partnerships

Partnerships can take many forms depending on the needs, resources and priorities of the communities they serve. They involve large number of partners with many members who provide formal and informal. These include government and non-government organisations.

Government departments: agriculture, information and tourism, Social welfare and community development and child welfare and many more DWASHE

Non-government organisation: Red cross society, world vision international, care international, society for family health, Boston university and many more.

Training support Of Community Volunteers

These are group of community members who agree to participate in the activities of the community that promote health activities.

Community Health Workers (Community Health worker Assistant)

MOH has formalized Community Health Workforce, it is now named: "Community Health Assistant" (CHA), **(MOH, 2012)**

Definition

Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers, (WHO, 2009).

Community health workers are members of a community who are chosen by community members or organizations to provide basic health and medical care to their community

Figure 16: Community health workers providing service during child health week

Source: http://www.who.int/workforcealliance/forum/2011/hrhawardscs29/en/index.html

Selection And Training Community Volunteers

Selection

Key decision-makers are involved in the initial planning processes and promoting their involvement in key activities such as selection of those to undergo training. Some of these may include the village headman, the neighbourhood health committee and the local health centre staff as they interact and know their members well.

Some of the characteristics looked at are for those who are committed, are able to read and are willing to participate.

The training of the community health volunteers is done on different areas of interest. Some of the existing trainings are on growth monitoring and promotion, infant feeding, tuberculosis patient supporters, adherence and compliance counselors, community health workers, community based distributors, safe motherhood action groups (SMAG) and ART treatment supporters. .

Most of the training methods that are mostly used include: demonstrations, practice, discussions, case studies, group discussions, and role plays. These allow the participants to actively participate and use signs that they will remember.

Activity 3.2

Write down 3 roles of at least any 2 community based agents you know.

Well done refer to the previous unit for answers

Some may wish to train as an emergency transport scheme rider; others may wish to participate in the community groups established to sustain the community mobilization process; others may volunteer their time to support the Mama SMAGs. Others are trained in infant feeding and those with special needs. Most of these may take duration of one week or two with more time spent within the community for practice.

Neighbourhood Health Committee

The neighbourhood Health Committees (NHCs) are composed of about 5 to 15 members, of which at least half should be women. The NHC's activities include; -

- Collecting and maintaining community based health management information system data,
- Providing a link between the community and the health centre and other development agents.
- They also mobilize communities and are responsible for selection of CHWs.
- Because of the importance of resources to good service delivery, the NHCs are also involved in mobilizing resources and maintaining a health fund.
- They are also charged with the responsibility of contributing to strategic plans and representing the NHC on Health Centre Committee (HCCs) meetings.

Traditional health practitioners

Alongside modern medical facilities, traditional health therapy is also offered by various individuals and registered entities. They mainly offer herbal remedies and spiritual healing services. Whilst these services are managed as private businesses, they are coordinated by the Traditional Health Practitioners of Zambia ("THPAZ"), an association formed and registered to promote and advocate for traditional health therapy. Currently, there are increasing claims by various traditional health

practitioners that they have discovered herbs to cure HIV/AIDS, which claims are still being subjected to scientific verifications and trials.

The use of plants and plant products for medicinal purposes, also known as herbs, dates way back before the local people came across western medicine. Traditional healers live and practice their trade among the communities they live in and so understand their patients' beliefs and customs better. Traditional medicine helps in keeping the Zambians healthy.

The World Health Organization (WHO) defines traditional medicine as "the sum total of knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures that are used to maintain health, as well as to prevent, diagnose, improve, or treat physical and mental illnesses"

To prepare his medicine, also known as herbal medicine, traditional healers use anything from leaves, bark, roots, seeds, stems, porcupine quills and other mixtures of plant ingredients and animal parts. Traditional medicine is used to treat a wide range of illnesses and a variety of complaints such as malaria, gonorrhoea, diarrhoea, madness and a lot of other sicknesses.

Modern scientists also use the same plants to isolate the active ingredients which they use to make western medicine. For instance, quinine, a drug used in the treatment of malaria, is extracted from 'cinchona' bark. Another example is aspirin, which is derived from the 'willow' bark.

As a community health worker you need to consider the following;

Acknowledge traditional medicine as part of primary health care, to increase access to care and preserve knowledge and resources.

Ensure patient safety by collaborating with traditional healers to ensure that the skills and knowledge of traditional medicine providers does not harm clients.

Self-test question

Community health workers should be

a) Nurses from the hospital

b) Clinical officers from the health centre

c) Members of the community

d) Able to give injections

Community partnerships can be defined as

a) Working for the community by giving them free services

b) This is working together with others for a mutual benefit to achieve results by two or more organizations

c) Planning services for two organizations by the health institution

d) This is when Government shares responsibilities of the expenses of meeting the health needs of the people by sharing the cost.

3.6 Summary

This topic covered a range of issues relating to the family and community. Some of the specific areas included a discussion on family. We discussed on types of families like nuclear, single parent and blended family to mention a few. We looked at the family developmental cycle and roles/tasks involved in each family and how members assist each other at every stage of development. We discussed the community and factors that affect community health like poverty and environmental factors. During the discussion we looked at the types of communities that we have and the process of conducting a community assessment. We also discussed food safety, water supply, that is how to keep food and water safe for human consumption. We discussed sanitation and the prevention of water borne diseases in the community. We ended our discussion on and community partnership for health where we looked at various partners in the community working towards the improvement of family and community health. We have also discussed on the existing community partnerships and what they do, how we can tell that they are meeting the needs for the community they save and also the existing community volunteers.

ASSIGNMENT

Research on Primary Health Care (PHC), especially events leading to the evolution of PHC.

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UNIT 4: INTRODUCTION TO PRIMARY HEALTH CARE

4.1 Unit-Introduction

Welcome to unit four (4). We have looked at unit three (3) in which we discussed family and the community health. We discussed that a healthy family is a healthy community, and a nation at large. Taking health services to a family has been a long standing dream by all well-meaning governments. To bring this dream to reality we will try to discuss one of the best approaches to taking health close to the family as possible.

In unit four (4) we will look at introduction to primary health care (PHC). This is a very important topic because as a country we are following the principles of primary health care. In unit one (1) we discussed national health policies and strategies and in this unit we will discuss essential health care package for Zambia.

You were given an assignment to research on PHC, can you remember what lead to the formation of this concept? To help us understand more, let us look at the following objectives.

4.2 Unit-Objectives

By the end of the unit, you should be able to

1. Define key terms
2. Discuss the concept of primary health care
3. Discuss primary health care in Zambia
4. Explain the principles of PHC
5. Discuss the elements of PHC
6. Explain the millennium development goals (MDGs)

Describe the essential health care package for Zambia health care system.

4.3 Definition

What is Primary Health Care?

Activity 4.1

First and foremost, write down the definition of “essential health care”.

Well done!

Primary Health Care

Primary health care (PHC) is defined as “Essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-determination.” “WHO, 1978”

POINTS TO DIGEST

Important concepts from the definition

- essential health care
- socially acceptable
- scientifically sound
- technology universally accessible
- cost effective
- community participation

You now know the definition of primary health care, now we will look at the concept of primary health care (PHC)

4.4 Concept of primary health care

- PHC concept has been long standing, historically communities tried to solve health problems according to their traditional systems though rather remote and less developed. But their attempts pointed to certain health conceptions of diseases. In later year's health services concentrated on hospital based programmes with less attention and resources being given to preventive measures. Health care was first institutionalised/hospitalised., it was based on cure of disease other than prevention of diseases. This proved expensive and ineffective due to poor economies and resulted in deterioration in health institutions and poor health delivery.

The world agencies such as WHO and UNICEF, have for several years attempted to put measures and approaches for more efficient and equitable health services, but to no avail, for the desired results and effects have not been achieved for various reasons. It was from this background that the concept of PHC was conceived and launched at the world conference held from **6th –12th Sept., 1978** in ALMA-ATA, capital of **Kazakh**, soviet socialist republic and was attended by about **137** governments and 67 organisations in ALMA-ATA (USSR) **1978**.

Concepts Of Primary Health Care

The concept emphasizes on various related activities. And these are prevention of disease, promotion of health, maintenance of health, treatment of diseases and rehabilitation of people with disabilities (identify people with permanent disabilities like paralysis blindness, deaf and dumb, the mentally ill, the chronically -ill and the aged together with, the community e.g. the NHC). PHC addresses all the main health problems in the community thus providing promotive, preventive, curative and rehabilitative health Services. This came about because of the falling health standards. The reasons why Zambia Adopted the PHC Concept were; Poverty, Increased population, Poor sanitation, Increased mortality and morbidity rates, increased disease Burden and Inadequate infrastructure.

Self-test question

The concept of PHC was held in Alma Ata in the state (country) of:

a. Russia
b. France
c. Kazakh
d. America

4.5 Primary health care in Zambia

Now we have looked at concept of PHC, we will now look at Zambia and see how the concept of PHC was started

After independence in 1964 there were no organized PHC services available. Zambia being a WHO member nation endorsed PHC in 1978 as a strategy for achieving the health for all by the year 2000.

PHC services were fully established in 1981 following the adoption of PHC concept by the Zambian government. However the government produced its first document in 1981 entitled “Health for the People” in order to sensitize communities on PHC concept. The concept has been used as a vehicle to implement the National Health Reforms by government. The main objective is to address major health problems of the community by providing preventive, promotive, curative, and rehabilitative services accordingly. The health reforms were initiated during the second republic in 1991. The implementation process is still going on.

EXERCISE

Write down in your note book some of the challenges that were faced in Zambia’s health sector before the adoption of PHC.

4.6. Principles Of Phc

Self test

Mention some of the ways government can influence effective implementation of a health program.

Political Commitment

This calls for governments to formulate national policies, strategies, and plans of action to support and sustain PHC as part of a comprehensive national health system. To this end its government’s responsibility to exercise political will, in mobilizing country’s resources and to use available external resources rationally if it is to improve the health status of its citizens.

Equitable distribution of health care services

Equitable distribution means that health services must be shared equally by all people irrespective of their ability to pay and all the people whether rich or poor, rural or urban - must have access to health services. These health services should be affordable, acceptable, available and accessible so that there is equal access to health care according to needs, equal utilization to health care and consequently, equal health status. These services could be like those pertaining to gynaecology, obstetric, ophthalmic and even preventive services like immunizations, cooking demonstrations and others. In order to ensure equity, the following constraints should not be ignored but put in mind always.

Physical distance from the health facility: Clinics should be within a walking distance of less than 12 km and not walking for more than 2 hours. This can also be solved by conducting mobile outreach clinics to reach all those who stay beyond 12km.

Cost: Costs involved for using health services such as fee paying as a cost sharing measure which not all people can afford. If they cannot pay, all of them to pay in kind/in form of labour if they do not have cash.

Training of Community Based Agents like Community Health workers to treat minor ailments at the community level

Equal distribution, of resources by the government like personnel, equipment and other supplies whether the place is rural or urban.

Self-test question

Primary health care has the following Principles except

a) Health education

b) Community participation

c) Equitable distribution of health care services.

d) Intersectoral collaboration

Community Participation

Is the whole mark of primary health care, without which it will not succeed? Community participation is a process by which individuals and family assume responsibility for their own health and those of the community and develop the capacity to contribute to their/and the community development. It requires full commitment from the community in all phases thus from identification of the problems, planning, implementation and evaluation. These bring or develop a sense of self-reliance to community members, a sense of responsibility, ownership and feel part of the health care team. Residents and health providers need to work together in partnership to seek solution to the complex problems facing the community.

Advantages of community participation

1. It addresses the felt health needs of the people
2. It ensures social responsibility among the community
3. It ensures sustainability
4. It ensures cost sharing
5. It ensures enhancement of knowledge
6. It encourages intersectoral collaboration

Intersectoral Collaboration

To be able to improve the health of local people the PHC programme needs not only the health sector, but also the involvement or relating to other sectors and aspects of national and community development other than health in particular agriculture, animal husbandry, food industry, education, housing, public works, communication and other sectors. It also demands the coordinated efforts of all these sectors. Intersectoral collaboration is an essential element of the concept of PHC and health promotion. However it should be noted that it's quite difficult to get everyone to work together for each agency has its own priorities.

Advantages

1) Overolel human development

2) It ensures economic development

3) It ensures affordability

Appropriate Technology

Appropriate technology refer to health care that is provided with the use of methods, techniques, resources, equipment which are relevant-to people's health needs and concerns, as well as being accepted. This technology should be available, affordable and suitable to contribute significantly to solving health problems. This technology should also be scientifically and technically sound, adaptable to local needs, culturally acceptable and financially feasible. The technology should also be adopted and further improved if necessary. This technology should also be:

- ✓ Easily understood and applied.
- ✓ Universally accepted socially, culturally and politically to both the targeted community and health service providers
- ✓ Efficient and effective in dealing with health problem
- ✓ Measurable and affordable
- ✓ Maintained at facilities locally available

Example of the appropriate technology include ventilated improved Pit latrines(VIP's), clay braziers, clay fetoscope, maize granary for storing maize, ox-carts used as ambulance to take patients to health facilities. Others are the use of plastic containers popularly known as "Budiza" for water purification, Joe-sack for making water for drinking cool and many others.

These examples given above are cost effective and scientifically sound and can easily be adopted in any area of the communities thereby improving on health services being rendered.

Integration Of Health Services

This is defined as coordination of various primary health care components into a whole programme and made available at all times including referrals. The concept calls for providing health services in a holistic approach. The human being should be treated as a whole being whose needs should be assessed to the fullest ranging from health, social, religion, and economic needs. In this case costs are cut by avoiding duplication of service. Integration is beneficial to the community in terms of convenience, accessibility and improved coverage. It is cost effective and time saving.

Advantages

1. It ensures efficient use of all resources and removes areas of wastage
2. It ensures sustainability of programme
3. It ensures by pass phenomenon
4. It reduces opportunity cost
5. It grantees clients confidentiality

In text

i. What are the advantages of community participation?

ii. List 6 principles of PHC

Well done! Now compare your answers with the notes you have just read above.

4.7 Elements of PHC

In this section you will learn about the elements or functions of PHC. These are the essential health services designed to be provided to every community.

Elements of Primary Health Care

- Education on health problems and how to prevent and control them.
- Development of effective food supply and proper nutrition.
- Maternal and child healthcare, including family planning.
- Adequate and safe water supply and basic sanitation.
- Immunization against major infectious diseases.
- Local endemic diseases control.

- Appropriate treatment of common diseases and injuries.
- Provision of essential basic medication

Having listed the elements of PHC above, we will now explain each one of them as follows: -

Health Education

Health education is the first and one of the most essential, components of information dissemination in primary health care. By educating the public on the prevention and control of health problems, and encouraging participation, it promotes the partnership of both the family members and health workers in the promotion of health as well as prevention of illness.

Proper Nutrition

Nutrition is another essential component of health care. One basic need of life is food. And if food is properly prepared then one may be assured healthy family. There are many food resources found in the communities but because of faulty preparation and lack of knowledge regarding proper food planning, Malnutrition is one of the problems that we have in the country.

Clean Water & Sanitation

A supply of clean, safe drinking water and basic sanitation measures regarding trash, sewage and water cleanliness can significantly improve the health of a population, reducing and even eliminating many preventable diseases.

Maternal & Child Health Care

The mother and child are the most delicate members of the community. Ensuring comprehensive and adequate health care to children and to mothers, both expecting and otherwise, is another essential element of primary health care. By caring for those who are at the greatest risk of health problems, WHO helps future generations have a chance to thrive and contribute to globally. Sometimes, care for these individuals involves adequate counselling on family planning and safe sex. The goal of Family Planning includes spacing of children and responsible parenthood.

Immunization

By administering immunizations, this element seeks to control the occurrence of preventable illnesses especially in children below 5 years old. Immunizations on poliomyelitis, measles, tetanus, diphtheria and other preventable disease are given for free by the government

Local Disease Control

Prevention and control of local diseases is critical to promoting primary health care in a population. The diseases spread through direct contact pose a great risk to those who can be infected. Tuberculosis is

one of the communicable diseases which continuously occupy the top ten causes of death. Most communicable diseases are also preventable. The Government focuses on the prevention, control and treatment of these illnesses

Accessible Treatment

Another important component of primary health care is access to appropriate medical care for the treatment of diseases and injuries. By treating disease and injury right away, caregivers can help avoid complications and the expense of later, more extensive, medical treatment.

Drug Provision

By providing essential drugs to those who need them, such as antibiotics and anti-malarials to those with infections, caregivers can help prevent disease from escalating. This makes the community safer, as there is less chance for diseases to be passed along

Self-test question

Which one of the following is not an element of PHC

a) Local disease control

b) Political commitment

c) Proper nutrition

d) Maternal and child health

4.8 Millennium development goals

We have looked at principles of PHC and elements of PHC. I am sure you are all familiar with millennium development goals.

Activity 4.2

- Write down the number of millennium development goals.

List any millennium development goals which you know

Thank you very much for the correct answers.

The **Millennium Development Goals** (**MDGs**) are eight international development goals that were officially established following the Millennium Summit of the United Nations in 2000, following the adoption of the United Nations Millennium Declaration. All 189 United Nations member states and at least 23 international organizations have agreed to achieve these goals by the year 2015.

The goals are:

- Eradicating extreme poverty and hunger,
- Achieving universal primary education,
- Promoting gender equality and empowering women,
- Reducing child mortality rates,
- Improving maternal health,
- Combating HIV/AIDS, malaria, and other diseases,
- Ensuring environmental sustainability, and
- Developing a global partnership for development.

The aim of the MDGs is to encourage development by improving social and economic conditions in the world's poorest countries. They derive from earlier international development targets and were officially established following the Millennium Summit in 2000, where all world leaders in attendance adopted the United Nations Millennium Declaration The Millennium Summit was launched with the report of the Secretary-General entitled We the Peoples: The Role of the United Nations in the Twenty-First Century Additional input was prepared by the Millennium Forum, which brought together representatives of over 1,000 non-governmental and civil society organizations from more than 100 countries. The Forum met in May 2000 to conclude a two-year consultation process covering issues such as poverty eradication, environmental protection, human rights and protection of the vulnerable. The approval of the MDGs was possibly the main outcome of the Millennium Summit. In the area of peace and security, the adoption of the Brahimi Report was seen as properly equipping the organization to carry out the mandates given by the *Security Council.(http://en.wikipedia.org/wiki/Millennium_Development_Goals)*

Goal 1: Eradicate extreme poverty and hunger

This goal has two (2) targets:

Target 1: Halve, between 1990 and 2015, the proportion of people living in extreme poverty.

In Zambia, extreme poverty is defined as inability to meet basic minimum food requirements based on a monthly cost of the food basket. Moderate poverty relates to those who can afford basic minimum food

requirements, but cannot afford other (non-food) basic needs. The incidence of extreme poverty has sluggishly moved from 58 percent in 1991 to 51 percent in 2006 with marked fluctuations in the intervening years.

The incidence of extreme poverty has consistently been higher in the rural than in the urban areas. This may reflect the historical biases of public expenditure in favour of urban areas. Extreme poverty is more prevalent among female-headed households than among male-headed households.

Challenges

Inefficient management of available resources in the agriculture sector has hindered rural economic infrastructure development and other programmes intended to integrate the smallholder farms into mainstream agricultural and general economic development.

- Severe income inequalities arising from inequitable labour and ineffective wage policies.
- Poor access to business finance and seed capital for small and medium enterprises including small scale mining.
- Historical public expenditure biases in favour of urban areas.
- Inadequacies in essential vocational skills which constrain productive deployment of youths in both wage and self-employment.
- Lack of strategy to address the special circumstances of female-headed households that are particularly vulnerable to extreme poverty.

Target 2: **Halve, between 1990 and 2015, the proportion of people who suffer from**

Hunger

Good periods of rainfall resulting in successive years of good crop harvests have contributed to Zambia's food security. Moreover, targeted interventions in health and nutrition have also resulted in the improvement of underweight children. The prevalence of underweight children declined from 22 percent in 1991 to 14.6 percent in 2007 against the MDG target of 11 percent by 2015. However, food poverty still exists and food security still remains a challenge in pockets around the country.

Challenges

The challenges faced are;

Lack of comprehensive nutrition policy framework that addresses budgetary investments, demand and supply-side interventions to reduce under nutrition

Lack of institutional and capacity developments t are crucial to advancements in nutrition in Zambia.. Government needs to address the constraints faced by the National Food and Nutrition Commission.

The lack of safety nets to protect people from recurrent shocks and climate change.

Goal 2: Achieve Universal Primary Education

Target 3: Ensure that by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

Indicators

1. Net enrolment ratio in primary education

2. Proportion of pupils starting grade 1 who reach grade 7

3. Literacy rate of 15 to 24 year-olds

Zambia has committed herself to the provision of education to all since independence in 1964. A full course of primary school education lasts seven years. Some children complete nine years education when they proceed to basic schools. The statutory age for enrolment into school is seven years. This means that pupils enrolled in primary schools complete primary school education at the age of fourteen or six teen years when they go on to basic education. Net enrolment has increased steadily from 80 percent in 1990 to 97 percent in 2006 because of a strong supportive environment. However, while access to schools is improving, a lot has yet to be done in terms of improving the quality of educational achievement.

The status of girls' education is good and the trend shows a growth in their enrolment in the school system, which is at 98 percent, while that of males is 96 percent. Enrolment of males has seen an increase from 71 percent in 1990 to 96 percent in 2006, while an increase of female enrolment from 57 percent in 1990 to 98 percent in 2006 has been recorded. In 2007, more female children accessed education in grade one than male children.

Zambia achieved an increase of 19 percentage points in primary school completion rates from 64 percent in 1990 to 83 percent in 2006. Completion levels among the females are lower than those of males despite there being more girls enrolled because of affirmative action. A marked difference of 12 percentage points between males and females can be noted. Also, although more males complete school than females, some males are disadvantaged and unable to enrol in schools because of affirmative action in favour of females. In some rural areas both males and females do not have access to schools because of long distances.

Challenges

1. Loss of human capital, teachers in particular, due to HIV and AIDS pandemic. This has resulted in inadequate teaching and support staff in schools.

2. Loss of teachers also on account of resignations resulting from poor conditions of service especially in rural areas.

3. Inadequate bursaries to enable vulnerable children to attend school.

4. Limited construction of schools in places where long distances adversely affect school attendance.

5. Low quality of education marked by poor achievement levels, poor learning environment, lack of learning and teaching materials, and high pupil teacher ratio (the average national ratio for grades 1-9 is 57:1).

High poverty levels leading to some children failing to enrol in schools

Goal 3: Promote gender equality

Target 4: Eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education no later than 2015

Indicators

1. Ratio of girls to boys in primary, secondary and tertiary education

2. Ratio of literate females to males among 15 to 24 year-olds

3. Share of women in wage employment in the non-agricultural sector

4. Proportion of seats held by women in national development

Gender parity is closest to being achieved at the primary level; however, only 2 out of 130 countries have achieved that target at all levels of education. Globally, 40 out of 100 wage-earning jobs in the non-agricultural sector are held by women. As of 31 January 2013, the average share of women members in parliaments worldwide was just over 20 per cent.(http://www.undp.org/content/undp/en/home/mdgoverview/mdg_goals/mdg3 /)

Between 2003 and 2006, the ratio of girls to boys in primary school has been fairly stable at a level close to1.0. But the ratio in secondary school seems to have undergone a notable decline from 0.90 to 0.73 during the same period. With regard to tertiary education, the years 2003-2007 had a higher rate of enrolment of male students in the University of Zambia than that of females despite affirmative action of allowing 30 percent extra places for females in the university.

Teacher training colleges in the period from 2003 to 2006 enrolled more female students than male students. This is a result of affirmative action which requires that 51 percent of the students enrolled in teachers' colleges are female and 49 percent are male.

Women's participation in political life continues to be limited. Although the proportion of women in Parliament has risen from 6 percent in 1991 to 14 percent in 2006, it still falls significantly short of the 30 percent SADC target. The country has a long way to go before attaining this target.

Despite the parity in population of males and females as per census of 2000, the latter still lag behind in national development. Inadequate or lack of education contributes to the low status of women in national development. Females have higher dropout rates at all levels of the school system.

Challenges

1. Reversing the dropout rate of girls caused by early pregnancies, inability to pay for some school requisites, girl-unfriendly school environment (e.g. lack of sanitation facilities).

2. Reducing the incidence of HIV and AIDS which has adversely affected girls' education and has increased their vulnerability.

3. Attitudes and beliefs obtaining in patriarchal systems of society that rate men as superior to women and which affect how men regard women especially when it comes to equal participation in decision-making, economic empowerment and access to education.

4. Slow action in translating policy pronouncements into implementable activities to ensure gender equality and empower women.

5. Inability to engender the national budget and ensure that through the provincial, district, Gender Focal Point offices and District Gender Sub- Committees, women's needs which are different from those of men are taken into account.

6. Lack of comprehensive sensitisation on gender for all in the country with a view to changing attitudes.

7. Cost-sharing adversely affects the female completion rates of education at all levels of the school system. Where there are limited resources at household level in providing financial support to education, preference is given to boys over girls.

8. Girls are married off by their parents when they are still very young and at school-going age.

9. Although Government has enunciated the pregnancy re-entry policy, not all females are able to return to school.

Goal 4: Reduce child mortality

Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

Indicators

1. Under-five mortality rate

2. Infant Mortality Rate (IMR)

3. Proportion of one-year old children immunized against measles

Big gains have been made in child survival, but efforts must be redoubled to meet the global target**.** The target is to reduce by two-thirds, between 1990 and 2015, the under five years old mortality rate, from 93 children of every 1,000 dying to 31 of every 1,000.

Reducing child mortality is one of the targets that Zambia has the potential of achieving. Although still relatively high, both infant mortality and under-five mortality rates have shown a declining trend since

1992. Infant Mortality Rate declined from 107 deaths per 1000 live births in 1992 to 70 deaths per 1000 live births in 2007. Similarly, under-five mortality dropped from 191 in 1992 to 119 deaths per 1000 live births in 2007.

The reduction in child mortality is mainly attributed to the strong state of supportive environment that Zambia has put in place. These include improved childhood immunization rates (routine immunization coverage for measles increased from 77 percent in 1992 to 84.9 percent in 2007) and provision of micronutrients such as vitamin A through supplementation and fortification of foods.

Despite these positive trends, the current child mortality rates are still very high. Zambia is yet to address a number of challenges in reducing child mortality.

Challenges

1. Inadequate human resources to provide health, training and re-training services in Maternal and Child Health (MCH) facilities.

2. Long distance to maternal and child health facilities.

3. Unfavourable attitudes of some health personnel providing MCH services.

4. Provision of materials and staff to continuously cover immunisation programmes, especially in remote and rural areas.

5. Growing reluctance of qualified medical personnel to serve in the rural and remote areas due to inadequate incentives and infrastructural development.

6. High prevalence of malaria in children and pregnant women.

7. Incidence of tuberculosis in children.

8. Lack of training to Community Health Workers to provide coartem under MCH programmes.

9. Inadequate procurement, supply and logistical management procedures for drugs and medical supplies to cure and manage diseases that affect children such as malaria, respiratory infections, anaemia, pneumonia and diarrhoea.

10. High poverty levels that increase the incidence of common preventable diseases in children, such as malaria, pneumonia, anaemia, diarrhoea and malnutrition.

11. Provision of quality infrastructure, equipment and drugs in the MCH facilities.

Goal 5: Improve maternal health

Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio

Indicators

1. Maternal Mortality Ratio (MMR)

2. Proportion of births attended by skilled personnel

Maternal mortality has declined by nearly half since 1990, but falls far short of the MDG target. The targets for improving maternal health include reducing by three-fourths the maternal mortality ratio and achieve universal access to reproductive health. Poverty and lack of education perpetuate high adolescent birth rates. Inadequate funding for family planning is a major failure in fulfilling commitments to improving women's reproductive health.

Generally, the critical indicators in maternal health include access to antenatal care, basic essential obstetric care, availability of comprehensive essential obstetric services and safe delivery and postnatal care. Despite many years of increasing maternal mortality, recent interventions in the health sector have began bearing fruit as the ratio has now started declining. The ratio increased from 649 per 100,000 live births in 1996 to 729 per 100,000 live births in 2000 but then declined to 591 per 100,000 live births in 2007 (ZDHS,2007).The current figure is at 440/ 100 000 births, (World Fact,2013).

The percentage of women who received antenatal care from a health professional has remained high at 93.4 percent. Furthermore, the number of mothers who received at least one tetanus toxoid injection during pregnancy increased from 26.7 percent in 2001 to 80.1 percent in 2007. The number of births attended to by a health professional increased from 43.4 percent in 2001 to 46.5 percent in 2007

Challenges

1. Inadequate health personnel (mid-wives) to provide skilled delivery care.

2. Inadequate streamlining of policy guidelines to enhance attendance of antenatal care in the first trimester.

3. High levels of health staff turnover, especially due to brain-drain to other regional and international markets, and deaths. For example in 2005, only about 50 percent of the recommended establishment was in place.

4. Ineffective referral system for emergency obstetric care, due to bad road networks, transport system, inadequate facilities and few health personnel.

5. High malaria and anaemia cases.

6. Negative cultural and traditional practices that compound maternal deaths, such as early marriage, early, late and many pregnancies.

7. Low usage of contraceptives resulting in high undesired fertility, especially among more vulnerable groups like young and old mothers.

8. Imbalances in the distribution of health personnel against rural and remote areas.

GOAL 6: Combat HIV/AIDs, malaria and other major diseases

Target 7: Have halted by 2015, and begun to reverse the spread of HIV/AIDS

Indicators

1. HIV prevalence among 15-24 year-old pregnant women

2. Contraceptive prevalence rate (CPR)

3. Number of children orphaned by HIV and AIDS

The incidence of HIV is declining steadily in most regions; but 2.5 million people are still newly infected each year. In 2011, 230,000 fewer children under age 15 were infected with HIV than in 2001. Eight million people were receiving antiretroviral therapy for HIV at the end of 2011. In the decade since 2000, 1.1 million deaths from malaria were averted. Treatment for tuberculosis has saved some 20 million lives between 1995 and 2011

According to the provisional figures of the 2007 Zambia Demographic and Health Survey, the national HIV prevalence rate among adults aged 15 to 49 years has declined from 15.6 percent in 2001/2002 to 14.3 percent in 2007. Although declining, the infection rates have continued to be much higher among women at 16.1 percent than men at 12.3 percent.

Challenges

1. Negative cultural practices and poor economic status of women that prevent them from demanding for safer sex.

2. Lack of comparative data for reporting and policy formulation.

3. Addressing factors affecting VCT uptake: fear, stigma and discrimination and inadequate privacy, space and confidentiality.

4. Inadequate trained health personnel to handle increased disease burden related to HIV and AIDS; the health personnel have been spread thinly and HIV resources are crowding out those available to address other diseases.

5. Human resources crisis due to mortality mostly attributed to AIDS-related complications and departure of staff for “greener pastures” in the region and international markets.

6. Low usage of condom that could prevent the spread of HIV and AIDS.

Target 8: Have halted, by 2015, and begun to reverse, the incidence of malaria and other major diseases

Goal 7 Ensure environmental sustainability

Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

Indicators

Land covered by forest (percent)

Land protected to maintain biological diversity (percent)

Carbon dioxide emissions (MT per capita)

1. Proportion of population using solid fuels (percent)

2. Proportion of land area covered by forest

3. Ratio of area protected to maintain biological diversity to surface area

4. Carbon dioxide emissions (per capita)

5. Proportion of population using solid fuels

Global greenhouse gas emissions resume their upward path, confirming the need for bold action. Forests are a safety net for the poor, but they continue to disappear at an alarming rate.

Zambia needs to take bold measures if it is to meet MDG 7. Although modest efforts to create a supportive environment are being made, there is still need for further impetus to enable Zambia to fully integrate principles of sustainable development in order to achieve environmental sustainability. There

is also need for all stakeholders involved in the environmental sector to rally together and take policy decisions with respect to the national environmental policy, enactment of the Forestry Act, as well as to ensure that the revision of the Environmental Protection Act (EPA) provide more autonomy on the operations and decisions of the ECZ especially as they relate to Environmental Impact Assessments (EIAs). Zambia also needs to take a decision to fully mainstream and integrate principles of sustainable development in all the country's policies and programmes.

Challenges

1. Need for National Policy on Environment to be approved to support mainstreaming of principles of sustainable development throughout all sectors of the economy.

2. High poverty levels and the lack of alternative sources of livelihoods in rural areas evert pressure on land and associated resources, which threaten rural and urban livelihoods from a changing environment.

3. Health issues associated with a large percentage of the population using solid fuels remain a challenge for the achievement of the health MDGs as use of solid fuels negatively impacts on the health of the population, especially females.

4. Weak coordinating mechanisms in the environmental sector especially the Sector Advisory

Group (SAG) and Natural Resources Consultative Forum (NRCF).

5. Deficiencies in organizational and institutional capacities particularly at local levels continue to weaken implementation of environmental policies and enforcement of legislative frameworks.

6. Inadequate data and weak to absent monitoring systems, related to forest inventories, animal populations, pollution and emissions data, presents a major challenge for effective environmental planning and management.

7. The lack of information to make informed decisions in identifying alternative and environmentally friendly technologies in sub-sectors of the environment including energy and agriculture.

Target 10: Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation

Indicators

1. Proportion of population without sustainable access to an improved water source

2. Proportion of population without access to improved sanitation

Commercialization of water supply has contributed to accessing water sources and been crucial to sustaining improvements in service delivery in urban areas. Over recent years, the Commercial Utilities have made considerable achievements in extending water supply coverage from 58 percent in 2004/05 to 73 percent in 2005/2006 (NWASCO). With respect to sanitation, the situation is not getting better. The proportion of the population without access to good sanitation rose by over 10 percent from 26 percent in 1991 to 36.1 percent in 2006.

Challenges

1. Lack of mechanisms for replicating the performance success of Southern Province towns in water and sanitation delivery to other areas in Zambia, in the absence of specific externally targeted funding support.

2. Increasing investment levels towards extension of services in water supply and sanitation, particularly in rural and peri-urban areas where cost recovery may not be possible.

3. Lack of implementation progress on decentralization to the local authorities.

4. Lack of adequate human and financial capacity at the local authorities.

5. Need to improve the performance of commercial water utilities including water quality and hours of supply.

6. Improved regulatory regime including promotion and support of economic tariffs, fair licensing fees and procedures and clear separation of executive from regulatory roles.

7. Encouraging effective community participation and stakeholder involvement in the design, operation and management of water supply and sanitation facilities.

8. Providing low-cost, appropriate, standardized and sustainable water supply and sanitation technologies in order to provide alternatives to high cost technologies.

9. Addressing the issue of unplanned and illegal urban settlements that make the provision of water and sanitation facilities difficult.

10. Resistance to behavioural change and traditional values around sharing pit latrines.

Goal 8: Develop global partnerships for development

There is less aid money overall, with the poorest countries most adversely affected

This goal is premised on comprehensive partnerships at national, regional and international levels. These partnerships involve Governments, private sector and NGOs at the national level and the international community. The primary objective is a global environment that is conducive to the

attainment of the MDGs. The targets as defined, refers to developed countries' commitment and support to landlocked and island states among others. In this regard, the targets are not addressed in the same format as the previous seven MDGs, but information relating to the goal (ODA, trade, debt, youth employment and communications) are discussed appropriately.

Self-test questions

The third millennium goal is:

a) Achieve universal primary education

b) Improving maternal health,

c) Combating HIV/AIDS, malaria, and other diseases

d) Gender equality and empowerment)

Which millennium development goal can affect all the goals

a) Global partnerships for development

b) Universal primary education

c) Environmental sustainability

d) Eradicating extreme poverty

4.9 Essential Health Package Of Zambia Health Care System

We have looked at millennium development goals. In unit one (1) we discussed National Health Strategic Plan 2011-2015.

Activity 4.3

List down national health priorities in Public Health in your text book

Thank you very much for your attempt.

Today we are going to build on the information we learnt in our strategic plan.

The Essential Health Care Package is generally considered as a critical set of most cost effective, affordable, and acceptable interventions for addressing health conditions, diseases associated factors that are responsible for the greater part of the disease burden of a given community (WHO, 2012). The Government of the Republic of Zambia is committed to improving the quality of life for all Zambians, and this commitment is demonstrated through the government's efforts to improve health care delivery by reforming the health sector. In 1991, the Government of the Republic of Zambia launched radical health policy reforms characterized by a move from a strongly centralized health system in which the central structures provided support and national guidance to the peripheral structures. An important component of health policy reform is the restructured Primary Health Care (PHC) programme. The government is committed to providing efficient and cost-effective quality basic health care services for common illnesses as close to the family as possible through the implementation of the Basic Health Care Package (BHCP) at all levels of health care.

According to Zambia Demographic Health Survey (2007), the following priority areas for health services have been identified for inclusion into the basic health care package: nutrition; environmental health; control and management of communicable diseases; malaria; tuberculosis; epidemic and disaster prevention, preparedness, and response; school health; and oral health. The elements of the BHCP are selected on the basis of an epidemiological analysis of diseases and conditions that cause the highest burden of morbidity and mortality. Population-based and health facility-based surveys are regularly and consistently conducted to guide policy and planning.

According to Zambia National Health Strategic Plan (2011 – 2015), Non-Communicable Diseases (NCDs), Health service referral systems, and Health promotion and education have been added to the list of essential health care package.

Nutrition

Going by the WHO standards, nutrition indicators remain high with a negative impact on maternal and child health. Child Malnutrition in Zambia is decreasing but still contributes to 42% (MoFNP, 2008), of all under five deaths in Zambia. For the rest of the information refer to unit 1 under major public health problems in Zambia.

b) Non – communicable diseases (NCDs)

Zambia is currently experiencing a major increase in the burden of Non-communicable Diseases (NCDs). In this respect, the common NCDs include cardiovascular diseases, diabetes mellitus (Type II), cancers, chronic respiratory diseases, epilepsy, mental illnesses, oral health, eye diseases, injuries (mostly due to road traffic accidents and burns) and sickle cell anaemia. Most of these health conditions are associated with lifestyles, such as unhealthy diets, physical inactivity, alcohol abuse and tobacco use, while some are also associated with biological risk factors, which run in families.

Based on the recommendations from the NCD symposium (MOH NCD Symposium 2009), the NCDs programme has embarked on a number of interventions for the prevention and early detection of NCDs. These include: the development of treatment protocols that will be used at the second level hospitals, where specialised clinics are being set up for NCDs; development of clinical nutrition and dietary guidelines; training of health workers in the management of NCDs; raising awareness levels on NCDs, through Information Education and Communication materials like TV documentaries, posters, brochures and media discussions; and collaboration with various associations, to carryout screening programs, such as Blood Pressure (BP) check, Nutritional assessment, prostate and breast cancer; and advocating for change in unhealthy lifestyles. However, these interventions are yet to be extended to all districts and institutions.

c) **Epidemics control and public health surveillance**

Zambia has continued to experience outbreaks of various communicable diseases including cholera, measles and typhoid. Communicable disease surveillance is conducted using the World Health Organisation (WHO) Integrated Diseases Surveillance and Response (IDSR) strategy. Using this model surveillance activities are conducted at national, provincial, district and health facility levels.

Since the introduction of IDSR in Zambia, there has been marked improvement in the ability to detect, investigate and respond to infectious disease outbreaks at district, provincial and national level.

For the rest of the information, refer to communicable diseases in unit 1.

Self-test question

Non communicable diseases are the latest inclusion in the essential health care package for Zambia

a) True

b) False

Third level hospital has a catchment population of 600, 000

a) True

b) False

4.10 **Referral system**

Referral system is defined as a process through which patients are managed at each successive level of the health system, based on their clinical needs and the skills available (Integrated Reproductive Health, 2002)

- **Primary care level or first level system**

It is the first level of contact of individual, the family and the community with the national health system, were primary health care is provided as a level of care. The first level referral hospital serves a

population of 80,000-200,000 (MoH, 2005). It is close to the people where most of their health problems can be dealt with and resolved. It is at this level that health care will be most effective within the contest of the area needs limitation.

- **Secondary level system or intermediate**

At this level more complex problems are dealt with. The catchment area for second level hospital is intended to cater for population of 200,000-800,000 in Zambia this is the third level system and it is between the District Hospital and the General Hospital.

- **Tertiary level system or third referral system**

This one is a more specialized level than the secondary care level and requires specialized health workers. These are central hospital with the catchment area of 800,000 and above. In Zambia we have university teaching hospital as a tertiary hospital. This is where all other hospitals refer their patients for further management.

Hospital Referral Services

Currently, the hospital referral systems are not working as planned. This is largely attributed to the insufficient capacities at lower levels, including shortages of health workers, erratic supply of essential drugs and medical supplies, and inequities in the distribution of essential physical infrastructure and equipment to offer services that are appropriate to their level, and also due to the limited scope of services offered by facilities at lower levels. In view of the foregoing, Level 2 hospitals are forced to operate more as district hospitals, as many patients by-pass the Health Posts and Health Centres due to the observed capacity challenges. Similarly, Level 3 hospitals are mainly providing 1st and 2nd level hospital services. This situation amounts to inappropriate use of resources, leading to inefficiencies in service delivery (MoH, 2011).

The over concentration of Level 2 hospitals in some provinces, particularly the Southern and Copperbelt provinces brings in a problem of financing. The decision to right size these facilities has not yet been implemented, however, MOH has already developed a policy on the number and type of hospitals required per province (namely, one 3rd level hospital and at least two 2nd level hospitals in each province). Right sizing and strengthening the hospital referral systems would result in reductions in congestions at higher level referral facilities, and increase in the efficiency and effectiveness of health service delivery.

Apart from services offered by static health infrastructure, over the years, the MOH has been providing outreach mobile health services to the communities. These services include the Zambia Flying Doctors Service (ZFDS), mobile eye clinic services, mobile Counselling and Testing (CT) services, mobile Anti-retroviral therapy (ART) services, mobile immunisation services and other routine outreach services. These services have contributed to the improvement of access to services in hard-to-reach areas and also reduced the indirect cost barriers, such as transport and time costs, and food and accommodation for in-patients and relatives, faced by the poor people in rural areas in accessing health care.

4.10 Summary

We have come to the end of the unit. We have discussed principles of primary health care. Under this unit, we defined primary health care as defined by WHO in 1948.We looked at the concepts of PHC i.e it's formation at Alm Atta in Kazaki in 1978. We discussed when primary health care was adopted in Zambia in 1980. We discussed that the principles of PHC are political commitment, equitable distribution of health care services, intersectoral collaboration, appropriate technology and integration of health services. Elements of PHC which are coined in the acronym "ELEMENTSN" were also looked at. We also discussed the eight millennium development goals including the essential health package of Zambia health care system.

In the next unit we will discuss health statistics and data management.

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UNIT 5: HEALTH STATISTICS AND DATA MANAGEMENT

5.1 Unit-Introduction

- Welcome to unit 5 of Public Health Nursing. This unit will help you understand health statistics and data management.
- It is evident that increased investment in health is dependent upon improved evidence of positive changes in health outcomes. As such, there is a critical need for good health information. In recognition of this, global efforts have been targeted towards strengthening the Health Information Systems (HIS) in all countries, more especially the developing countries. It is believed that improved HIS would enhance evidence based policy making leading to improved accountability and effectiveness at all levels of the health system.
- In Zambia, the increased demand for health information and the potential opportunity to supply it calls for an investment in building a sustainable national HIS.

5.2 Unit Objectives

By the end of this unit, you should be able to:

1. Define key terms in Health Statistics and data management
2. Discuss Health Management Information System (HMIS) under the following:
    - Data production
    - Data processing
    - Data analysis
    - Data quality
    - Health management based on health data
    - Data security
    - Information of health informatics

We will start this unit by defining the key terms in health statistics and data management

5.3 Definition of Terms

- **Data** – Data is comprised of raw facts, figures, records which are not processed
    - A given fact, number, statement or picture
    - The raw materials in the production of information.

- **Information** - Processed data giving a meaningful picture.
- Data in relationship, or
- Data after manipulation

- **Data analysis** is the science of examining raw data with the purpose of drawing conclusions about that information.

- **Statistics**: The science dealing with the collection, presentation, analysis and interpretation of facts.

- **Vital statistics** is data relating to births, deaths, health, diseases and marriages (wordnetweb.princeton)

- **Health Information System** - ' an integrated effort to collect, process, report and use health information and knowledge for influencing policy making, program action and research'.

- **Information system**: 'comprehensive, coherent arrangement organised on an organisational or major program basis to collect, process and provide coordinated information to serve multiple needs of management system".

- **Data management**: A method of collecting, organizing, and prioritizing information to use in resolving health problems**.**

- **Management Information System (MIS):** ' Is a system of having a combination of persons, a set of manuals and certain equipment to select, store, process and retrieve data to reduce the uncertainty in decision making by yielding information to managers at the time they can most efficiently use it'.
- **Health statistics:** These are statistics that pertain to health e.g. the death, illness, attendances, birth, discharges, referrals etc. It also includes surveys on people's access to the health facility and the personnel**.**

5.4 HMIS System

HMIS stands for health management information system. Health Management Information Systems, or health care Information Technology as it is often called, refers to the management of information related to patient records, and other health care-related information. HMIS is a very important unit in the health sector as it helps the health care providers in the management of their patients and/or clients in health institutions. This system is used by health institutions to collect, process analyse and store data and information in a manner or format that makes it easy to access the data and information whenever it is required.

It is a powerful tool to make health care delivery more effective and far more efficient. In Zambia today, HMIS forms part of a larger program on ICTs for health. It is implemented by the Zambian Ministry of Health and supported jointly by both local and International NGOs.

HMIS also provides information on the health status of a population which can be used to set policies to manage operations. Information is data that is accurate and timely, specific and organized for a purpose, presented within a context that gives it meaning and relevance, and can lead to an increase in understanding and decrease uncertainty. Information is valuable because it can affect behaviour, a decision, or an outcome. For example, if a Doctor is told his/her medical condition has deteriorated in the past week, he/she may use this information as a reason to order laboratory tests, investigate the problem in detail based on the prevailing symptoms and eventually adjust treatment the patient is on. A piece of information is considered valueless if, after receiving it, things remain unchanged. For this reason, information helps people to plan, inform, communicate with others and supports decision making.

Self-test question

HMIS stands for

a) Health Managed Information Statistics

b) Health Management Information System

c) Hospital Managed Information System

d) Health Management Information Services

. 5.2.1 Main characteristics HMIS

Start by attempting activity 5.1

Activity 5.1

List some of the main characteristics of HMIS you could be aware of

Well done now compare your responses to the following.

Decentralised

HMIS is decentralised in the sense that data is analysed at the point of collection. Whoever collects data analyses it. Analysis and self-assessment is carried out at the level where data is collected and used for decision making at that level. Data is not merely collected for upward reporting.

Action oriented

Data is collected for decision making. Health Management Boards require operational information for day-to-day management and supervision. Different Health Information (HI) needs also exist for community, Health posts, Health Centres, Hospitals and Regional Health Boards. Specialised or Vertical programmes will be encouraged to satisfy information needs which fall outside the boundaries of the routine HMIS through sentinel surveys or techniques.

- **Responsive**

Data is reported in an appropriate time frame according to its use and flexible in terms of adaptation to local needs.

- **Transparent**

Obtaining of information should be easy and dissemination facilitated by the newly created Regional and National centres. In addition, correlation of data collected by various subsystems will be greatly facilitated.

Components Of HMIS

- Identification
- Collection
- Classification
- Processing
- Communication
- Interpretation
- Storage
- Retrieval

5.2.2 The functions of HMIS data

- Increasing utilization
- Increasing client satisfaction
- Increased health status
- Induction of manpower
- Problem solving resource allocation
- Rewards / promotion
- At times for fault finding

1. Support decentralization and integrated planning and management of services, especially at the facility and district levels, thereby, guiding in planning and budgeting of resources. It also assists as a guide for resource distribution

2. Provide timely and accurate information for evidence based decision making. This helps in coming up with disease trend map for future planning and epidemic preparedness.

Improve the efficiency and effectiveness of data collection and transfer by replacing multiple reporting channels with a single reporting channel. This helps in improving primary health care and strengthening of accountability.

Data Production

Sources Of Data

- Diaries
- Family registers
- Hospital registers/ records
- Periodic reports
- Exit interviews
- National sample survey
- Census
- Special studies

Attributes of data

- Accurate
- Valid
- Reliable
- Timely
- Complete
- Retrievable

Data collection

Data collection usually takes place on in an improvement project, and is often formalised through a data collection plan which often contains the following activity:

- Pre collection activity — agrees on goals, target data, definitions, and methods.
- Collection — data collections.
- Present Findings — usually involves some form of sorting analysis and/or presentation.

Prior to any data collection, pre-collection activity is one of the most crucial steps in the process. It is often discovered too late that the value of their interview information is discounted as a consequence of poor sampling of both questions and informants and poor elicitation techniques. After pre-collection activity is fully completed, data collection in the field, whether by interviewing or other methods, can be carried out in a structured, systematic and scientific way.

A formal data collection process is necessary as it ensures that data gathered are both defined and accurate and that subsequent decisions based on arguments embodied in the findings are valid. The process provides both a baseline from which to measure and in certain cases a target on what to improve.

The data collection process can be relatively simple depending on the type of data collection tools required and used during the research. Data collection tools are instruments used to collect information for performance assessments, self-evaluations, and external evaluations. The data collection tools need to be strong enough to support what the evaluations find during research.

The Data Collection Tools

The HMIS uses a number of paper based tools to record and aggregate health data during service provision. These are classified as:

- Record of health services e.g. Patient or Client Record and Service Registers.
- Aggregation tools e.g. Activity sheet / Collation Sheets and / Tally Sheets
- Data transmission/reporting tools e.g. Health Information Aggregation Form/Reports
- Information use tools e.g. Service and Health Status Assessments

Note: That once all data compiled once reaches the District, processing is computerized.

Each tool is customized for the type of service being provided, client / patient flow expected and the nature of combination of health workers providing services.

Summary of Tools

Patient /Client Record: can be used for Out or In Patients depending on service. These include OPD Booklet, IPD Sheet, Under 5 Card, Antenatal Care Card (ANC) or Obstetric Care Booklet, Family Planning Card, TB card, PMTCT card, ART card and Tetanus Toxoid (TT) Immunisation Card.

Imprest/ Cash Book

Tally Sheets - consisting of groupings of "0" (Zeros) are used to count elements defined on the sheet such as attendance by Zero for every occurrence. At the end of given period, Zeros are counted - day, month or quarter and these should be updated.

Activity sheets - combines the function of the register and of the tally sheet in one while providing accounting for each health worker's effort. Tick provide records of service and is easier to audit than tally sheet because it references the Patient / Client and health worker.

Collation sheet - provides means to summarize the inputs from tally sheets or activity sheet. The use is optional as it is possible to add up entries from tally sheet and or activity sheet directly onHIA.

HIA forms - (Health Information Aggregation) forms provides a pre-determined set of data elements whose values are derived from tally sheets, activity sheets or collation sheets. HMIS provides for three main HIA reports namely Service, Disease and Hospital HIAs. The HIA is used to transmit facility aggregated data for posting into District Health Information System (DHIS) at the district office or at the facility where DHIS is installed.

Self-Assessment tool - is used to monitor and evaluate health status in the facility catchment's area. It provides basis for local decisions and planning of interventions at each facility and district.

Cohort tracking tool- is used to record the number and health status of ART and TB patients. Without it, health workers will need to flip back into registers to work out the health status of groups of patients- tedious undertaking.

Registers: The health facility maintains a copy of Patient/ Client record and services in re / patient registers. These are used for continuity of care, follow ups and validation of data

submitted to the District Office. These must be updated during service or after service. The list of registers in use includes:

1. Out-patient Department
2. In-Patient Department
3. Child Health or Under 5
4. Safe Motherhood
5. Delivery
6. Prevention of Mother To Child Transmission (PMTCT)
7. Voluntary Counseling and Testing (VCT)
8. Family Planning
9. Pre-Anti-Retroviral Treatment (Pre-ART)
10. Anti-Retroviral Treatment (ART)
11. TB/Leprosy
12. Death Certificate
13. BID register
14. Laboratory (ART, Malaria, TB, Other)
15. Drugs and Medical Supplies
16. Environmental Health Services
17. HR attendance

Health Performance Indicators

What is an indicator?

Key Performance Indicators, also known as KPI or Key Success Indicators (KSI), help an organization define and measure progress toward organizational goals. Once an organization has analyzed its mission, identified all its stakeholders, and defined its goals, it needs a way to measure progress toward those goals. Key Performance Indicators are those measurements.

What Are Key Performance Indicators (KPI)?

HMIS Indicators

The HMIS indicators are warning signals. The alert warns that care may be failing to meet a given standard. The standard may be a prescribed norm, like a coverage level or expense ratio. Sometimes it may be consonance with time trends, like disease incidence; or it may be similarity to the average of others in similar circumstances, like daily staff load.

HMIS indicators have been divided into six categories, or subsystems. The HMIS monitors health status and service utilisation related to the six priority areas through the *Health* subsystem. Other aspects of the reform process are monitored through four other subsystems, which focus on the availability and efficient utilisation of resources that support health service delivery. These four sub-systems are *Finance; Human Resources; Drugs and Supplies;* and *Assets*. A sixth sub-system, *Performance*, combines data from the other subsystems to monitor the overall performance of the public health sector.

The HMIS is a routine monitoring system. It relies on data that are regularly collected during routine operation of the health system. The HMIS plays a very specific role in the monitoring and evaluating process; the role of the HMIS in overall monitoring and evaluation is to provide warning signals. It does not provide all of the information that is required to respond to these signals. Responding to the HMIS warnings requires further investigation of the problem; this investigation may include gathering information from other sources, like sentinel surveillance systems, or it may require special studies or surveys.

Start by attempting the following activity

Well done, Key Performance Indicators are quantifiable measurements, agreed to beforehand, that reflect the critical success factors of an organization. They will differ depending on the organization.

A business may have as one of its Key Performance Indicators the percentage of its income that comes from return customers.

A school may focus its Key Performance Indicators on graduation rates of its students.

A Customer Service Department may have as one of its Key Performance Indicators, in line with overall company KPIs, percentage of customer calls answered in the first minute.

A Key Performance Indicator for a social service organization might be number of clients assisted during the year.

Whatever Key Performance Indicators are selected, they must reflect the organization's goals, they must be key to its success, and they must be quantifiable (measurable). Key Performance Indicators usually are long-term considerations. The definition of what they are and how they are measured do not change often. The goals for a particular Key Performance Indicator may change as the organization's goals change, or as it gets closer to achieving a goal.

I. Interpretation of indicators and response

Techniques for interpreting each HMIS indicator are suggested in the description of the indicator.

The new HMIS emphasises the use of data and indicators for reviewing activities and planning action. So we want indicators and tools for analysis to provide information on how we are performing, and especially warnings in those instances that our actions may not be working as planned!

The oil gauge on a vehicle is a useful example of an indicator. Normally we drive along without paying much attention to the indicators on the front panel of the vehicle. But when the oil gauge suddenly turns red, we have a warning: be alert; there is a problem. The oil gauge is like a health indicator in another way: it doesn't tell us what the problem is, it simply indicates that there's a problem. The driver must then investigate to see if the oil level has dropped through normal use or if it has dropped because a leak has appeared.

Most of the indicators in the HMIS serve the same function as a vehicle's panel of indicators. We monitor them regularly, just like we always keep an eye on the vehicle's mechanical indicators. If a warning signal appears, we must do further investigation to see what the problem is.

Another type of monitoring instrument in a vehicle is the mileage clock or odometer. This instrument shows us the miles or kilometres driven. We can use the information to calculate how far we are from our destination, when we know the distance between starting point and destination. We can also use the information (kilometres driven) for determining when we have to change oil (a long-term activity). Or we can calculate our speed, when we read a 'watch at the same time. These instruments can help us to show us how "far" we are.

In the HMIS a number of tools serve to show us the performance, like graphs, self-assessment forms, health flags. Especially when we know the targets of performance, we can calculate how far we are from our target.

II. Using the HMIS indicators in action planning

Each health institution and district reviews some 15-20 HMIS indicators quarterly. When an indicator warns that performance may be outside standard, it triggers a problem solving process of assessment, analysis, and action. If a problem is detected, the HMIS indicators, usually in combination with other indicators specific to the problem at hand, may suggest lines of inquiry into the root cause of the problem. The indicators may also be used to confirm or rule out a hypothetical cause; or to suggest a potential solution. They may also reflect a situation's baseline and become the measurement of improvement.

Data Processing

Data Processing is a process of converting data into the information and it can also convert information into a data. It means Data Processing can convert any data from one format to another. By means of various sources, customers give their opinions as data. Information system takes that raw data as input

to produce Information as output. Hence, conversion of raw data into useful information is accomplished through an application of data-processing.

5 Steps / Approach to Data Processing

1. *Editing* - To determine the relevance of data is a crucial step in a data processing. Once the data has been accumulated from the different sources, the relevance of the data is been tested-out then. All the inappropriate data is taken out and only the relevant information is been kept.

2. *Coding* - All the needed information would be in a random order. Therefore, it needs to be aligned into a particular system so that it is unproblematic to comprehend it. This method other than Coding, is also called as â€˜netting' or â€˜bucketing' which necessitates certain codeeasily be understood by the computer software.

3. *Data Entry:* this involves keying in the coded data from paper documents into a computer

4. *Validation:* this is the second phase of ‘cleaning' in which a thorough quality-check is done. Data is double-checked so as to ensure that the process has been done infallibly.

5. *Tabulation:* the final step is the production of the end product which is tabulated in a systematic format so that thorough analysis can be done.**Data processing cycle**

The data-processing cycle represents the chain of processing events in most data-processing applications. It consists of data recording, transmission, reporting, storage, and retrieval. The original data is first recorded in a form readable by a computer.

This can be accomplished in several ways:

- by manually entering information into some form of computer memory using a keyboard,
- by using a sensor to transfer data onto a magnetic tape or floppy disk,
- by filling in ovals on a computer-readable paper form, or
- by swiping a credit card through a reader.

The data then transmitted to a computer that performs the data-processing functions. This step may involve physically moving the recorded data to the computer or transmitting it electronically over telephone lines or the Internet.

Once the data reach the computer, the computer processes it. The operations the computer performs can include accessing and updating a database and creating or modifying statistical information. After processing the data, the computer reports summary results to the program’s operator.

As the computer processes the data, it stores both the modifications and the original data. This storage can be both in the original data-entry form and in carefully controlled computer data forms such as flash drives (disc) magnetic tape. Data are often stored in more than one place for both legal and practical reasons. Computer systems can malfunction and lose all stored data, and the original data may be needed to recreate the database as it existed before the crash

The final step in the data-processing cycle is the retrieval of stored information at a later time. This is usually done to access records contained in a database, to apply new data-processing functions to the data, or—in the event that some part of the data has been lost—to recreate portions of a database. Examples of data retrieval in the data-processing cycle include the analysis of store sales receipts to reveal new customer spending patterns.

Information Tools

- Patient / record
- Registers
- Tally sheets
- Activity sheets
- Collation sheet
- Health Information Aggregation form
- Self assessment tool
- Cohort tracking tool
- Electronic e.g. smart care

Data Analysis

Analysis of data is a process of inspecting, cleaning, transforming, and modelling data with the goal of discovering useful information, suggesting conclusions, and supporting decision making. Data analysis has multiple facets and approaches, encompassing diverse techniques under a variety of names, in different health, business, science, and social science domains.

I. Analytical tools

These are tools that are used for data analysis. Common examples include:

Maps Disease trend graphs

Coverage graph

Self-Assessment

Health flags:

Public

Curative

Data Quality

Using a data quality framework to guide improvement activities -Data quality means accurate, timely, useful and reliable data and all these dimensions must be considered carefully when performing assessments. Typically organizations that manage a lot of data tend to focus their efforts on the accuracy and reliability dimensions. Very few pay attention to timeliness. Even when they do, it is usually in the context of meeting data submission deadlines mandated by government. Data that is not timely is data that is not of high quality. From a patient perspective, usefulness and interpretability of information are essential components of overall data quality

Good information can have a significant impact on the patient experience. Providers need to focus on improving information because it impacts overall care. Here are some best practices to improve data quality for providers and some examples of how this may impact patient encounters:

Focusing on front end business validation rules- data quality improvement efforts should occur as close to the actual point of data collection as possible. If data quality reviews occur long after the initial data was collected, it is very difficult to go back and make changes. Building data quality audit loops in real time can yield large benefits and ultimately make data more useful.

EXERCISE
Write down the attributes or dimensions of quality data.

HMIS Quality Standards

Quality is defined as proper performance according to standards of the intervention that are known to be safe, affordable to the society in question and have the ability to produce an impact on mortality, morbidity, disability and malnutrition. Measuring quality consists of quantifying the current level of performance or compliance with expected standards including patient satisfaction. It involves: -

- Defining indicators which will provide data on performance
- Analysis and interpretation of results – these are activities related to quality include collecting and analysis of data and compliance to estimated standards through: -
  - Supervisory assessments
  - Self-assessments
  - Quality monitoring
- Special studies on periodic assessments e.g. audit
- Measuring clients' satisfactions

Quality Of Clinical Care

This emphasizes the promotion and maintenance of the health of individuals, families and community. Quality of care is a shared responsibility between the community and the health care providers. It provides compassionate, safe, timely appropriate and affordable services in a suitable environment and

pays particular attention to vulnerable groups. It ensures patients/client satisfaction while making effective and efficient use of available resources. It guarantees the maintenance of professional competence of health care providers, with acceptable working conditions. To measure quality of care quality assurance is used in order to achieve the best client/patient outcomes.

Self-test question

Standards of quality may include the following except

a) Quality monitoring

b) Reduced redundancy

c) Self-assessment

d) Supervisory assessment

Health Management Based On Health Data

Plan of Action

The Action planning consists of sequential processes by which information systems are developed: analysis, design, programming, testing, implementation, and maintenance. A hospital information system is a complex system, and nurse managers have a key role to play in practically all phases of its development

The beginning of the action cycle is a clear vision of the planning process. What do we want to do? How are we going to do it? What do we need for the organization to operate efficiently? So, we must determine the purpose and goals of the institution, assure the necessary financial resources, carry out cost-benefit and feasibility analyses, and form a project team consisting of a variety of specialists and draw up a plan.

It is very important to appoint a suitable project leader, who must come from within the organization. The ideal project leader is a senior manager who has a working knowledge of all aspects of the activities and good personal skills to interface with the entire user community.

-Policies And Procedures For Health Information System Application

A policy is a brief statement(s) designed to influence decisions and actions to insure compliance with laws, standards of care, and/or the philosophy of that particular institution.

Procedure: Outlines that guides one's performance or helps one meet the policy objectives.

a. A procedure describes the most generally agreed upon and evidence-based techniques or processes.
b. A described procedure may not be the only correct and accurate way to perform that task; e.g., a nurse may insert a NG tube using various techniques and be demonstrating safe nursing practice

d. The use of command words, e.g. "must", "shall", should be used only when directing non-discretionary actions.

Knowledge and understanding of processes and procedures in health care organizations Is the basis for successful planning and implementation of a hospital information system. Collaboration and good communication between nurses and information technology professionals in all phases are essential to ensure that the system will provide appropriate information support for the nursing process.

Format:

All policies and procedures will have the name of the manual or department, subject, title of process owner, effective date and supersedes date and will follow the attached format

II. Review and Approval of Policies with Input from Key Stakeholders:

1. All policies and procedures will be developed with input from key stakeholders and reviewed by departments/individuals/committees that are affected by the content of the policy and procedure.

2. Patient care policies are developed by expert interdisciplinary care teams, and where possible, reflect current evidence-based practice to ensure consistent care and promote optimal patient outcomes.

3. All policies and procedures will be approved by identified leadership and/or appropriate hospital committee or council

Human Resources Management based on HIS performance data, incl. Duty roster

This part you will look at how to improve the data quality and disaggregation in the Human Resource information. This involves;

Setting up a Human Resource database that applies standards definition and classification to the data stored.

Updating the database regularly and producing disaggregated data by age, sex, qualification and category, private and public sector and geographic distribution. This is done as a result of human resource leaving and new staff being recruited. This helps in planning and developing the work schedule/ time tabling.

-General Principles of management in the administration of Health Information Services

There are ten principles covering:

1. **Relevance impartiality and equal access**- The information should be used appropriately and it should be accessed when required for a particular purpose

2. ***Professional standards and ethics*** henever handling hospital data there should be standards that have been set by each institution that they want to meet. Theses should be feasible and measurable. Ethics are always put in place so that rights of the persons are not bleached.

3. ***Accountability and transparency*** very person is answerable to the information that they give out. There is need of a systematic way that the information is going to be given and stored. The responsible person should have equal access and it should be given to others using the right channel.

4. **Prevention of misuse**

When information is given consider the appropriate information which is adequate for that particular event. Avoid giving information that won't be needed. As you look at the resources the available information should also guide you on what you need so that you are able to estimate. Proper information helps prevent underutilisation and over spending on a service that may not be of great importance to the community.

5. Cost-effectiveness

Health information when utilised properly it gives a guide on what resources needed and the quantities. It also helps you identify the required service which is multi focused. Therefore when kept correctly you are able to budget for a specific service or resource that will also handle more needs within a small budget.

6. *Confidentiality* ata or information is not made available or disclosed to unauthorized persons or processes. The information when collected is supposed to serve the recommended purpose. Therefore as health care provider you only release information that you have been given permission to do so or is going to be used to s a life. Always maintain confidential clients' information.

7**. Legislation**

There should be guidelines that have been approved to use the different methods of information. These may be passed through parliament.

8. **National Coordination**

There is at national level a unit that will be responsible in coordination all health information systems for example directorate of information management at ministry, department of monitoring and evaluation. These will ensure that information is collected, analysed and stored in the recommended way. They also ensure privacy and confidentiality of information is maintained.

9. International standards

The government will ensure that the international standards are adhered to, therefore as a nurse there is need to work hand in hand with the information officers to learn and understand the standards

*10 International Cooperation*There are cooperating partners that with work with the ministry in provision of support through technical or human resource in development of HMIS fo example USA government may participate in the ZDHS which one of the sources of the health data.

Monitoring and Evaluation

Monitoring & Evaluation is the process by which data are collected and analyzed in order to provide information to health managers/ policy makers and others for determining whether key activities are being carried out as per plan.

Monitoring

Monitoring of a program or intervention involves the collection of routine data that measure progress toward achieving program objectives. It is used to track changes in program performance over time. Thus Monitoring is an on-going, continuous process which requires the collection of data at multiple points throughout the lifecycle of programme. Its purpose is to permit stakeholders to make informed decisions regarding the effectiveness of programs and the efficient use of resources.

Evaluation

Evaluation is fundamentally an exercise to help decision-makers understand how, and to what extent, a program is responsible for particular, measured results.

The Health Management Information System (HMIS) is a routine monitoring system that plays a specific role in the Monitoring and Evaluation process. The HMIS is intended to provide warning signals through the use of indicators. It is not intended to provide all the information that is required to respond to all these signals. Responding to HMIS warnings requires further investigation of the problem. The investigation may include gathering information from other sources, such as sentinel surveillance systems, special studies or surveys.

HMIS does not need to have a myriad of indicators; where each problem area is represented by an indicator, because as stated above it is but a bell system. It is much more important to ensure that each time the bell rings a thorough investigation to establish why the bell has rang is carried out, than to attempt to differentiate between the different tones of the bell sounds.

Self-test question

As a health institution you may benefit from HMIS through

a) Better discussion of medical options

b) Quality monitoring

c) Confidentiality

d) Finances

Documentation Of Care

The following are used:

- Nursinging care plan
- Tally sheets
- Checklists
- Registers
- Patients Charts
- Reports and report books

Patients file Data Security

Data security can be defined as "the procedural and technical measures required:

- To prevent unauthorized access, modification, use, and dissemination of data stored or processed in a computer system.
- To prevent any deliberate denial of service.
- To protect the system in its entirety from physical harm.

Security helps keep health records safe from unauthorized use. When someone hacks into a computer system, there is a breach of security (and also potentially, a breach of confidentiality). No security measure, however, can prevent invasion of privacy by those who have authority to access the record.

The Value and Importance of Health Information Privacy

Ethical health research and privacy protections both provide valuable benefits to society. Health research is vital to improving human health and health care. Protecting patients involved in research from harm and preserving their rights is essential to ethical research. The primary justification for protecting personal privacy is to protect the interests of individuals. In contrast, the primary justification for collecting personally identifiable health information for health research is to benefit society. But it is important to stress that privacy also has value at the societal level, because it permits complex activities, including research and public health activities to be carried out in ways that protect individuals' dignity. At the same time, health research can benefit individuals, for example, when it facilitates access to new therapies, improved diagnostics, and more effective ways to prevent illness and deliver care.

When personally identifiable health information, for example, is disclosed to an employer, insurer, or family member, it can result in stigma, embarrassment, and discrimination. Thus, without some assurance of privacy, people may be reluctant to provide candid and complete disclosures of sensitive information even to their physicians. Ensuring privacy can promote more effective communication between physician and patient, which is essential for quality of care, enhanced autonomy, and preventing economic harm, embarrassment, and discrimination.Information Of Health Informatics

Health informatics also called health information systems, health care informatics, healthcare informatics, medical informatics, nursing informatics, clinical informatics, or biomedical informatics is a discipline at the intersection of information science, computer science, and health care. It deals with the resources, devices, and methods required to optimize the acquisition, storage, retrieval, and use of information in health and biomedicine.

Health informatics tools include computers, clinical guidelines, formal medical terminologies, and information and communication systems. It is applied to the areas of nursing, clinical care, dentistry, pharmacy, public health, occupational therapy, physical therapy and (bio)medical research

Clinical Informatics

Clinical Informatics is concerned with the use of information in health care by clinicians.

Clinical informaticians transform health care by analysing, designing, implementing, and evaluating information and communication systems that enhance individual and population health outcomes, improve patient care, and strengthen the clinician-patient relationship. Clinical informaticians use their knowledge of patient care combined with their understanding of informatics concepts, methods, and health informatics tools to:

- Assess information and knowledge needs of health care professionals and patients,
- Characterize, evaluate, and refine clinical processes,
- Develop, implement, and refine clinical decision support systems, and
- Lead or participate in the procurement, customization, development, implementation, management, evaluation, and continuous improvement of clinical information systems.

Clinicians collaborate with other health care and information technology professionals to develop health informatics tools which promote patient care that is safe, efficient, effective, timely, patient-centered, and equitable.

Other Data Systems In Use In Zambia Today

Smart care data system

The Zambian Ministry of Health in collaboration with cooperating partners have in the recent past adopted Smart Care as a national Electronic Health record system. Since 2005, Smart Care is being

deployed country wide in health centres, level 1, 2 and 3 hospitals. The system was designed to be robust in environments with little or no telecom or unreliable power supplies. This portable electronic patient health record is designed to allow service providers access to historical patient data regardless of health facilities used in the past or types of services sought.

As patient histories and interactions are entered into the system clinical, laboratory and pharmaceutical service providers have at their disposal the essential information necessary to make informed decisions about appropriate patient care. While providing more information to decision makers, one of the benefits of the electronic system is that it preserves patient confidentiality by restricting access to non-essential information.

The system is engineered to promote data use by all levels of Health Facilities, the District Health Management Teams (DHMTs), the Provincial Health Offices (PHOs), the Ministry of Health (MOH) and the MOH Implementing Partners, for management and policy making by providing access accurate and timely information.

It is an assumption of the project that improving data timeliness will increase its relevance and consumption turning mere data into usable information. Service providers, managers and policy makers will use this information to change treatment decisions, adapt procedures, and create policies to improve the quality of patient care. It is believed that improving the quality of health care services for all patients in the country will result in an overall improvement in national health status.

The Smart Care team in close collaboration with the MOH has designed the structure of the data tools to facilitate the ease with which patient data is collected and ensure the integrity of the standard data recommended by the MOH. The tools have also been structured so that they promote adherence to these nationally recognized standards of care.

Smart Care has continued to play an important role in storage, transfer and access of patient data through the use of a Smartcard. This supports continuity of care and confidentiality of patient data. New versions of Smart Care with additional service modules have since evolved to support health care, supply chains and logistics systems in the health facilities. The roll out of the system has been phased in Zambian health facilities over time based on practical marriage of national priorities (top down) as well as site preparedness (bottom up). Selected sites are required to assess ongoing process to effectively integrate the national system. Trainings have been conducted at facility, District, Provincial and National levels in the use of the data system.

Benefits Of Hmis

Experts have published work that points to the many advantages to moving health care and patient records to an electronic format. Some of these advantages include reduced redundancy and better discussion of medication options, both of which offer the potential for better patient education and opportunities for enhanced health care provider and patient communication. In addition HMIS improves cost control by improving efficiency and productivity. Human resource costs and inventory levels can be reduced through avoidance of duplications and repetitions. HMIS increases security of patient data through secured databases of administrative and patient information that can only accessed by those who have rights and need the information.

Challenges Surrounding Hmis Systems

The introduction of the national electronic health record system in Zambia has increased the demand for micro-level data on population and health for use in monitoring, planning and programme implementation. The launching HMIS system by Government of Zambia was a bold and innovative step. However, there are several challenges that must be overcome to develop HMIS as an effective tool for planning and monitoring. In particular, without ICT training and motivating grass-root functionaries to report HMIS data in an accurate, timely manner and monitor its quality, HMIS data cannot be used for health sector planning. Steady supply of electricity, unavailability of local area networks & internet facilities, human resource constraints and ongoing technical support are some of the challenges impacting the efficiency of the system.

Considerations

Because of the many rules and regulations that apply to the handling of health care information and patient data, it is important to understand your right to privacy as it relates to managing and sharing your health care information. In general, health care information professionals do not have the right to view your information unless they have a business or medical reason to do so. Unlike other industries, IT workers in health care are held to a strict standard that protects the patient's privacy. I would therefore urge you to reflect on this fact, as you apply ICT in e-learning and distance education. ICT ethics are important in your field and ensure that social networks are used appropriately during this course.

Self-test questions

Information can be defined as

a) Processed data giving a meaningful picture

b) Raw facts of activities

c) Mode of giving a message

d) Educating people to change behaviour

In text question 5. 2

We have looked at HMIS and the way it is done, what was the most interesting part of HMIS?

Summary

We have just finished discussing unit 5 which was about Health Statistics and data management. HMIS stands for Health Management Information System. In this unit we defined the terms and discussed HMIS. Under this topic we looked at data production which is data collection, use of data collection tools, production and processing of health data at facility level and indicators. Under data processing we covered instruments of data collection and archive system for health data. We went on to look at data analysis which covered presentation of data, feedback on data and interpretation of information. Under data quality we discussed data processing, ensuring data quality and quality of health records. Finally, we discussed health management based on health data, data security and information of health informatics.

I hope you enjoyed the topic and have appreciated the importance of data in the health sector. Remember! No matter how much work one does, without support from well documented and analysed data, all is meaningless.

ASSIGNMENT

The next unit of study is unit 6 which on school health services. Find out about school Health Services.

5.5 References

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2. MoH, (2009). Integrated Technical Guidelines for Front Health Workers. Lusaka, Zambia.
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UNIT 6: SCHOOL HEALTH SERVICES.

We have just finished discussing Health Statistics and Data management. I am sure you have learnt a lot on the importance of managing data in the health sector. The quantity and quality of your work is measured by the type of data produced.

We are now going to discuss School Health Services and its' importance in public health.

6.1 Introduction

School health is the sum total of all health activities that go into promoting the physical, social and mental wellbeing of the child. Poor health due to diseases among learners retards their physical and mental development. This leads to absenteeism from school and reduction in active learning capacity. Ensuring that children are healthy and able to learn is an essential component of an effective education system.

During the previous session we looked at how to manage data and statistics in the health care system. This is important as it gives a guide on what are the good things being done and also what areas need our attention. One of the areas that we could have captured is the different departments are within the catchment areas, this probably included the schools of learning. Therefore we are going to progress from there and look at school health services and how they are managed.

In this unit you will discuss the organization of school health services in Zambia, you will also explore the components the available nutritional services. You will also gain valuable knowledge on information, education and communication in relation to reproductive health, HIV/AIDS and other important health topics. You will also learn on other strategies of implementing school health services. Then finally you will discuss accident prevention strategies.

6.2 Objectives

By the end of this unit you should be able to:

1. Discuss the organization of school health services in Zambia
2. Explain the components of school health services
3. Discuss nutritional services
4. Discuss the Information, Education and Communication
5. Explain other strategies for implementing school health services
6. Discuss Accident prevention in schools.

6.3 Organization Of School Health Services

Definition:

School health services are services from medical, teaching and other professionals applied in or out of school to improve the health and well-being of children and in some cases whole families. They are concerned with the early detection of health and social problems in school children and their subsequent treatment and surveillance.

Figure 17: Structure For School Health Services

Organization Of School Health Services In Zambia

School Health Services are an important component of Health Service delivery in Zambia.

At independence in 1964, the Ministry of Health (MoH) provided comprehensive school health services that included physical examination, referral and treatment of ailments, provision of immunization, environmental health and food supplements.

In addition, the MoH established the office of the School Health Specialist within Maternal and Child Health (MCH). All hospitals and health centers were obliged to provide school health services in their respective catchment areas.

In the last two decades, SHN services have declined in terms of accessibility, availability and quality.

Rarely are learners physically examined, treated and/or referred.

Food supplementation ceased in the early 1970s due partly to an insufficient understanding and appreciation of the role that health and nutrition contributes to learning achievements.

This decline has been worsened by a misconception that SHN is the prerogative of the MoH alone rather than being regarded as a multi-sectoral development issue.

Generally, the health and nutrition status of learners has continued to deteriorate. Government has acknowledged this.

It is against this background that the MoE introduced the SHN program as one of the components of the Basic Education Sub-sector Investment Program (BESSIP, 1998 -2002)

These services have been developed in different ways around the globe but the fundamentals are constant: the early detection, correction, prevention or amelioration of disease, disability and abuse from which school aged children can suffer

Roles Of School Nurses

- ***Care giver*****:** the school nurse is expected to give immediate nursing care to the ill or injured child or school staff member. The nurse makes all of the health care decisions for the child and has a referral system to contact other health care providers such as doctors, counsellors if needed.
- ***Health educator***: the school nurse in the health educator role may be asked to teach children both one on one and in the classroom. The nurse uses different approaches to teach about health, such as teaching proper nutrition or safety information.
- ***Case manager***: the school nurse is expected to function as a case manager, helping to coordinate the health care for children with complex health problems. This may include the child who is disabled or chronically ill, who may be seen by a physiotherapist, a speech therapist or another health care provider during the school day.

Take Note 6.1

The nurse sets up the schedule for the child's visits so that those appointments do not unnecessarily impact negatively on the child's academic day.

- ***Consultant*****:** the school nurse is a person who is best able to provide health information to school administrators, teachers and parents. As a consultant, the school nurse can provide professional information about proposed changes in the school environment and their impact on the health of the children. The nurse can also recommend changes in the school's policies or engage community organizations to help make the children's schools healthier places.
- ***Counsellor***: the school nurse may be the person whom children trust to tell important secrets about their health. It is important that as a counsellor, the school nurse have a reputation as being a trustworthy person to whom the children can go if they are in trouble or when they need someone to talk to.

However, privacy and confidentiality as in all health care, is important. In addition, the schools nurse maybe the person to help with grief counselling in the school.

Self-test questions

The duties of a nurse in the school include the following except

a. Giving care to the sick

b. Refer those who are sick to the hospital

c. Health education

d. Removing rotten teeth from children

6.4 Components Of School Health Services 6.4.1 Promotive

Health promotion is activities that have as their goal the protection of people (pupils/students) from becoming ill because of actual or potential health threats. WHO describe health promotion as "the process of enabling people to increase control over their health and its determinants and improve their health (WHO, 2005).

Health promotion leads to changes in knowledge, attitudes and practices and all other factors that have a bearing on health

Children need continued health services in the schools. The school nurse sees them on an almost daily basis and is the person who is usually given the role of teaching them about health and promoting their health.

As a school health nurse may have the opportunity to go into the classroom to teach health promotion concepts. E.g. Hand washing or tooth brushing skills.

You may spend time with the teachers, giving them latest information on healthy lifestyles for children or how to spot a child who may be ill or in need of counselling.

Strategies For Health Promotion

- ***Information, Education and Communication (I.E.C)*** This will be discussed in detail in the next unit.
- ***Social marketing****:* is the application of the ideas, processes and practices of the marketing discipline to improve conditions that determine and sustain personal, social and environmental health and wellbeing.
- ***Social mobilization****:* is the process of bringing together all feasible and practical inter-sectoral social allies to raise people's awareness of and demand for a particular development program, to assist in the delivery of resources and services and strengthen community participation for sustainability and self-reliance.
- ***Advocacy***: It is speaking acting, writing with minimal conflict of interest on behalf of the sincerely perceived interests of a disadvantaged person or group to promote, protect and defend their welfare and justice by being on their side.

6.2.2 Preventive:

The three (3) levels of prevention are primary, secondary and tertiary. These have always been a part of health care in the schools.

Primary prevention: provides health promotion and education to prevent health problems in children. It means reducing the incidence of a disease. It is directed toward well children to promote their health and it provides specific protection from diseases e.g. immunization.

Secondary prevention: includes the screening of children for various illnesses, monitoring their growth and development and caring for them when they are ill or injured. Because secondary prevention involves caring for children when they need health care, it is the largest responsibility for the school nurse. It also involves screening and assessing children and referral to appropriate health facilities/ providers. You may also be involved in giving of medication to children during the school day. These may include prescribed medications as well as medications that parents have asked the school nurse to give. In all instances, you should develop a series of guidelines to help with the legal administration of medications in the school. Parents should be sure to tell the school nurse if the child is on any medications. As a nurse you also assist in minor surgery that may be done at school, for example, the dentist identifies children with tooth decay; you may help in the removal of the teeth. Curative interventions reduce or eliminate the impact of the illness

Tertiary prevention: This is when you provide continued care of children who need long term health care services along with education within the community. This also includes rehabilitative care.

The school nurse gives nursing care related to tertiary prevention when working with children who have long term or chronic illnesses or with special needs. You participate in developing an individual education plan (IEP) for students/pupils with long term health needs e.g. you must have information about children's medications to be given during school hours. You also need to know if the children need any therapy during the school day such as physiotherapy or hydrotherapy.

If a child has a hearing or vision problem, the nurse may need to ask the teacher to seat the child in the best place in the classroom so that the child can see or hear the teacher and other children better.

We hope you now understand the components of school health services. Next, we shall discuss school health nutritional services.

6.2.3 Curative Services

When school health services are going on, routine inspection is carried out. The routine inspections and examinations are carried out by a team of health staff with different specialties to ensure the pupils are given holistic care. These include laboratory technologists, dentists, environmental health technologies and physicians.

During this routine inspection, children/pupils with certain health problems are treated there and then .e.g. malaria, worm infestation and eye or tooth infection. For those health conditions that require special attention and special examinations, the health team will refer the pupil to the hospital for further examinations. This will require involvement of the school guidance and counseling focal person and parents/ guardians as there may be need for escort and parental consent for certain procedures.

Self-test question

A component of secondary prevention among school children is

a. Checking for lice in the hair

b. Teaching on prevention of pregnancy

c. Giving of deworming tablets in a child with worms

d. Assisting the child in physiotherapy after healing of a broken leg

6.5 Nutrition services.

School health nutrition services

The school health and nutrition program (SHN) is critical in improving not only the health and nutrition of learners, but also enhancing academic achievement and acquisition of life skills. In the last decade, available data suggested that learners were burdened with chronic micronutrient deficiencies, protein energy malnutrition, worms, malaria and HIV/AIDS infections that are, in turn, associated with low academic achievements.

In view of the above, it was imperative that SHN program be put in place to commit government and stakeholders to undertake activities that would assist improve the health and nutrition status of learners, thereby improving on enrolment, retention and learning achievements. Some of the activities that have been put in place are as follows;

- Sponsor drama groups and SHN and Anti-AIDS clubs to share the concept with the wider community and seek the support of local leaders,
- Host community meetings about the importance of school health and nutrition,
- Conduct a small media campaign in the area using posters and drama performances,
- Host an “open house” at the school for parents and community members to visit the school and -explore the various health and nutrition activities offered,
- Ask parents to feed their children breakfast before sending them to school,
- Ask parents to provide children with a mid-day snack,
- Sponsor competitions for the best Health-promoting School,
- Establish SHN committees with broad representation from the community, clinic, and school,

- Work with Parent Teacher Associations (PTAs) and regularly involve the chairperson in school discussions and decisions, and
- Initiate other activities that SHN program engages parents.

The program also engages in the training of teachers and health workers in the treatment of intestinal worms and micronutrient supplementation with iron tablets and vitamin A. The non-health workers are also trained on how to screen children for minor disorders like malaria and bilharzia.

Micronutrients supplementation

The most common micronutrient deficiencies of public health concern in Zambia are:

Vitamin A deficiency (VAD)

Iodine deficiency disorders (IDD)

Iron deficiency anaemia (IDA)

-Vitamin A deficiency is linked to impaired growth and development and also impaired vision which can lead to blindness.

-Iron deficiency anaemia pose a major threat to lowered resistance to infection, poor cognitive development and decreased capacity to work.

-Goitre is the common form of iodine deficiency disorders in Zambia. Severe cases of IDD can result into reduced mental development, growth retardation and cretinism, which could lead to delayed enrolment of children, poor attendance and performance in class, high repetition and dropout rates in the early years of school.

We have looked at the nutrients, both macro and micronutrients that will be good for the children, what education would you give to the children at a school?

Compare your topics of choice with the ones written below.

6.6 Information, education and communication (IEC)

One of the objectives of Healthy People 2020 is to increase the proportion of elementary, middle, and

high schools that provide comprehensive health education to prevent health problems in the following areas: unintentional injury; violence; suicide; tobacco use and addiction; alcohol or other drug use; unintended pregnancy, HIV/AIDS, and STD [STI] infections; unhealthy dietary patterns; and inadequate physical activity.

As a nurse IEC is one of the major components of services you provide to school children, some of the areas of focus include the following:

- **Reproductive health:**
- Urbanization and the transition from transition from traditional to modern culture have given rise to new patterns of sexual behaviour among young people, leading to risk taking on the basis of insufficient and incorrect information on sexuality. Large proportions of the youth are sexually active. As a result they are prone to STIs and HIV/AIDS, teenage pregnancies etc. and these are more likely to jeopardize the learners' potential careers. Therefore you advise them to abstain, use condoms if they are already in sexual relationships and also the available family planning methods to avoid unwanted pregnancies. Cervical cancer is on the increase, and WHO recommends that every girl child aged between 9 – 18 years receives a vaccine against HPV which is responsible for causing cervical cancer. Therefore, all girls in school need to be enlightened on cervical cancer and it prevention strategies.**HIV/AIDS/STIs:**

The current HIV/ AIDS situation adds to the complexity of health issues in education. The impact of HIV/ AIDS is devastating to learners as well as the teachers. It touches all aspects of their lives. Specifically, children experience psychosocial distress, increased malnutrition and loss of health care, fewer opportunities for schooling etc. The increasing numbers of orphans due to AIDS poses further problems in the education system. For economic and health reasons, many of them may be unable to attend school or drop out of school. Therefore you educate the student on HIV/AIDS, this will include mode of transmission general knowledge and also advise them to abstain to prevent the risk of infection. You also engage them in Anti Aids club for them to interact with each other and share ideas. You also educate them on the use of condoms and male circumcision to reduce on infection rate. For those who are already infected teach them the available support services and care for their needs. Also involve the parents or guardian in the education care of the child, where need arises you will also advocate for the student.

Malaria

Children under five years of age are one of most vulnerable groups affected by malaria. There were an estimated 660 000 malaria deaths around the world in 2010, of which approximately 86% were in children under five years of age, (WHO 2010).

Malaria is one of the major cause of mortality and morbidity among children. It can lead to hypoglycaemia, cerebral and severe anaemia in children. Malaria is also the leading cause of student absentiseem from schools. The students are either sick themselves or are taking care of other sick siblings at home. The nurse educates the students on importance of preventing malaria by sleeping under treated mosquito nets, closing windows and doors early, use of mosquito repellents, wearing long sleeves or trousers to avoid mosquito bites, early treatment of symptoms, completion of treatment for malaria, and seeking medical advise early in case of suffering from malaria.

Therefore the nurse conducts rapid testing for malaria as one of the activities when conducting school health services.

Nutrition

Current literature supports the positive effects of good nutrition on brain development and mental health. On a cellular level, diet and exercise play a role in neuronal function. High-calorie diets or diets with high levels of trans and saturated fats create an environment in which cognitive abilities are compromised. The nurse should emphasis on importance of good nutrition, which should have all requirements. The nurse should discourage the sell of junky foods at schools because of its effects on health i.e obesity. The nurse should also emphasise on the importance of good hydration for proper functioning of the brain and other body organs like the kidneys.

Gender

It is the range of physical, mental, and behavioural characteristics pertaining to, and differentiating between being male and female The World Health Organization defines gender as the result of socially constructed ideas about the behaviour, actions, and roles a particular sex performs.

The ones commonly affected in the community are girls

Gender discrimination, gender gaps in education and information and a double standard of morality for men and women also contributes to the persistence of inequality and exploitation.

Information, education and communication concerning gender will focus on importance of upholding morals and values in society, dangers of discrimination and importance of co-existence.

Gender based violence

Do the following activity

Student activity Discuss some of the gender based violence that you know and the effects on health. What I.E.C can be given regarding prevention of GBV? Write down your answers.

Drug Abuse

Drug abuse prevention, is a process that attempts to prevent the onset of substance use or limit the development of problems associated with using psychoactive substances. As a community health nurse the preventive efforts that you may put up should focus on the individual or their surroundings. The information, Education and communication regarding drug abuse will forcus on the effects of drugs on health, dangers of abusing drugs, understanding drug abuse, strategies to prevent drug abuse, counselling and rehabilitative services available for drug abusers. This will have to encooperated other stakeholders like the Drug and Enforcement Commission (DEC).

Child rights

Children are precious assets, and their well-being reflects the future of the nation. Children are dependent on adults for sustenance and protection. Unfortunately, Children have always being seen

vulnerable and in need of protection, till recently have attempts been made. Many states have signed declarations and ratified the rights of children. Many of Zambia's children need protection from the risk and harm that threatens their rights and well-being. Exposure to poverty and deprivation is widespread, whilst many children are also exposed to violence, abuse and exploitation.

The Convention on the Rights of the Child is the text in relation to human rights which has been the most rapidly adopted. This text become an international treaty and entered in force on September 2, 1990, after being ratified by 20 states. There are four main principles that are enshrined in the convention;

- No discrimination- no child should be discriminated in schools, refuges, race racial basis etc.
- Best interest of the child- each state should make efforts to ensure that every decision made is to the best interest of children.
- Right to life, survival and development- children should be given chance to life, survive and develop socially, morally and to the acceptable culture
- Views of the child- children should be given freedom to speak, including in judicial or administrative proceedings (UN, 1991).

Basing on the above mentioned principles, the Public Health Nurse should educate the students on the importance of understanding these principles which are the cornerstone of their rights. Understanding these principles will help the students prevent and denounce all forms of child abuse e,g defilement, child labour and child trafficking.

- Child abuse-defilement
- Definition

Child abuse is the violation of children's rights in either physically, mentally, emotionally or sexually.

Types of child abuse

- Physical Abuse

This is a pattern of physical assaults and threats used to control another

person. It includes punching, hitting, choking, biting, and throwing objects at a person, kicking and pushing and using a weapon such as a gun or a knife.

Physical abuse usually escalates over time and may end in the child's death.

According to human rights the laws of Zambia demands that when one is guilty of abuse the following punishment should be instituted.

Child Abuse: the punishment for assault causing bodily harm to a child is imprisonment for five to 10 years, and the law was generally enforced

- Sexual Abuse

Childhood sexual abuse is "an abuse of power that encompasses many forms of sexual activity between a child or adolescent (most often a girl) and an older person, most often a man or older boy known to the girl. This can include demands for sex using coercion or the performance of certain sexual acts, forcing her to have sex with other people, treating her in asexually derogatory manner and/or insisting on unsafe sex.

Child defilement is an evil that has everything to do with myths of cure for some STI and AIDS or cleansing from some evil spirits of some sort and/or mere lack of self-control.

The major causes of defilement of children include poverty, economic injustices, disputes between the rich and the poor and large scale migration and urbanization.

Other factors include lack of education, disintegration of the family and social values, social attitudes, lack of protection to children at risk and underfunding or failure of social services. Poor systems of governance and inadequate legal systems also fail to prevent injustices towards children or to protect them from acts.

Child sexual abuse can lead to; gynaecological problems, STDs, HIV/AIDS, early sexual experiences, early pregnancy, infertility, unprotected sex, unwanted pregnancy, abortion, re-victimisation, high-risk behaviours, substance abuse, suicide and death

- ***Emotional and Verbal Abuse***

This is the mistreatment and undermining of a child's self-worth. It can include criticism, threats, insults, belittling comments and manipulation on the part of the barterer.

- ***Psychological Abuse***

This is the use of various tactics to isolate and undermine a child's self- esteem causing him/ her to be more dependent on and frightened of the battered. It can include such acts as:

- • Withholding money or access to money
- • Isolating her from her family and friends
- • Threatening to harm people and things she loves
- • Constantly checking up on her

Therefore as a nurse you need to educate the teachers and the school children on this vice which continues to be increasing.

Child labour

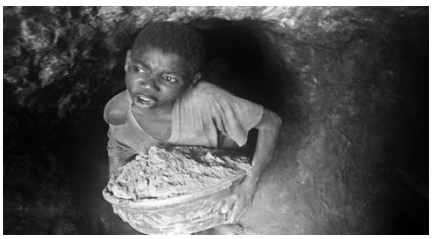

Figure 18 : An image of child labour

Source;
http://www.google.co.zm/imgres?imgurl=http://www.ilo.org/public/english/support/lib/financialcrisis/images/childlabour.bmp&im

The primary cause of child labour in Zambia is the extreme vulnerability of the (mainly rural) poor and (both rural and urban) low income households to economic shocks. Simply put, child labour is a coping strategy when adult breadwinners die, lose their jobs or fall ill, when natural disaster strikes, or when families are simply unable to make ends meet. This situation is compounded by the poor quality and coverage of basic social services, especially education, and the insufficient and overstretched social protection mechanisms. In the mines child labour is rampant and some noted effects are as follows; physical injuries and long-term illnesses from exposure to the hazards of mining operations, and low school attendance because of the long working hours and fatigue (Guarcello, Lyon, and Rosati, 2005).

This can lead to the following effects

- Poor nutrition, exacerbation of chronic illness, substance abuse,
- Brain trauma, organ damage, partial or permanent disability,
- Chronic pain, unprotected sex, pelvic inflammatory disease,
- Gynaecological problems, low-birth weight, miscarriage, adverse pregnancy outcomes and maternal death, suicide, death.

Child trafficking

Zambia is a source, transit, and destination country for children subjected to forced labour and sex trafficking. Most trafficking occurs within the country's borders and involves women and children from rural areas exploited in cities in domestic servitude or other types of forced labour in the agriculture, textile, mining, and construction sectors, as well as in small businesses such as bakeries. Zambian children may be forced by *jerabo* gangs, who work in the illegal mining sector, to load stolen copper ore onto trucks in the Copperbelt Province. Children are also recruited and transported from villages, brought to cities, and made to serve as guides for groups of blind beggars. While orphans and street children are the most vulnerable, children of affluent village families are also vulnerable to trafficking because sending children to the city for work is perceived to confer status. Zambian boys and girls are recruited into prostitution by women formerly engaged in prostitution. Zambian boys are taken to Zimbabwe for prostitution, and girls are exploited in forced prostitution by truck drivers in towns along the Zimbabwean border

6.7 Strategies For Implementing School Health Services

There are other activities that have been put in place to meet the health needs of the school children that as a health nurse you need to integrate in your activities some of them include the following;

- Introduction of high energy protein porridge supplementation which was began in schools though it's no longer being done in most schools.
- Ensure that the school staffs are trained in health education, screening and nutrition. You need to liaise with the changes program as they are implementing such programs in selected schools.
- Involve the family and the community in nutrition and health promotion activities. You could prepare flies and give community members or give children to give their parents, involve the children in conducting drama activities. When the parents and community are empowered with knowledge then they will easily monitor that children and ensure that they are health.
- Ensure that the schools have health promoting clubs such as Red Cross, first aids club and Anti aids club. These will aid in the development also of life saving skills.
- Support and implement policies in the curriculum that promote nutrition and health education.
- Participate in child health week programs conducted by district health office for the deserving children.

Child to Child

This is where children teach others as peers in those activities which have been identified to be a problem among them, eg. If it is noted that teenage pregnancy is increasing or there are high levels of sexually transmitted diseases, you use the fellow youths in education programmes like drama or role plays.

Adolescent Health Services

Adolescents are considered as the future generation in the Zambian society and have been given knowledge that will help them meet their needs. The available services are:-

Youth friendly services

These are run by fellow youths or those who adequately understand youth psychology. The activities include Advice on reproductive health services, e.g, use of contraception and counselling on various topics

In text question

i. What would be the best approach counselling teenage school children?

ii. Mention some of the common health challenges they may face?

Self-test question

The strategy for health promotion is

a. Social mobilization

b. Secondary prevention

c. Provision of Nutritional services

Education in HIV/AIDS

Children are very active and are involved in a lot of exercises. Think about some of the common ways that they get injured with. Now go through the next session of the lesson and understand how you can be of help to reduce accidents among children.

6.8 Accident prevention

Accidents and injuries to children and teenagers are the leading cause of death in this age group

The school nurse educates children, teachers and parents about preventing accidents and injuries. As the trusted person at school, the nurse is able to quickly give information to help prevent accidents and injuries from occurring since most injuries and accidents are preventable.

At home: Home accidents are one of the leading causes of death among children. In many cases these accidents can be prevented by taking simple precautions.

Types of home accidents

- i. Impact accidents e.g. falls or 'bumping into' accidents.
- ii. Heat accidents e.g. burn and scald.
- iii. Mouth and foreign body accidents e.g. accidental poisoning and suffocation.

The following are tips that could ward off disaster in homes:

- Wiping up spilled water, grease and other liquids from the kitchens, bathrooms etc. as soon as possible to avoid slips.
- Avoiding putting hot liquids like tea/ coffee on table cloths that hangs over the side of the table as this scalding liquid can spill if someone trips on it.
- Avoiding keeping a loaded gun in the house: ammunition and weaponry should be stored separately.

- Avoiding placing electric heaters near combustible materials.
- Avoiding touching electrical appliances while standing in water.
- Securing naked electric wires.
- Installing grab bars and rubber mates in bathrooms.
- Keeping medicines, pesticides, poisons etc. under lock and key. Labelling is also very important.

On the road

Many families are worried about traffic in the cities today. Cars are still the biggest killer of children on our streets. Road accident statistics show that one child is killed in road accidents every three minutes in the world. The school nurse play the prevention party by teaching children about road safety; showing them how to walk and cross roads safely. She teaches them:

How to be a safe cyclist-Children are not ready to begin cycling in traffic alone until secondary school age.

-To use or wear helmets at all times on their bikes.

-To use seat belts and baby car seats in cars

-Cross roads on Zebra crossings

-Not to play on roads with balls and other things.

-Move with adults who are able to judge speed of moving vehicles correctly.

-Enforcement of speed limits for motorists.

At school

-Accidents and injuries in the school can be avoided by the following tips:

- Avoid running unnecessarily
- Avoid swimming if not able
- Avoid carrying sharp objects
- -Reading instructions carefully and avoiding doing things before being told e.g. in science laboratories.
- -Play ground assessment for safety.

Nursing Care For Emergencies In The School

The school nurse cares for children who are injured or become ill in the schools. She should have an emergency plan in place so that a routine can be followed when emergencies occur. This plan should include:-

- Making an assessment of the emergency and surveying the scene
  When to call 911 for back up help for emergency medical unit if needed.
- How to make arrangements to transfer a child to hospital in case more care is needed.

Treating the injured or ill children/ teachers

6.7 Summary

We have been looking at school health services. The unit covered organization of school health services in Zambia, components, nutritional services, IEC, other strategies for implementing of school health services and accident prevention.

We looked at the organisation of school health services in Zambia and that School Health Services are an important component of Health Service delivery in Zambia. We discussed the school health components which are preventive, promotive, currarive/ referral and rehabilitative. We looked at the nutrition services in schools and emphasised that it is critical in improving not only the health and nutrition of learners, but also enhancing academic achievement and acquisition of life skills. We also discussed the importance of information, Education and communication in schools especially in in areas like adolescent health, STI/HIV/AIDS., malaria, gender issues, child abuse etc. We also discussed strategies to implement school health services which includes youth friendly corner, child – to-child and adolescent health services. Lastly we discussed how to prevent accidents at home school and work places.

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UNIT 7: INFORMATION EDUCATION COMMUNICATION

7.1 Unit-Introduction

We have finally come to the last topic in PHN 1. We have so far learnt a lot and have just completed School Health Services which is very important in the community. Youre therefore encouraged to participate fully and enjoy this simple interactive topic on Information, Education and communication.

Health education is important in maintenance of health. In public health nursing a client needs to have clear information on how to promote, maintain and recover their health. These will include the individual, family, community and the whole entire population. From the previous units we have been meeting the component of health education and now there is need to go through the processes and the guiding principles so that you will be able to meet the needs of our clients adequately.

Therefore in this unit we will define Information education and communication and you should be able to understand its application in community health nursing and nursing as a whole. We will look at the guiding principles, the process and also the visual aids that we can possibly use. We will also look at communication and the barriers to communication

7.2 Objectives

By the end of the unit you should be able to

1. Define Information, Education and Communication
2. State the principles of IEC
3. Describe communication purpose and barriers
4. Explain methods and techniques
5. Discuss the preparation and selection of teaching Aids
6. Discuss teaching methodology

Information, education and communication

7.3 Definitions Of Terms

Learning: This is a process of gaining knowledge and expertise. The emphasis is on a recipient of knowledge and skills and results in behavioural changes.

Teaching: his is the process of transferring information. It involves establishing and arranging events t facilitate learning. Teaching emphasises on the provider of the knowledge.

Communication: the imparting or exchanging of information by speaking, writing, or using some other medium, (xford dictionary)

Information is telling something to an individual about a person or a thing or a subject.

> **Education:** is a gradual process of learning through which a person gains knowledge and understanding of a subject.

- **Communication** is a two way process of giving information or sharing ideas between two or more

> **Message:** a verbal or written communication is what is transmitted in the communication process **Information Education and Communication:** a public health approach aiming at changing or reinforcing health-related behaviours in a target audience, concerning a specific problem and within a pre-defined period of time, through communication methods and principles (WHO)

Activity

What is the purpose of IEC? Think about it for 2 minutes and then write the answer in your notebook.

Now compare what you have written with the information in the following section.

Purpose of Information, Education and Communication

The purposes of IEC are to:

- To encourage individuals to adopt and sustain healthful life practices.
- To develop in individuals a sense of responsibility for health conditions as individuals, families and communities.
- To help individuals make their own health decisions as individuals and collectively
- To improve their health status and their environment.
- To use health information and services available wisely.
- To deliver information to users of health service
- To promote change
- To introduce a new concept
- Advocacy
- Promoting service and products
- Changing people attitude

7.4 Principles Of Information, Education And Communication (Iec)

WHO recommends the following framework principles while developing, implementing, and evaluating IEC interventions (WHO, 2001):

1. Clear objectives
2. Client centeredness
3. Appropriate research methodology
4. Emphasis on positive behaviour change
5. Carefully crafted and tested educational messages
6. Appropriate channels of communication
7. Use of inexpensive educational materials
8. Culturally relevant graphic messages for home use
9. Linkage with health care delivery system
10. Mechanisms for monitoring, evaluation and feedback

7.5 Communication Purpose And Barriers

Before you read about the purpose of communication, complete the following activity,

Activity 7.1

List the purposes of communication in your notebook.

Well done! Now compare your answers with the following purposes of communication.

7.5.1 Purpose of Communication

The purposes of communication include the following:

- For sharing of Information and Ideas
- To increase Knowledge
- To influence people for change in attitudes and beliefs
- For bringing about behavioural change
- For persuasion and negotiation

- For motivation
- To provide counselling
- For giving Instructions
- To help reaching a decision
- To building human relationship
- For entertainment

7.5.2 Barriers to Communication

As a good communicator, you should be aware of the following communication barriers so that your message can be well received. The following are some of the barriers to communication:

- **Physiological**. These are barriers that result from the receivers physical state. For example, if a person is hard of hearing, they may have a problem hearing what you are saying. You should therefore use media that can get the message to them, e. g, a poster or written document.
- **Psychological** – emotional disturbances, neurosis, levels of intelligence, language or comprehension. When the receiver has a psychological problem it means they may not be able to appreciate what you are saying, therefore the problem will need to be solved before proceeding with giving the information you want to send. If the problem is with the sender it means you also need to solve your issue in order to effectively communicate to your clients.
- **Environmental** barriers to effective IEC are noise, invisibility and congestion. These can cause distraction and lack of concentration. Identify a place where it is quiet and enough lighting in order for the participants to get the information.
- **Cultural** – illiteracy, low levels of knowledge and understanding, customs, beliefs, religion, attitudes, economic and social class differences, language variations, cultural difficulties between foreigners and nationals, between urban education and the rural population.
- Even when health services are readily available, the social and cultural barriers can present serious problems to the achievement of health behaviour change.
- **Using words:** which cannot be understood by the audience **(bombastic words).** As health care provider you need to assess the level of education of those listening to your information so that you use the language that is appropriate and they can understand.
- **Information-** The information you prepare may be too much so that the receiver is overloaded and they lose concentration or it can be inadequate to meet their needs this will lead to failure to get the information you are trying to send. There are times that the message you choose might contradicting the beliefs or priorities of your clients, this will make them loose interest in what you are talking about.
- **Poor communication skills by the sender –** The sender might not be loud enough to be heard or fail to express him /herself. These skills have to be learnt over time the sender might not know how.
- **Media-** In certain circumstances the means you use to send the message may not be appropriate for the information you are trying to pass on. For example you are teaching

mothers on the exercises to use after delivery; you decide to give a lecture, when demonstration could have been more appropriate.

- **Insufficient feedback-** Feedback helps you to identify whether the methods you are using for teaching are ideal for your clients therefore it is important to ask them whether they are getting the message. It can also be that you do not give response when they ask questions hence they will lose interest or concentration and you will fail to communicate.

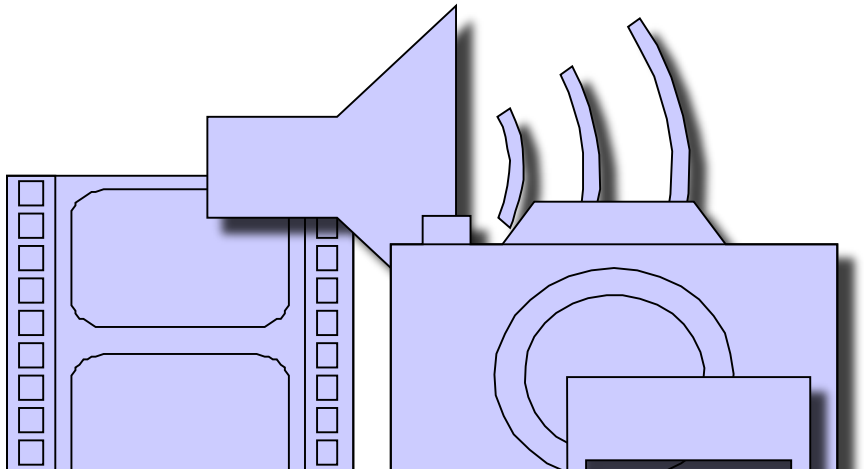
7.6 Methods And Techniques

HEALTH COMMUNICATION

Individual Approach	**Group Approach**	**Mass Approach**
1. Personal contact	Lectures	Television
2. Home visit	Demonstrations	Radio
3. Personal letters	Discussion methods	News papers
	-Group discussion	Printed material (fliers)
	-Panel discussions	Direct mailing
	-Symposium	Posters, bill boards & signs
	-conferences	Health museums & exhibitions
	-serminars	Folk methods
	-Role play (drama)	exhibitions
	-Role play (drama)	Internet

7.7 Designing, Preparation And Selection Of Teaching Aids

What can you see in this picture?



(tape, mega-phone, camera, sound examples of multimedia)

No health education can be effective without audio-visual Aids. Audio-visual Aids help to:

- Simplify unfamiliar concepts
- Bring about understanding where words fail
- Reinforce learning by appealing to more than one sence
- Provide a dynamic way of avoiding monotomy.

Some of the Audio-visual Aids are

1. ***Auditory Aids*** – Radio, tape-recorder, microphone, amplifiers, earphones

2. Visual Aids

   - *Not requiring projection*: chalkboard, white board and markers, leaflets, posters, charts, models, specimens.
   - *Requiring projections*: Slides, film strips. Computers and LCDs, overhead projector and transparencies.

3. ***Combined Audio-Visual Aids***: elevision, sound films (cinemas), slide-tape combination, computer.

Knowledge of the advantages and disadvantages of adio-visual Ais is necessary in order to make proper use of them.

Principles Of Teaching And Learning

1. ***Credibility***: the degree to which the message to be communicated is perceived trustworthy by the receiver, unless people have trust and confidence in the communicator, no desired action will ensue after receiving the message.

2. ***Interest***: Pschologically, people may not listen to the message unless they have an interest in it. The communicator has to explain the need of the message before he starts to communicate to the audience.

3. ***Participation***: Akey to health education. It is based on the psychological principle of active learning.

4. ***Motivation***: in every individual there is fundamental desire to learn. Awafening this desire is called motivation.

5. ***Comprehension***: in health education we must know the level of understanding, education and literacy of people whom the teaching is directed. Never use words which cannot be understood by the people.

6. ***Reinforcement***: few people can learn all that is new in asingle period of time.if there is no repetition there is a tendency of going back to pre-awareness stage. If the massage is repeated in different ways, people are more likely to remember it.

7. ***Learning by doing***: learning is an action process;nota memorising one in thenarrow sence."If I hear I forget; if I see I remember; if I do I know" illustrate the importance of doing.

8. ***Known to unknown***: in health education we proceed from a concrete to abstract i.e. from the particular to the general, from simple to the more complicated; from easy to more difficult; and from known to unknown. The rules are that where people are and with what they understand and then proceed to new knowledge.

9. ***Setting an example***: a health educator must set a good example in the things he is teaching. If he is explaining on the hazards of smoking, he will be not successful if he himself smokes.

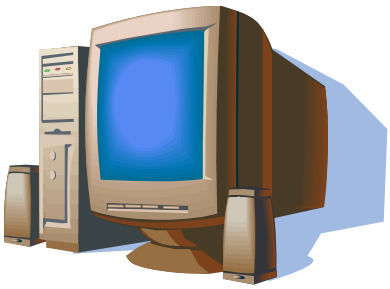
10. ***Good human relations***: sharing of information, ideas and feelings happen most easily between people who have a good relationship. This goes hand in hand with developing communication skills.

11. ***Feedback:*** for effective communication feedback is very important.

12. ***Leaders:*** psychologists have shown and established that we learn best from the people whom we have regard and respect in the community e.g the village headman, school teacher or political worker.

Audio Visual Aids

This is when you use models, pictures and others to help the learner visualize the message being sent. This serves a smaller audience like in a classroom, in a ward or work place. It is also intended to supplement and re-enforce other educational methods like lectures, group discussion and role play.



Things to note when using audio-visual Aids

- Audio visual aids should suit the teaching objective and should have unique characteristics of a special group of learners taking into consideration age and educational levels.
- Audio Visual aids should have Specific educational value and stimulate interest and motivation in the learners to gain knowledge from the IEC session in line with the set objectives.
- The nature of subject matter being taught needs to suit the audio visual aids. The other factors to be considered are the socio-economic status, interest of the audience, experience, intelligent levels and experience.
- The presenter's familiarity with originality and skill in selection, preparation and use of it is very important.
- The availability, function or working condition of audio visual aids and Knowledge of resources and availability of facilities is another factor influencing selection.

Self-test question

The presenter's familiarity with originality and skill in selection and use of a particular audio-visual aid is very important.

a. True

b. False

Audio- Visual Aids help to:

Before proceeding attempt in text question 7.1

In text question 7.1

What are the benefits of using visual aids in teaching or facilitation?

Good responses.

Now compare your responses with the following

- Simplify unfamiliar concepts.
- Bring about understanding where words fail
- Reinforce learning by appealing to more than one sense.
- Provide a dynamic way of avoiding monotony.
- Teaching aids makes it easier for the educator to relate to everyday activities.
- They improve concentration when various methods are used
- It relates theory to practice
- It enhances retrieval of information that has been taught, what you hear you forget, what you see you remember, what you do you know

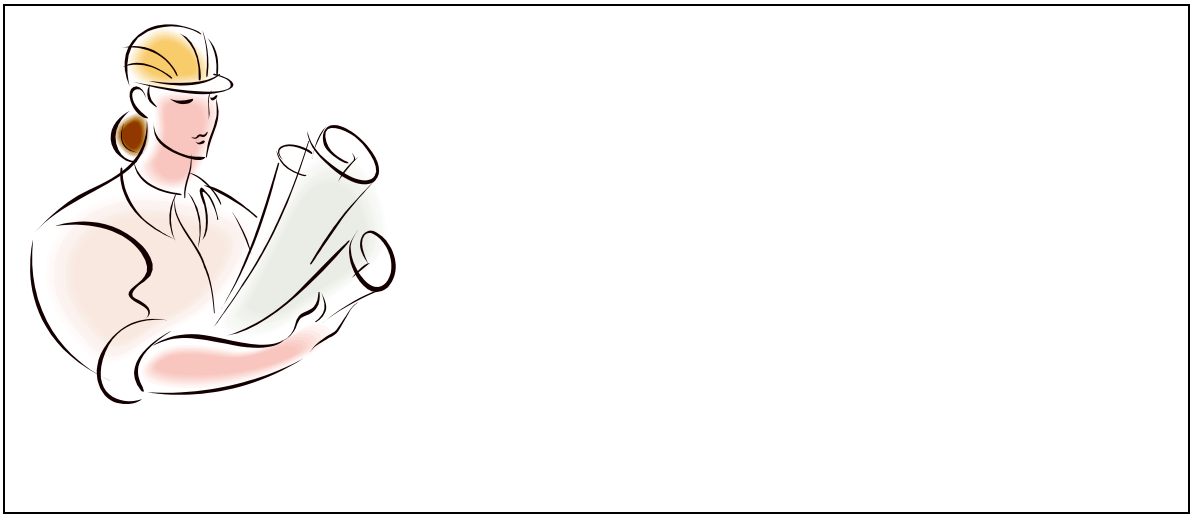
Take Note 7.1

The right visual aids must be used when giving IEC to ensure effective information delivery.

Lesson Planning

DEFINITION

A lesson plan is a written description of what will be done in a teaching and learning situation to achieve the purpose of the session



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Puposes Of A Lesson Plan

- Lesson presentation is organised and systematic
- Time required for the session is identified and made available
- All resources required are identified and made available.
- Appropriate teaching/learning methods and materials are selected.
- Lesson is intergrated within the content of the whole course.

Componets Of A Lesson Plan

There are diferent formats of organising a lesson plan. However, o matter what format is used the lesson plan for teaching session defines the following:-

Topic: the subject matter to be discussed

Objective: indication of what the participants will receive

Target group: know the level of your audience

Facilitstor: person conducting the lesson plan.

Content: the learning experiences that the participants should have to achieve the stated objectives.

Teaching methods: techniques you are going to use to deliver the subject matter.

Venue: where the lesson will be conducted from

Duration: how long it will take to present the lesson.

Time: time of presentation.

Teaching or learning materials/aids: items that are used to facilitate improvements of teaching and promote learning.

Introduction: A brief discussion of what is to be presented by the facilitator

Evaluation: to find out/assess how much the learnes know or have assimilated.

Summary: reinforcement of key elements relevant to the topics.

Conclusion: brief or opinion which is as a result of reasoning or make final decisions for something/lesson.

Refernces: materials/books used on the subject matter for the lesson.

Table 4: Sample Lesson Plan

Specific Objective	Content	Teaching Aids	Teacher's Activity	learners Activity	Evaluation

Utilisation Of Learning Opportunities

Several tasks have to be accomplished in planning a health education/utilisation of learning opportunities, which include:-

1. Establishing priorities for health education
2. Identifying goals and the level of prevention involved.
3. Developing and classifying objectives
4. Selecting content and teaching strategies
5. Reviewing or developing educational materials
6. Planning evaluation

Priority Learning Needs

A client may exhibit several unrelated learning needs. Because clients can assimilate only a certain amount of information at a time, the nurse and client need to decide which learning needs should be addressed first. Other needs can be addressed later.

Identifying Goals And Levels Of Prevention

- ***Aim*:** denote direction to be followed.
    - ***Goal*:** describe the actual destination.
    - **Goals:** (vision) involve specifying the broad purpose of the lesson e.g. the goals of a presentation on AIDs, might be a broaden learners' understanding of AIDs and decrease fears of the disease.

    Identifying Goals for an educational encounter also enables the community health nurse to identify the level of prevention to be addressed e.g. the goal of reducing the incidence of HIV infection.

Developing And Classifying Objectives

A. Developing Learning Objectives

Learning objectives are statements of specific behaviours expected in the health education encounter. There are two types or objectives: -

General Objective

It is a general description of the qualifications that a student can acquire with the aid of the study unit, (Horst & Martens, 2013)**.** This is an overall aim or goal. It states the end product or outcome of the learning/training experiences e.g. if the client is lacking knowledge on the importance of family planning the general objective will be: - To equip participants /clients with knowledge on the importance of family planning.

Specific Objectives

These are also called instructional objectives. They describe behaviour that constitutes learning. These are much smaller components or precise tasks that are part of the activities to be performed e.g. some specific objectives on the importance of family planning would be: -

- Define family planning.
- State the methods of family planning used.
- Mention advantages /disadvantages of family planning.

Characteristics of a well stated specific objective

- **Relevant:** it should relate to the aims of the training that are primarily based on the professional functions the health service provider will perform. They are derived from the health needs of the production.

- **Specific:** Describe the exact action that is expected from the learning experience. Use verbs such as list, mention, state, define, identify, describe, outline. Do not use loaded words like; know, understand, appreciate, discuss. These are used in general objectives because they need to be defined further into components to indicate what they exactly mean.
- *Feasible*: something that can be done and achieved.
- *Observable*: something that can be observed otherwise it will be impossible to measure.
- *Measurable*: can be measured by some criterion.

Self-test question

The characteristic of a well stated specific objective includes, Specific, measurable, feasible, relevant and observable.

a. True

b. False

Classifying Objectives

Most aspects of learning involve a combination of behaviour change. A learning domain reflects the type of a learning desired as a result of the health education encounter. The four domains (fields) of learning are:

i. **Cognitive domain**: encompasses intellectual skills related to factual information and its application 9intellectual skills) e.g. knowledge of Anatomy and Physiology of the female reproductive system for insertion of Intra Uterine Devise (IUD).

ii. **Affective domain**: the focus of learning is on attitude and values. This is simply about everything concerning attitude and interpersonal relationship between client and service provider e.g.reception given to the client, empathy, observation of human rights during the procedure e.t.c., the service provider is able to internalise feelings in connection to the procedure.

iii. *Psychomotor domain*: the emphasis is on the learning and physical manipulative skills. It relates to the activities undertaken physically to perform a function e.g skill of performing an IUD.

iv. *Perceptual Domain*: the emphasis is on learning to perceive and extract information from stimuli.

Selecting Content And Teaching Strategy

A. Selecting and sequencing content

- Select the content that is most appropriate and relevant to clients' needs and that is likely to result in accomplishing the stated learning objectives
- Organize content in logical sequence from simple to complex or from familiar to less familiar.

B. Selecting teaching technique

- Depends on characteristics of clients, type of learning tasks, content involved, and availability of resources to implement strategies.
- Teaching strategies should be appropriate to the age, developmental level and educational level of audience
- Strategies should address content to be presented and interest of the audience
- Consider learner's preferred mode of learning e.g. visually, discussion, role play, drama.

Reviewing Or Developing Educational Material

Materials used should be appropriate to the audience and content in terms of age group, adolescents, youths, adults. Example if projecting information, audience must have a clear view of the information. If demonstrating all must have clear vision of what is being demonstrated.

Consider the type of setting e.g. whether there is electricity for equipment that requires electricity or other alternatives may be used.

Planning Evaluation

Evaluation is a systematic continuous process of collecting, analyzing and interpreting information to determine the extent to which the participants are receiving instructional (specific) objectives, quality of teaching effectiveness of the programme.

Types of evaluation

There are two types namely: -

Formative evaluation: is continuous evaluation during the session. It involves the effects of the presentation as it is given. It includes determining whether clients understand what is being presented and whether the presentation maintains their interest. It also reflects the quality of presentation.

Summative evaluation: comes at the end of the session. It is designed to determine the extent to which the instructional (specific) objectives have been achieved.

Purposes of evaluation

- Provides feedback to clients and make them aware of the parts learnt and those that are not understood.

- Monitor progress so as to identify specific difficulties of individuals and suggest remedial measures.
- Measures effectiveness of teaching.
- Motivate participant/client and the health education provider to increase effort to succeed in meeting intended objectives.
- Maintain standards.

Points To Remember When Presenting To The Audience

1. Introduction

This may be done using different approaches that help stimulate interest and curiosity about the subject such as: -

- Telling a story
- Explaining problems which the lesson may solve
- An experience related to the lesson
- Asking questions

2. As you present do the following:

- Follow your plan according to the planned steps in order to present in an orderly and systematic way without missing any important points.
- Voice should be clear and audible, avoid monotone which will put the audience to sleep.
- Key – points should be repeated to stress important points to help audience to remember.
- Maintain eye contact with audience. This enables you to: -
  - Observe non-verbal reactions
  - Get feedback on how well the participants understand the points and any loss of attention to the presentation. This may be corrected by: -
- Slowing down the speed of presentation and a sense of humour.
- Will be useful to use “ice breakers” to draw back the audience’s attention.
- Encourage audience participation e.g. use of quiz, questions, buzz groups (group talking) and allowing audience to ask questions.
- Summarize your topic – different strategies can be used e.g. presenter or one of the participants and through questioning and feedback on responses.

- End the presentation within allocated time – have a clear understanding of the educational background. Use simple language and avoid jargon and slang to enable all participants understand.

Self digest

Can the appearance i.e. dressing, of the presenter affect effective delivery of I.E.C.? What is your opinion on this matter?

7.8 Summary

We have looked at the definition of key terms like learning and teaching. We discussed the principles of IEC among which are clarity of objectives, client centeredness, emphasis is on positive behaviour change etc. We looked on communication purposes and barriers; the purpose is to share information and ideas while barriers include physical, psychological social barriers just to mention a few. We also discussed various methods and techniques involved in delivering the message such as type of audience and appropriate teaching methods e.g discussion role play etc. We discussed designing, preparation and selection of teaching Aids and looked at a lesson plan preparation which emphasised on clarity of objectives. We also discussed some of the principles of teaching and learning so as to make IEC effective. I hope this knowledge you have achieved will help you provide good and effective IEC to your clients.

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UNIT 8: EPIDEMIOLOGY

8.1 Introduction

The previous unit we looked at the basics of public health nursing which helped us have a better understanding on what public health nursing is and the different areas that it may cover. This second part covers the wider scope of public health nursing. Welcome to this topic of epidemiology. You will be expected to participate actively as we will look at different concepts that relate to epidemiology. To begin with we will look at the definition of terms and then progress further.

Specific Course Objectives

At the end of this unit you should be able to discuss epidemiology

8.2 Unit Objectives

At the end of this unit you should be able to:

8.1 Define key terms

8.2 Describe the scope of epidemiology

8.3 Discuss the approaches to epidemiology studies

8.4 Explain the modes of transmission of diseases

8.5 Discuss the determinants of disease

8.6 Describe epidemiology and health expenditure

8.3 Definition of terms

Epidemiology – It is the study of distribution and determinants of health related states or events in specified populations, and the application of this study to control of health problems, causes and control of community health problems (Porta, 2008).

It is an applied science which is basic to the study of community health needs and problems.

Statistics – The science dealing with the collection, presentation, analysis and interpretation of facts.
Data – Pieces of information usually collected for a specific purpose.

Communicable diseases – are those diseases spread by direct contact with an infectious agent.

Determinants of health- These are those factors, exposures, characteristics, behaviours and contexts that determine (or influence) the patterns, (Stanhope& Lancaster, 2004)

Incidence rate – the number of new cases of diseases arising in a population during a certain time

Prevalence rate – refers to the number of persons with disease which is present in a population. (Includes old and new cases).

8.4 Scope of epidemiology

Epidemiology is a scientific discipline which has developed over years and has become a necessity in the field of health care for effective disease prevention and control. It is a common say that “disease

prevention is better (cheaper) than cure". That saying simply describes the role of epidemiology in our day to day life.

We have seen that epidemiology is the study of disease/conditions distribution and determinants. As a science it utilises rational study methods in identifying the distribution patterns and determinants of diseases. From the studies recommendations are generated on how well to:

- Plan for disease prevention and control;
- Predict the disease patterns for effective prevention and control;
- Mobilise resources for effective prevention and control;
- Evaluate programmes for disease prevention and control;
- Develop evidence based and practical policies for effective disease prevention and control;
- Develop a data base for further studies in epidemiology of diseases and conditions

Self-test question

The pieces of information usually collected for specific purpose is called

a) Statistics

b) Data analysis

c) Data

d) Data process

The figure below illustrates the scope of epidemiology in simple terms.

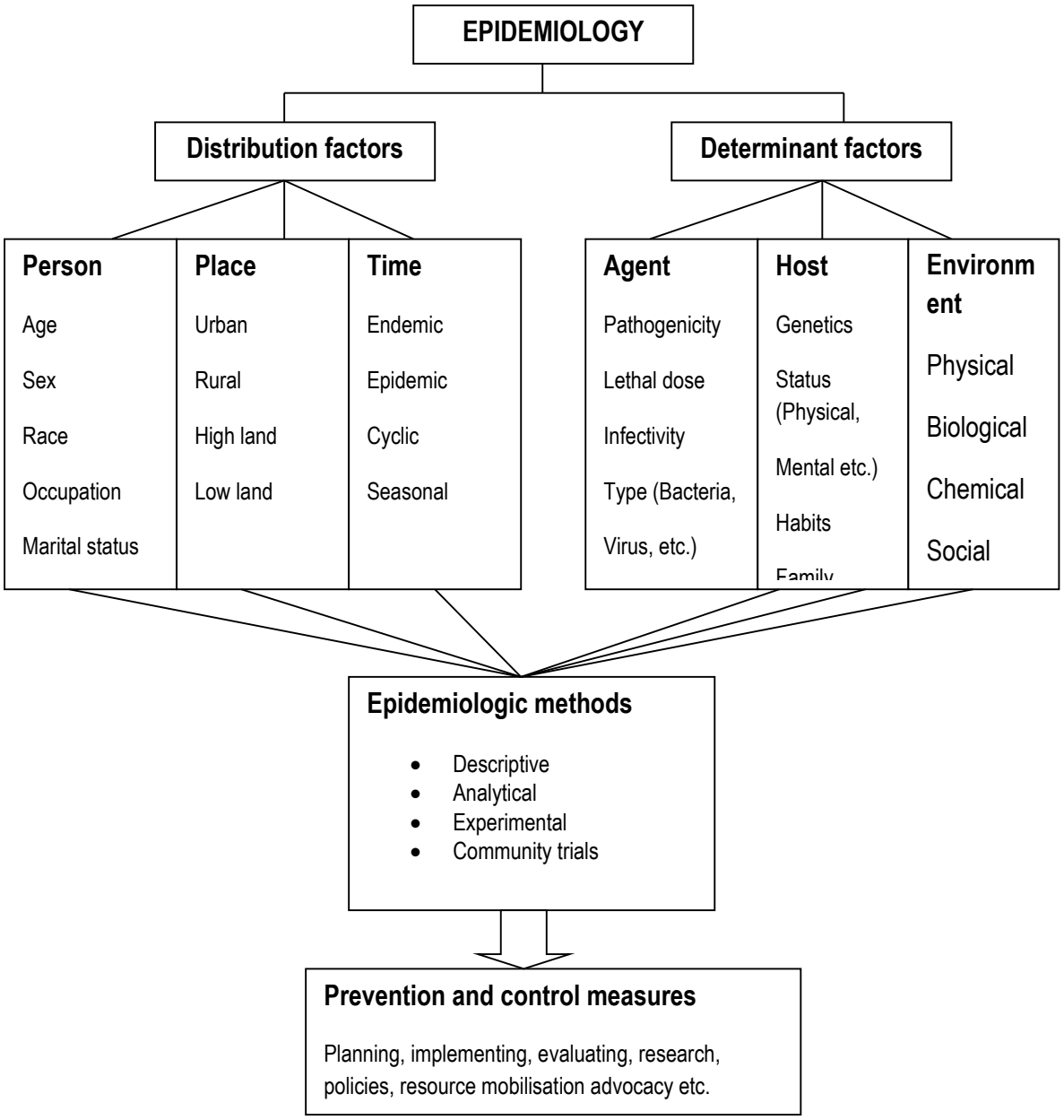


Figure 19: The scope of epidemiology

8.5 Approaches to Epidemiology Studies

Epidemiological Methods

Let us now learn more about epidemiology by discussing epidemiological methods. Epidemiological methods are the various approaches in which data is gathered, analyzed and reports written with regard to various diseases distribution and determinants. They enable us to plan and evaluate disease management in communities.

There are several methods which are classified as follows:

- Descriptive methods e.g. Individual based (case study and case series) and population based (correlation studies, cross sectionals studies and surveys);
- Analytical studies e.g. prospective (cohort studies) and retrospective (case control);
- Experimental studies;
- Community based studies e.g. community trials.

Let us briefly look at each in turn.

- **Descriptive Studies**

These are basic studies that seek to describe the situation as it is. These methods utilize simple descriptive statistics such as percentage tables and graphs to describe the disease situation. These studies generate hypothesis.

i. Individual based studies; they reflect on single individuals as the unit of study

- Case report – a single unique case is reported as it is identified by the health worker.

  Case series- several case reports that have similar characteristics are analyzed so as to draw conclusions in relation to the particular disease of interest. ***ii. Population based studies***

  Surveys – are conducted over a short duration of time with specific objectives. They are more of fact-finding studies in a bid to rapidly draw conclusion with regard to illnesses or conditions affecting entire population.

  Cross sectional studies- these are studies carried out across a huge population sample over a very short duration of time. The methodology and analysis is more advanced than that of surveys.

  Correlation studies- these studies seek to compare one variable or characteristic of a population with one or more others. For example, a comparison between smoking and lung disease or immunization coverage and measles outbreaks. One may also compare worm infestation against use of latrines, amount of house hold water, maternal literacy etc.

- **Analytical studies**

These studies are more advanced in methodology and analysis and their findings are more generalizable as compared to descriptive studies. While descriptive studies generate hypothesis these ones test hypothesis**.**

- **Prospective studies (Cohort studies)**

These studies start with individuals with an exposure of interest (cohorts) and who are followed up over time. They are then compared with individuals who do not have the exposure of interest. Analysis is then done to find out if those who had exposure will develop the outcome of interest more that those without exposure.

For Example

People working in farms (exposed to zoonotic disease) are followed up over time to establish if they will manifest the zoonotic diseases. Simultaneously a similar group of individuals who do not work in the farms are followed up to establish if they develop zoonotic disease.

- **Retrospective (case control studies)**

These studies are easier to conduct, consume less time and are cheaper than the cohort studies. Two groups are selected from a population one group with the disease of interest (case) and another without (control). Then they are asked about their past in order to establish if they had a common exposure that might have caused the disease. These studies are however prone to recall biases.

For Example

In a community, people who have amoebiasis may be asked about their food (sources, preparation, storage and consumption). Another group from the same community who do not suffer from amoebiasis is asked the same questions and then the data is analyzed.

- **Experimental studies**

These are studies conducted in a controlled environment where the researcher has control over all variables. It is a laboratory set-up kind of study. They are very useful in isolation of the actual disease causative agent. They are very strict and also very expensive. They require highly specialized personnel and equipment.

- **Community trials**

These are studies involving the entire community. *For Example*

In one community water may be fluoridated while in the other it may not. The two are followed up and with time if those taking water that is not fluoridated start complaining of teeth problem then the effects of fluoride are confirmed.

Self-test questions The type of epidemiological study which looks at past information to arrive at conclusion is referred to as a) Prospective studies b) Retrospective studies c) Analytical studies d) Experimental studies

Importance Of Epidemiology In Communicable Diseases Control

Epidemiology is important in communicable diseases control because it:

- enables us to know the disease distribution patterns;
- enables us to know the disease causation factors;
- equips us with data that we can apply for effective prevention and control of diseases
- enables us to understand the disease progression and what measures need to be taken to halt or reduces disease effects;
- enables us to evaluate intervention programs;
- enables us to conduct research with regard to communicable diseases and how they affect populations.
- Enables us develop the rationale for a preventive or therapeutic community health programme.

Table 5: Main Types of Epidemiological Studies

Type of study	Characteristics
Experimental Studies	preventions and treatments for diseases; investigator actively manipulates which groups receive the agent under study.
Observational Studies	causes, preventions, and treatments for diseases; Investigator passively observes as nature takes its course.
Cohort	Typically examines multiple health effects of an exposure; subjects are defined according to their exposure levels and followed for disease occurrence.
Case–control	Typically examines multiple exposures in relation to a disease; subjects are defined as cases and controls, and exposure histories are compared.
Cross-sectional	Examines relationship between exposure and disease prevalence in a defined population at a single point in time.
Ecological	Examines relationship between exposure and disease with population-level rather than individual-level data.

Disease Distribution Factors

Disease distribution is considered in terms of Persons, time and place (Who, when and where).

Persons: that is, who are affected by disease in terms of age, sex, race, occupation etc. What are the common characteristics relating to those persons affected by disease.

Time: relates to when the diseases is most likely to strike e.g. is it an epidemic, endemic, seasonal, cyclic, etc.

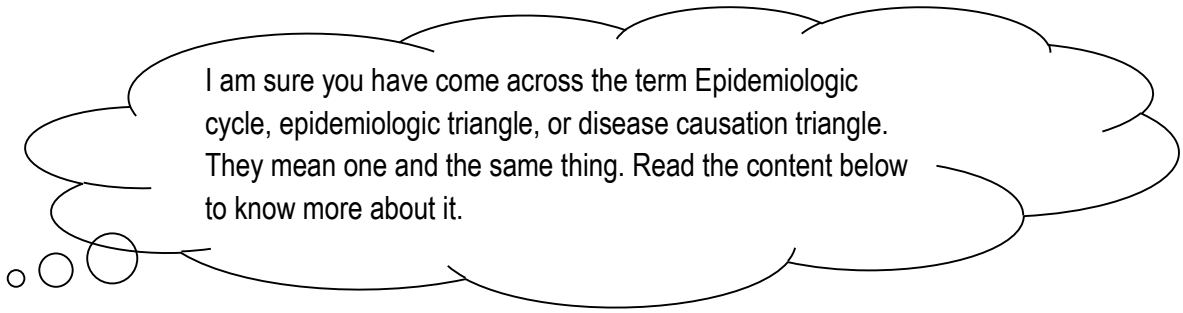
Place: refers to the geographical distribution of diseases and the common characteristics that are favourable for those diseases in the given locality. Some diseases are localized, regional, pandemic, etc.

8.6 Determinant of Disease Factors

A disease is determined by three main factors. These are the agent, host and environment.

- ***Agent:*** refers to the disease causing organism and its characteristics, e.g. habitation, breeding, migration, infectivity, climatic and environmental factors favouring its existence.
- ***Host:*** refers to the biological makeup of the individuals that make them vulnerable to the specified illness e.g. physical condition, genetic makeup, habits etc.
- ***Environment:*** refers to the ecological conditions that favour the interaction of the host and agent e.g. swampy areas, bushes within households, sanitation etc.

The Epidemiologic Cycle



The epidemiologic cycle is a diagrammatic illustration of the interaction between disease determinant factors

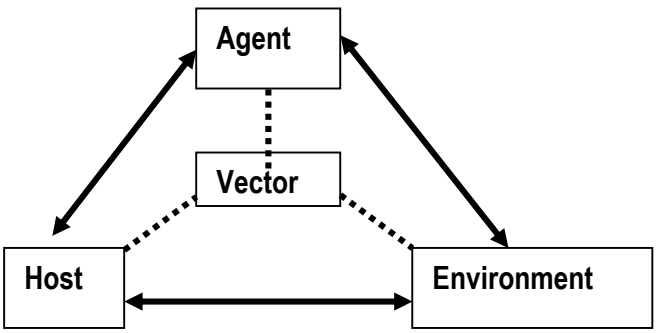


Figure 20: Disease causation cycle

The host, agent and environmental factors have to be conducive for a disease to occur. All communicable diseases require that the three factors are present for individuals to be affected.

A vector is a vehicle that some agents or disease causing organism require to be moved from one point to the other. Sometimes they also require it to complete their developmental cycle, e.g., a mosquito in transmission of malaria. Not all communicable diseases require a vector for transmission.

Once you know the causation cycle of any disease, it is very easy to prevent and control it. Table 1 below uses the case of malaria to show the different ways that one can interrupt the transmission cycle and achieve prevention and control.

Table 6: Interrupting the route of transmission for malaria.

Transmission Route	Prevention or Control Measure
Between host and environment	Clearing swampy areas, bushes and proper disposal of waste
between the host and agent	Prescribing prophylactic anti-malaria drugs
Between the environment and the agent	Spraying the breeding sites for mosquitoes
Between the vector and host	Sleep under the mosquito net.

8.7 Disease Transmission

You will find that as you learn other topics like microbiology, fundamentals of nursing, medicine and surgery, you will come across this topic concerning disease transmission. This topic is wide. However, here we will take a different approach as discussed below.

The disease transmission process has three components. These are:

- Source;
- Transmission route and ;
- Susceptible host.

Source: is the origin of the disease causing organism. This could be an infected person, animal, place or object.

Transmission route: the main routes of transmission are:

- *Direct contact,* through direct physical contact between body surfaces of the infected individual and susceptible host, for example Chlamydia, through sexual contact. It can also occur through contact with infected animals or their infected products, for example Ebola.
- *Indirect contact*; through contact with contaminated objects (fomites),for example Ebola
- Vector borne; transmission by insect or animal vectors, for example the anopheles mosquito transmits malaria, tsetse fly transmits trypanosomiasis.
- Faecal-oral (ingesting contaminated food and water); for example cholera, dysentery and typhoid.
- Airborne; transmission via aerosols or airborne particles that contain organisms in droplets or dust, for example Tuberculosis, measles and chicken pox.
- Transplacental (mother to foetus); transmission of infecting organisms from the infected mother to her unborn baby via the placenta, for example HIV and syphilis.
- Blood contact ;Inoculation of infecting microorganisms through blood transfusion with infected blood, or through surgery, injections, needle stick injuries, body piercings or scarification with contaminated sharp instruments, for example HIV and hepatitis B (AFMC, 2014).

Self-test question

Diseases that spread by direct contact with an infectious agent are called

a) Endemic diseases

b) Epidemic diseases

c) Non-communicable diseases

d) Communicable diseases

8.8 Epidemiology and Health Expenditure

Society needs to at least consider the best alternative use of its limited resources. In many cases, such a comparison will support allocation toward health services or public health initiatives. Existing

epidemiological conditions, social aspirations, the technical and allocative efficacy of health inputs, existing prices, and alternative social uses of funds all play a role determining the right amount of spending. Consider the following;

- What health problem do you face?
- What health status do you aspire to?
- How effective are your health services, activities and polices?
- What are the prices of inputs?
- Are there better uses of funds?

8.9 Unit Summary

You have just finished discussing epidemiology and its scope. We defined epidemiology as the study of disease and it's determinants in a particular population for the purpose of maintaining good health in the community. We discussed approaches to epidemiology that the study can either be observational or interventional study depending on the nature of study. We looked at the epidemiological triangle as determinant of diseases and how diseases are transmitted to man. We also looked at the importance of epidemiology in nursing that it is helping us in discovery of new diseases and management of such new diseases. It is important to note that the host, agent and environment play major roles in determining disease process.

8.10 References

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UNIT: 9 EMERGENCIES AND DISASTER PREPAREDNESS

9.1 Unit Introduction

In today's lesson we are going to discuss emergencies and disaster preparedness. As you know you do not expect emergencies and disasters but they happen and they are inevitable.You therefore need to know how to prevent and manage them. This can be feasible when the principles of emergencies and disaster management plan are known and there is multi-sectoral collaboration.

Emergencies and disasters do not only affect health and wellbeing of people, frequently large number of people are displaced, killed or injured or subjected to greater risks of epidemics. Considerable economic harm is also common. Disaster cause great harm to existing infrastructure and threaten the future of substance development.

I would therefore encourage you to pay attention as you read through this unit:

9.2 Unit Objectives

By the end of the lesson you should be able to:

1. Define terms used in emergency and disaster preparedness.
2. Outline the principles of emergency and disaster management.
3. Outline types of emergencies and disasters.
4. Explain the disaster management plan at national, province and district levels.
5. Describe the facility partnerships in emergencies and disaster management.

9.3 Definition of key Terms used in emergency and disaster preparedness

Emergency – is an incident that is immediately threatening to life, health, property or environment or an incident that has already caused loss of life, health detriments, property damage or environmental damage or it is an incident that has a high probability of escalating to cause immediate damage to life, health, property or environment.

Disaster- Is an occurrence, either natural or man-made, that causes human suffering and creates human needs that victims cannot alleviate without assistance (Marcia Stanhope et al, 2000).

OR

Disaster- It is any occurrence that causes damage, ecological disruption, loss of human life or deterioration of health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community area (K. Park, 2007).

Hazard- Any phenomenon that has potential to cause disruption or damage to people and their environment (Park, 2007).

Self-test Question

A disaster is an occurrence that causes human suffering and victims cannot alleviate it without assistance.

a. True

b. False

9.4 Principles Of Emergency And Disaster Management

1. **Disaster management is the responsibility of all spheres of government.**

No single service or department in itself has the capability to achieve comprehensive disaster management. Each affected service or department must have a disaster management plan which is coordinated through the disaster management advisory forum.

2. **Disaster management should use resources that exist for a day-to-day purpose.**

There are limited resources available specifically for disasters, and it would be neither cost effective nor practical to have large holdings of dedicated disaster resources.

However, municipalities must ensure that there is a minimum budget allocation to enable appropriate response to incidents as they arise, and to prepare for and reduce the risk of disaster occurring.

3. **Organizations should function as an extension of their core business.**

Disaster management is about the use of resources in the most effective manner. To achieve this during disasters, organizations should be employed in a manner that reflects their day-to-day role. But it should be done in a coordinated manner across all relevant organizations, so that it is multidisciplinary and multi-agency.

4. **Individuals are responsible for their own safety.**

Individuals need to be aware of the hazards that could affect their community and the counter measures, which include the Municipal Disaster Management Plan, that are in place to deal with them.

5. **Disaster management planning should focus on large-scale events.**

It is easier to scale down a response than it is to scale up if arrangements have been based on incident scale events. If you are well prepared for a major disaster you will be able to respond very well to smaller incidents and emergencies, nevertheless, good multi agency responses to incidents do help in the event of a major disaster.

6. Disaster management planning should recognize the difference between incidents and disasters. Incidents – e.g. fires that occur in informal settlements, floods that occur regularly, still require multi-agency and multi-jurisdictional coordination. The scale of the disaster will indicate when it

is beyond the capacity of the municipality to respond, and when it needs the involvement of other agencies.

7. Disaster management operational arrangements are additional to and do not replace incident management operational arrangements. Single service incident management operational arrangements will need to continue, whenever practical, during disaster operations.

8. Disaster management planning must take account of the type of physical environment and the structure of the population. The physical shape and size of the Municipality and the spread of population must be considered when developing counter disaster plans to ensure that appropriate prevention, preparation, response and recovery mechanisms can be put in place in a timely manner.

9. Disaster management arrangements must recognize the involvement and potential role of non-government agencies. Significant skills and resources needed during disaster operations are controlled by non-government agencies. These agencies must be consulted and included in the planning process.

9.5 Triage

Triage- refers to the evaluation and categorization of the sick or wounded when there are insufficient resources for medical care of everyone at once (Stanhope & Lancaster, 2004)**.**

Historically, triage is believed to have arisen from systems developed for categorization and transporting of wounded soldiers on the battlefield.

It also includes prioritizing of patients according to injury severity and the need for immediate care. It is an essential concept to understand for the management of mass casualties. In most disasters, the severely injured or afflicted die immediately, and the majority or survivors are not critically injured or in need of immediate care. The challenge of triage in this setting is to identify that small minority of critically injured casualties who are salvageable in the face of limited resources. This must be done rapidly and requires an entirely different approach to evaluation and care than is performed in routine medical or surgical practice.

However, in mass casualty situations in which the number of injured overwhelms existing medical resources, triage and triage accuracy become increasingly important. The goal of treatment in this setting must change from the greatest good for each individual to the greatest good for the greatest number. The population as a whole, rather than the individual, must be the focus of management. Triage is effective only to the extent that the triage officers have an understanding of the injuries (i.e., bodily, biologic, chemical, radiation) as well as training in the principles of mass casualty management

in the face of limited resources. Who should serve as a triage officer in any mass casualty event is not as important as the need for this person to have knowledge of triage principles

When triage is used- Triage is used in a number of situations in modern medicine, including:

- (i). In mass casualty situations, triage is used to decide who is most urgently in need of transportation to a hospital for care (generally, those who have a chance of survival but who would die without immediate treatment) and those whose injuries are less severe and must wait for medical care.
- (ii). Triage is also commonly used in crowded emergency rooms and walk-in clinics to determine which patients should be seen and treated immediately.

(iii). Triage may be used to prioritize the use of space or equipment, such as operating rooms, in a crowded medical facility.

In triage the following must be considered;

(i). Save most lives

(ii). Give highest priority to those who have a serious injury/illness, but also have a good probability of survival, and do not require extraordinary resources

(iii) Delay treatment of selected victims

(iv). Sort the victims

(v). No treatment beyond simple life-saving measures

(vi) Work under the Incident Command System and follow the orders of the Incident Commander

(vii) Manage the flow from the scene

Triage Colour Code

Red tags- (Immediate) are used to label those who cannot survive without immediate treatment but who have a chance of survival.

Yellow tags– (Observation) for those who require observation (and if possible later re-triage). Their condition is stable for the moment and, they are not in immediate danger of death. These victims will still need hospital care and would be treated immediately under normal circumstances.

Green tags– (Wait) are reserved for the "walking wounded" who will need medical care at some point, after more critical injuries have been treated.

White tags– (Dismiss) are given to those with minor injuries for whom a doctor's care is not required

[redacted]– (Expectant) are used for the deceased and for those whose injuries are so extensive that they will not be able to survive the care that is available. e.g.are so extensive that they will not be able to survive given the care that is available.

Self-test question

1. When a triage is used in modern medicine special attention is given to those victims labelled black.

a. True

b. False

2. There is no need of displaying colour code of a triage in casualty.

a. True

b. False

TAKE NOTE:

All colour coding should be displayed as protocols and strictly adhered to in order to ensure effective sorting of casualties during an emergency.

9.6 Types Of Emergencies And Disasters

We have just finished discussing the triage. Having seen how we can sort out and manage victims of any emergency, we are now going to look at the different types of emergencies and disasters.

Activity:

Take your note book and list down 8 emergencies or disaster you know.

Good try!

Now let us discuss the emergencies and disasters as follows:-

- Road Traffic accident- it is a transportation accident in which a motor vehicle collides with another vehicle, pedestrian or debris resulting in personal injury, death or damage to property.

- Drug poisoning- toxic effects caused by an administered drug usually due to overdose administration of the drug resulting in an alteration of the body's normal function or even death.
- Organic poisoning-toxicity resulting from exposure to chemical substances containing organo-phosphates, or other heavy metals such as mercury, arsenic etc.
- Bombing-an attack on an area using an explosive device (bomb) which detonates and produces large amounts of heat resulting in personal injury and death.
- Floods-an overflow of water onto dry land coming from a water source such as a river.
- Fires (inferno) - refers to uncontrolled burning of buildings or forests resulting in structural damage and personal injury or death.
- Earth quakes- Violent shaking of the earth's crust due to sudden release of tectonic stress along a fault line which may result in damage to buildings and death as a result of people being crushed from falling objects.
- Falls- injuries resulting from an individual falling from a height resulting in massive body injuries or death.
- Gunshot wounds- these are injuries resulting from fire arms.

Self-test question Earthquakes and falls are the same.

a. True

b. False

9.7 The Disaster Management Plan At National, Province And District Levels.

We know that no country likes disasters. However, disasters occur when we least expect them. Therefore, we are now going to discuss the disaster management plan at different levels.

There is a disaster management plan at:

- National level.
- Provincial level.
- District level.

At all these levels there should be:

- Policy

- Disaster management team.
- Resources. i.e. manpower, equipment, supplies, transport, space and money
- Only the President of the country declares an event a national disaster after receiving advice, information and recommendation from the National Disaster Management committee.
- The Vice-President has the authority and overall responsibility for national disaster management and coordination in Zambia.

Disaster management at National level

(a) Formulation of national disaster management policy;

(b). Directing line Ministries to take up their portfolio responsibilities as they relate to disaster management activities;

(c). Endorsing national plans and regulations;

d. Recommending declarations of national disasters; and

e. Facilitation of the mobilization resources for disaster management activities.

Disaster management at Provincial level

- (i) Preparing and consolidating provincial disaster management plans
- (ii) To act as clearing house for information related to early warning
- (iii) Monitoring the preparation and implementation of district disaster management plans and evaluating their impact
- (iv) Mobilising provincial resources for implementation of mitigation, prevention, preparedness and response activities
- (v) Coordinating provincial level multi-sectoral input in national disaster management plans.
- (vi) Collecting and disseminating information on provincial disaster management issues
- (vii)Promoting and implementing disaster management training at provincial level

Disaster management at District level

- (i) Prepare and update district multi-sectoral disaster preparedness, prevention and mitigation plans for slow and rapid-onset disasters;
- (ii) Act as a clearing house for information related to early warning;
- (iii) Mobilise district resources for disaster management and preparation of budgets;
- (iv) Implement district disaster management training programs;
- *(v) E*nsure the efficient flow of information from the local communities to Provincial level;
- (vi) Participate in risk analysis and vulnerability assessment;
- (vii) Implement public information and public awareness programs in the district;

- (viii) Co-ordinate district disaster management activities;
- *(ix)* Assist the district offices in dealing with disaster management;
- (x) Review and update district disaster plans during times of non-emergency.

Disaster planning is about anticipating the types of disasters that may occur and the effect on communities. It is about drawing on the wisdom of the community and experts to develop ways to prevent, prepare for, respond to and recover from those disasters. Disaster management planning is a collective responsibility. Governments, communities and private sector need to work together so that knowledge, resources and effort are used to minimize the effects of disaster on communities, the economy and the environment.

Disaster Management Plan/Cycle-

There are four fundamental aspects of disaster management and how it can be done These are;

- (i) Disaster mitigation (alleviation) Disaster planning (preparedness)
- (iii) Disaster response
- (iv) Disaster recovery

Mitigation phase

This phase involves taking steps to ensure no re-occurrence is possible, or putting additional plans in place to ensure less damage is done. This should feedback in to the preparedness stage, with updated plans in place to deal with future emergencies, thus completing the circle.

Disaster preparedness- The planning phase starts at preparedness, where the agencies decide on how they will respond to a given incident or set of circumstances. This should ideally include lines of command and control, and division of activities between agencies. This avoids potentially negative situations such as three separate agencies all starting an official rest centre for victims of a disaster. In this phase resources are identified that may be used when a disaster strikes.

In this phase the organization should ensure that;

(1). It has complied with the preventive measures.

(2). It is in a state of readiness to contain the effects of a forecasted disastrous event to minimize loss of life, injury, and damage to property.

(3). It can provide rescue, relief, rehabilitation, and other services in the aftermath of the disaster, and

(4). It has the capability and resources to continue to sustain its essential functions without being overwhelmed by the demand placed on them. Preparedness for the first and immediate response is called emergency preparedness.

Disaster Response- Following an emergency occurring, the agencies then move to a response phase, where they execute their plans, and may end up improvising some areas of their response (due to gaps in the planning phase, which are inevitable due to the individual nature of most incidents). This is a phase of the disaster management cycle. Its preceding cycles aim to reduce the need for a disaster response, or to avoid it altogether. The response phase includes the mobilization of the necessary emergency services and first responders in the disaster area. This is likely to include a first wave of core emergency services, such as fire-fighters, police and ambulance crews.

A well-rehearsed emergency plan developed as part of the preparedness phase enables efficient coordination of rescue. Where required, search and rescue efforts commence at an early stage.

Organizational response to any significant disaster, natural or terrorist-borne is based on existing emergency management organizational systems and processes. There is a need for both discipline (structure, doctrine, process) and agility (creativity, improvisation, adaptability) in responding to a disaster. There is also the need to put on-board and build an effective leadership team quickly to coordinate and manage efforts as they grow beyond first responders. The leader and team must formulate and implement a disciplined, rescue interactive set of response plans, allowing initial coordinated responses that are vaguely right, adapting to new information and changes in circumstances as they arise. Where required, search and rescue efforts commence at an early stage.

Recovery phase

Agencies may then be involved in recovery following the incident, where they assist in the clear up from the incident, or help the people involved overcome their mental trauma

Disaster Preparedness Plan Format

1. (i) Identification of known and potential hazards within the geographical area of responsibility.
2. (ii) Identify populations and assets that may be affected by a specific hazard.
3. (iii) Identify District Management Committee members and define their roles.
4. (iv) Identify suitable Safe Havens and Relocation Points and how to reach them during an emergency situation.
5. (v) Identify Emergency Communications available and accessible to the District Management Committee.
6. (vi) Establish a Crisis Coordination Centre.
7. (vii) Establish an early warning system.

8. (viii) Determine and stockpile emergency supplies.
9. (ix) Establish a Zone Warden System and demarcate the Zones on a map.
10. (x) Identify relevant skilled manpower in field of disaster management

9.8 Collaboration other agencies in disaster and emergency management

The partnerships in management of emergencies and disasters may include the following:

- **Non-Governmental Organizations**- Their responsibilities is complement Government efforts by mobilising resources during a disaster
- **Red cross-** To mobilise drug supplies during a disaster

Food Reserve Agency- To make food available in case of a disaster

Community based organisation- To identify known and potential hazards within the geographical area of responsibility.

- **Donor community**- Complement government efforts in the mobilisation of resources and coordination of disaster relief programs during pre-disaster, disaster and post disaster phases.
- **Churches** - give spiritual support as well as mobilising resources.
- **Emergency response unit**- To help with planning

Others may include Defence forces e.g. Zambia Police, air forces, ZNS, Individual stake holders and Health workers

Self-test question

Collaboration with other agencies in disaster and emergency management is key to effective outcome.

a. True

b. False

9.9 Unit Summary

We have discussed disaster and emergency management and defined emergency as unexpected happening while as a disaster is unexpected, devastating event requiring assistance. Disaster Management regime is anchored on shared responsibilities among various stakeholders coordinated by the Government through the Disaster Management and Mitigation Unit in the Office of the Vice President. Disaster Management Plan establish policies and procedures which will assure maximum and efficient utilization of all resources, minimize the loss of life and/or injury to the population, and protect and conserve resources during large-scale emergencies considered to be of disaster magnitude. Phases of emergencies and disaster management and preparedness which are mitigation, preparation, response and recovery must be known by all personnel so that disaster is prevented and managed.

In this unit we covered principles of disaster management, triage, types of disasters and emergencies, management of disasters and collaboration with other agencies in disaster and emergency management.

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UNIT 10: PARTNERSHIP FOR HEALTH AND NETWORKING

10.1 Introduction

This unit looks at the different partnerships that exist between the ministry of health and other government departments and non-governmental institutions. Therefore we will be able to integrate the

relationships that exist in implementation of government policies, as we noted in the previous unit when we were looking at emergency preparedness. Hope you will be able to understand better the different roles that these institutions play.

The Ministry of Health (MOH) is responsible for policy guidance and strategic planning. It aims at providing cost effective and quality health care as close to the family as possible. It has the responsibility of resource mobilization for the health sector, through local and international co-operating partners. It also collaborates with other sectors to provide quality health services.

10.2 Unit Objectives

At the end of this unit you should be able to:

1. .1 Discuss Partnerships for health and networking
2. 3.2 Explain advocacy
3. 3.3 Discuss communication, including client provider interaction
4. 3.4 Discuss social mobilization
5. 3.5 Discuss intersectoral collaboration

10.3 Partnerships for Health And Networking

What are your views on what partnership is? You may note them down and at the end compare with the explanation given in this lesson.'

Partnerships have been defined as a shared commitment, where all partners have a right and an obligation to participate and will be affected equally by the benefits and disadvantages arising from the partnerships, (Carnwell & Carson, 2005).

Partnerships

This is important as it helps in meeting the objectives of the organization; it also helps in increasing involvement in decision making ownership of activities. It also provides opportunities for shared learning, pooling resources and increases for innovation.

There are many partners for healthy and some of these you may come across include;

Supporting Organizations

These include administrative, research and training organizations that provide awareness and knowledge. They also promote and support the interventions that have been planned for action through provision of resources. For example;

- **WHO:** Assists in human resource development, health systems research, malaria control, expanded program for immunization and provision of vaccines and emergency drugs.
- **UNICEF:** Responsible for immunization programs, maternal and child health, nutrition, HIV/AIDS control, PHC strengthening and control of diarrheal diseases.
- **USAID:** Responsible for family planning programs, HIV/AIDS control and child survival programs.
- **DANIDA:** Responsible for quality assurance, district and provincial capacity building and management of information system.
- **JICA:** Assist in the provision of drugs and vehicles to different institutions including ministry of health.
- ***SIDA*:** Provide essential drugs, involved in reproductive health, rehabilitation of rural health centers, family planning and management.
- ***Care International***: Food security, family planning, road maintenance and supply of treated mosquito nets.
- ***World Vision*:** Builds clinics, HIV counseling, training community health workers + TBAs etc. etc.

Self-test question

WHO falls under which category of MOH partners? Select the correct answer

Intermediaries

These provide guidance, support and professional advice. They also provide social and direction. They partner with individual workforce and with the organization as whole. The ones you will commonly identify with this group are insurance companies, professional organizations, Zambia Nurses union organization.

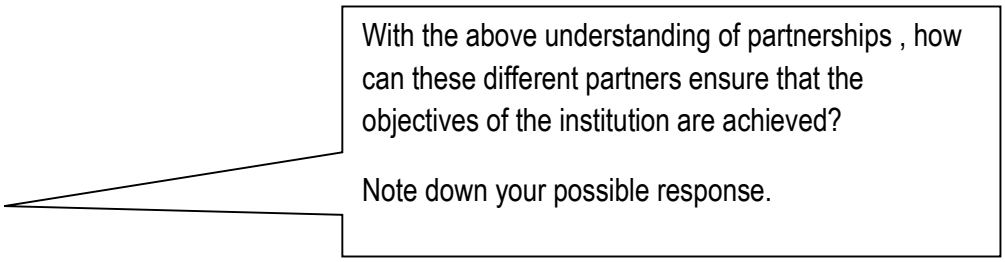
Local Partners

- ***Ministry of Education***: It collaborates with Ministry of Health in dissemination of information to pupils and students. Pupils and students are taught on common health problems and how to prevent them. Teachers are sensitized on health issues through workshops and seminars.
- ***Ministry of Agriculture****:* Teach good farming methods; involve community in nutritional surveillance and food security.
- **Ministry of Information and Broad Casting Services**: Disseminates health information through print media (newspapers) and electronic media such as radio and TV.
- **Ministry of Community and social Development**: Involved in various projects, like caring for the vulnerable, destitute, street kids etc. Social welfare officers are members of the primary health care committees.
- **Ministry of Works and Supply:** Construct health institutions and staff accommodation, sinking bore holes in rural areas.
- **Ministry of Local Government**: Disseminates information or sanitation and also collects garbage and disposes it.

Community Partnerships

This focuses on the individual community and their role in partnerships.

The community is involved in the following manner; dialogue on health problems and also actively participating in the laid down activities in order to achieve the set goals.



Self-test question

Partnership is important as it helps in meeting the objectives of the organization

a. True

b. False

Supporting organizations and intermediaries are the only partners of health

a. True

b. False

Networking

Partnership is achieved through a continuum from networking, coordinating , cooperating and collaborating.

Networking can be defined as exchange of information for mutual benefit. It can also be defined as active involvement and coordination between the institution with the need and partners and maintaining dialogue on community health programs.

Therefore as a team there is need of determining what is needed and who should be involved in order to solve the identified problem. As a public health nurse you also organize information, search through which available option are going to be identified and the right partners to involve . You also ensure that adequate channels of communication are open through meetings and openness to ensure proper discussion of ideas. For example equal involvement of the health Centre, neighbourhood health committee and an NGO.

The Zambian government acknowledges the importance of donor support for the development and funding for the implementation of health reforms and it networks with these partners to enhance support.

Self-test question

Networking is exchanging of information for mutual benefit

a. True

b. False

10.4 Advocacy

This means active support of an idea or cause etc., especially the act of pleading or arguing for something on behalf of some one.

In Health, it is the process of promoting patient's rights of se1f-determination. (Clark, 1999).

It is also taking position on an issue and initiating actions in a deliberate attempt to influence private and public policy decisions,

An advocate is someone who speaks on behalf of those who, for whatever reason, cannot speak for themselves.

The community health nurse plays the role of advocacy at different levels that is at individual level, family and community level. The choice will depend on the magnitude of the issue, the nature of the issue and resources needed to solve the issue.
To the individual the community health nurse explains the needs of a particular person to those who are providing a service that may harm or cannot be attained by the person. The nurse endeavors to protect the rights of the individual through advocacy.

To the family as a nurse you may come in to speak on behalf of the members to resolve difficulties that have occurred. For example a big family is living in a house without windows, the nurse will explain to the owner of the house on the importance of having windows and ensures that they be put.

To the community, the Ministry of Health has a role of advocacy when it mediates for resource mobilization for health projects in health institutions.

Roles of the Community Health Nurse in advocacy

- Determining the need for advocacy and identifying those factors that prevent clients from acting on their behalf.

- The nurse identifies when it will be appropriate to advocate for the particular client.
- The nurse collects facts related to the issue.
- The presents the case to the decision makers
- Prepares clients to be independent.

Self-test questions

Advocacy is one of the roles of community health nurse

a. True

b. False

10.5 Communication, Including Client Provider Interaction

Some approaches that may be used include;

-**Grassroots or bottom up approach: -** This is where the community will identify their needs and the goals they want to achieve. For example community decides to reduce gender based violence activities in their community form centers where battered women can be met and given needed assistance and develop plans on how to stop the vice.

- **Top down approach**, this is when professionals identify the needs of the community and develop goals to achieve them. For example the health Centre staff or a non-government organization identify a problem of outbreaks of diarrhea among children resulting from poor water supply they may advocate for provision of better water sources or means of making the water clean and fit for human consumption.

10.6 Social Mobilization

Social Mobilization is the process of motivating members of the community to actively participate in community health programs. This comprises of assessment, research, action and reflection. Gradually,

this process move to issues of community participation in management of primary health care and communities start accepting ownership and control over the factors affecting their health.

10.7 Intersectoral Collaboration

This is the act of working jointly with other sectors in the provision of health care services. Collaboration include, the willingness to exchange information and altering activities for a common objective. This will involve sharing of responsibility and increasing interaction with those that play a role in achieving a common goal. All the partners also participate in decision making.

In order for collaboration to achieve the desired goals there will be need for health care providers and other partners to set the goals they want to achieve and devise a plan on how to achieve them. There should be mutual respect and collegiality among members.

The role of the public health nurse is communication and joint decision making, (Clark, 1999).

10.8 Unit Summary

We have just finished discussing partnership for health and networking. In this unit we have looked and the significances of working hand in hand with other partners to accomplish health goals. We also looked at advocacy and its' importance in relation to community health nursing. We further discussed communication which included client provider interaction and social mobilization. We discussed that it is important to mobilize both local and international partners in health matters for logistical support.

Finally, we discussed Intersectoral collaboration. I hope you enjoyed the topic.

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UNIT 11: MONITORING AND EVALUATION

11.1 Introduction

At this stage you have learnt many activities that as a community health nurse you will be involved in order to meet the needs of the families and the communities under your care. You have been looking at the partnerships that take place in health. In this unit we are going to discuss how monitoring and evaluation is performed. Most of the concept you learnt in nursing management and now we would want you to relate the information to public health nursing.

Monitoring progress and evaluating results are key functions to improve the performance of those responsible for implementing health services. Monitoring and Evaluation show whether a service/program is accomplishing its goals. It identifies program weaknesses and strengths, areas of the program that need revision, and areas of the program that meet or exceed expectations.

11.2 Objectives

At the end of the session you should be able to:-

1. Discuss quality assurance

2. Explain disease surveillance

Definition of terms

Monitoring is a planned, systematic process of observation that closely follows a course of activities, and compares what is happening with what is expected to happen

It is the systematic collection and analysis of information as a project progresses. It is aimed at improving the efficiency and effectiveness of a project or organisation. It helps to keep the work on track, and can let management know when things are going wrong, (Shapiro,)

Evaluation is a process that assesses an achievement against pre-set criteria.

Has a variety of purposes, and follow distinct methodologies (process, outcome, performance, etc.). Evaluation is the comparison of actual project impacts against the agreed strategic plans. It looks

at what you set out to do, at what you have accomplished, and how you accomplished it. It can be formative that is; taking place during the life of a project or organisation, with the intention of improving the strategy or way of functioning of the project or organisation. It can also be summative that is; drawing lessons from a completed project or an organisation that is no longer functioning.

The Purpose Of Monitoring And Evaluation

INTEXT

Take your notebooks and write down 5 purposes of monitoring and evaluation

Good work! Now let us compare your answers to the ones listed below: -

- To detect variation in the quality of care and put up corrective measures.
- To maintain minimum standards of health care.
- To minimise the risk of error resulting from the complexity of care.
- To ensure patient satisfaction through utilisation of available health resource.
- To help maintain professional competencies in health care.

Push you to reflect on where you are going and how you are getting there11.3 Quality Assurance

Quality assurance – is a pledge to the public by those within the various health disciplines that they will work towards the goal of an optimal achievable degree of excellence in the services provided.

It is the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention, (Wikipedia, 2013).

11.2.1Dimensions of Quality

- Effectiveness
- Efficiency
- Technical performance
- Safety
- Accessibility

- Interpersonal Relations
- Continuity
- Amenities

Effectiveness

Effectiveness is a dimension that relates to the service or intervention itself or 'effect'. Effectiveness could be defined as provision of the right procedure/service at the right time in the right amount. Effectiveness is a dimension that relates to the service or intervention itself or 'effect'. Effectiveness could be defined as provision of the right procedure/service at the right time in the right amount.

Efficiency

Efficiency refers to the way in which a service is being rendered to meet standards. Efficiency is important in the overall quality equation because it affects two critical aspects of any system: the affordability of the services for clients and sustainability of the system that is offering them.

Technical Performance

Technical performance represents the quality of how the service was rendered. This has two aspects to it: the capacity of the resources themselves to meet standards, and the manner in which care is given. Technical performance refers to dependability, accuracy, reliability, and consistency. For technical performance to be present one must have the skills and knowledge to carry out tasks in a consistent and accurate manner.

Safety

Safety as an aspect of the service itself refers to risks or side effects associated with it: for example, blood transfusions, since the advent of AIDS have lost some of the safety inherent in the service itself. However, there are additional safety issues involved in the how the blood transfusion is carried out: aseptic conditions, technique for transfusing blood {speed, entry point for needle}. Safety, as a dimension of quality, means reducing risks of injury, danger, risk, and harm that could come from receiving a service.

Accessibility

Accessibility as a dimension of quality means that barriers to care have been minimized or removed. There are several levels of accessibility: resources, geographical, financial, cultural and organizational. For services to be used, the resources necessary to produce them must be present: a person who can physically get to a health facility that has no drugs to treat his condition does not have access, since the service is not available. Geographical access includes issues of transportation, distance, or other physical barriers. Financial access refers to the affordability of products and services for clients; can they pay them? Cultural access relates to the comfort a client feels using the services relative to his or her cultural context or constraints. Organizational access refers to how convenient the organization of services is for prospective clients: clinic hours, appointment systems, timing of delivery are all examples of how organization services can create barriers to use.

Interpersonal relationships

Interpersonal relations as a dimension of quality, refers to the interaction between providers and clients. For this dimension to be fulfilled, these interactions must be such that they establish trust and credibility, through respect, confidentiality, courtesy, responsiveness, empathy, and listening.

Continuity

Continuity is crucial to the quality of care. It is the ability of the client to receive the complete service that he or she needs from the system all the time, without interruption or cessation. Continuity can be viewed from the position of the client or the system. For a client, continuity would mean access to the appropriate referral when needed, and complete follow up of care. For the system, continuity would mean that services are continually being offered.

Amenities

Amenities refer to features of the service that provides comfort, pleasure, or facilitate use of the service. As a dimension of quality, amenities reflect aspects of the service that are peripheral to its effectiveness but relate to client expectation about other aspects of the service.

Self-test Question

1. Quality assurance works towards a goal of an optimal achievable degree of excellency in the service provided

    a. True

b. False

2. Dimensions of quality include safety, continuity, efficiency and love.

a. True

b. False

Performance Audit

Performance audit is an independent examination of the efficiency and effectiveness of government undertakings, programs or organisations, with due regard to economy, and the aim of leading to improvements.

The three main objectives of conducting an audit is to measure the effectiveness of the activities that are being undertaken, the efficiency of the way the activities are performed and the way economy is considered or the expenditure for the activities. Below is a brief explanation of each activity.

- *Effectiveness* generally involves not just producing some sort of deliverable but doing so in a way that optimises the expenditure of public resources. It considers all applicable regulations and other requirements, processes and reports on financial transactions accurately and manages the human resources.
- *Efficiency* involves ensuring that the products are meeting the required standards with minimum expenditure on the financial resources. The public health nurse ensures that they plan the activities in such a way that they will be of good quality while maintaining the recommended budget. For example when going out for outreach activities the nurse may decide to visit a certain number of clients in a week and has to identify the means of transport that will enable her reach all the planned for areas while using the same amount of fuel planned for.
- *Economy is concerned with costs of input.* For example the places planned to be visited can be reached by a minibus which is cheaper, it would be inappropriate for the nurse to book a taxi costing double the amount for the same visitations.

Compliance with procedures and internal control requirements. As a nurse you need to consider health precaution and requirements as you perform activities. For example when going for outreach the nurse may fail to meet the recommended standards if she/he decides to carry the

vaccines on a bike when its raining even if its cost saving. Therefore both elements have to be taken into consideration before undertaking any activity.

In nursing the nursing audit is an exercise to find out whether good nursing practices are followed

Goals are;

- To improve quality of health care
- Promote improved communication among nurses and other team members
- Improve quality of nursing care
- To detect and analyse problems and errors
- To ensure that nurses are accountable or answerable for the care
- To contribute to research
- For the purpose of reimbursement

Types of Audit

An audit may be retrospective, concurrent or prospective

-**Retrospective Audit**

It will identify the specific nurse who is responsible for clients care at various times when they are within the community and deficiencies in performance or charting will be reported back to the nurse.

-Concurrent Audit

It reviews and evaluates records while the clients are still receiving care. The advantage is providing opportunities for making changes in the ongoing care programme

-**Prospective Audit**

It identifies how future performance will be affected by current interventions. The main focus is on process audit, structure audit and outcome audit.

-**Process Audit**

They are used to measure the process of care and how the care was carried out, and is task oriented and focus on whether or not standards of nursing practice are being met

-**Structure Audit**

The focus is on the relationship between setting, quality care and appropriate structure

-***Outcome Audit***These are end result of care. It determines what results occurred as a result of specific intervention by nurses for clients.

Consumer driven quality

Customer-Driven Approach

Customer driven quality represents a proactive approach to satisfying customer needs that is based on gathering data about our customers/clients to learn their needs and preferences and then providing products and services that satisfy the customer.

It means

- Developing relationships with customers to determine their needs and then fulfilling these needs as best you can.
- Understanding your customer's position both with your health facility and with their own health facility.
- Having reliable information that is effectively communicated to your clients
- Having a source of personnel available to aid your client as needed in your quality process and their quality process

Informing your client as your skills change or your processes change to make the most of your relationship

Asking probing questions and giving thorough answers

As a Community health nurse meeting or exceeding client expectation must be part of the work culture which is followed and practiced by a majority in the organisation. There must be team work and good interaction with one another to bring the best results in meeting the institutional goals. Everyone must be trained to behave diligently and ethically with the client's interest in their mind at all times. But quality

involves attitude. Human behaviour essentially matters. Ensure that everyone understands ad practice good attitude.

There must be strong involvement and support from the management. Managers must lead in the initiative, and constantly remind their subordinates to put the clients first. Motivational and quality focused messages must be conveyed to the workforce in any opportunity that is available, be it at the health facility or within the community for example motivating community based distributors. More importantly perhaps is that the managers must practice what they preach, as the community health nurse you need to give a good example to the other subordinates.

Always focus in the client expectations and professional standards as a guide in providing the service. Identify reasonable valid client expectations and professional standards and focus to improve those areas high priorities opportunities. Always be conscious of client satisfaction and consult those who conversant when not sure.

Translate the priorities into operational requirements.

Measurement and feedback- you should include measures of both process and outcome. Develop indicators to determine how well you are meeting client expectation and professional standards. From the data that is collected identify priority areas for improvement.

Below is a frame work that may be used to look at the client driven process.

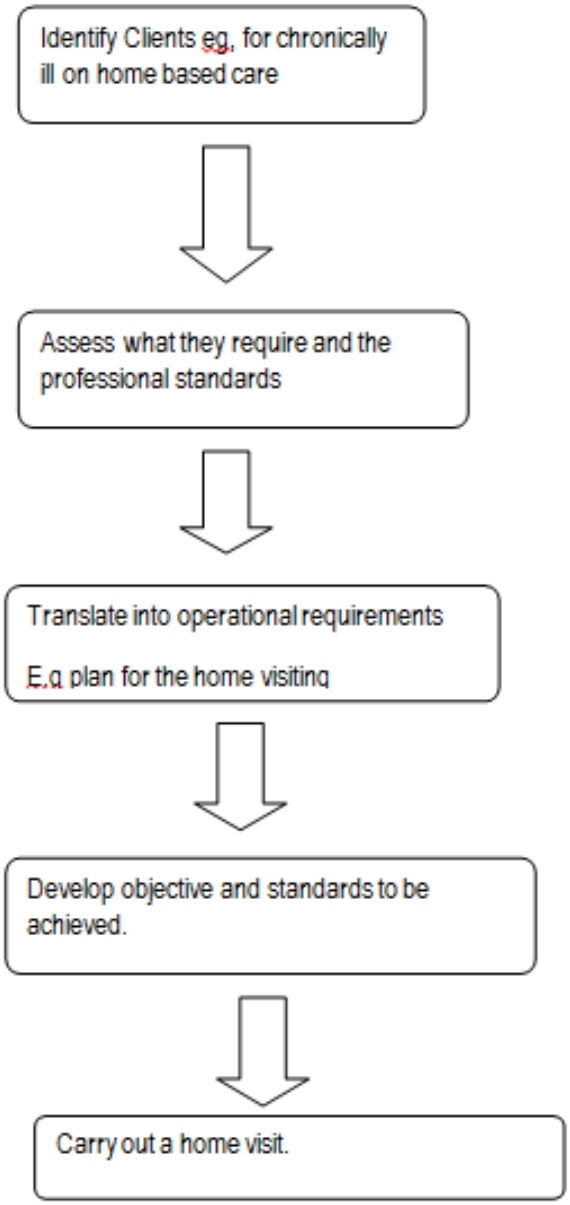

Figure 21: Frame of client driven process.

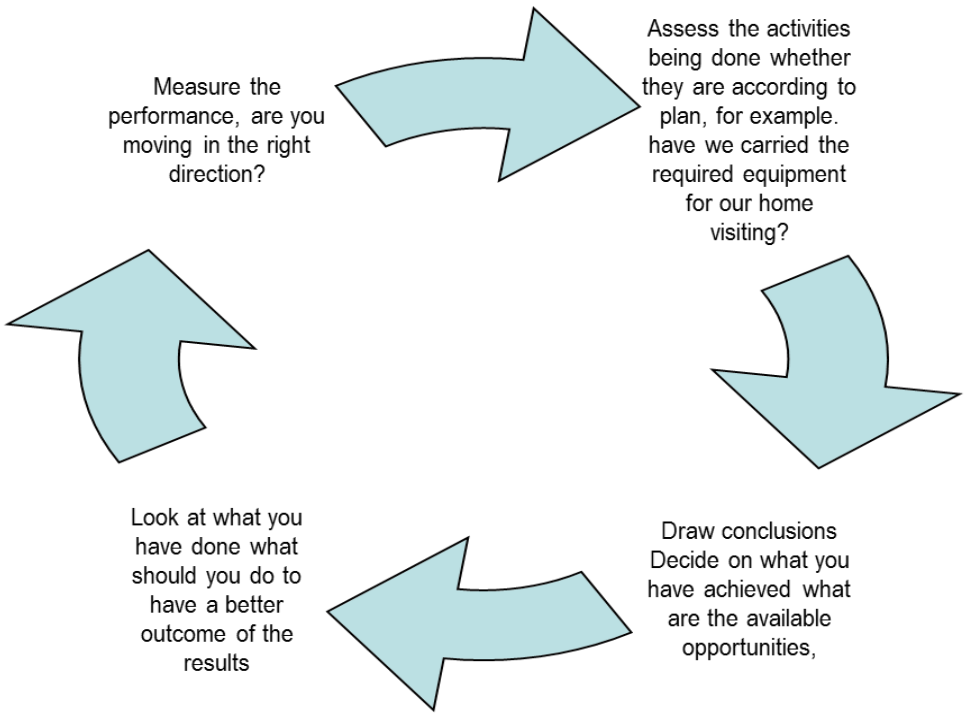

Figure 22: Monitoring and Evaluation Cycle

Self-test questions

Some of the types of audit include process audit, structure audit and retrospective audit.

a. True

b. False

Accreditation

Hospital accreditation has been defined as "A self-assessment and external peer assessment process used by health care organizations to accurately assess their level of performance in relation to established standards and to implement ways to continuously improve"

Accreditation has analytical, counselling and self-improvement dimensions to the process.

11.4 Disease Surveillance

Disease Surveillance – this is the continued watchfulness over the distribution and trends of incidence of diseases through the systematic collection, consolidation and evaluation of morbidity and mortality reports and other relevant data, (Vlok,1996).

It can also be stated as the collection and analysis of health data about clinical conditions that have a significant impact on the public and their health, which is then used to drive decisions about health policy and health education matters

Surveillance is the ongoing systematic collection, analysis, and interpretation of health data.

It includes the timely dissemination of the resulting information to those who need them for action.

Surveillance is also essential for planning, implementation, and evaluation of the public health practices.

Surveillance: The continuing systematic collection, consolidation and analysis of data and the dissemination of the information obtained to those who need to know in order that action may be taken.

- **Active surveillance -** when data are sought out by visiting or contacting a site and reviewing the medical records and registers of the site to identify cases.
- **Passive surveillance -** when data are routinely collected and forwarded to more central levels on a routine basis, i.e. the data do not have to be requested on each occasion.
- **Case-based surveillance –** surveillance of a disease by collecting specific data on each case (e.g. reporting of details on each case of AFP)

Self-test question

Performance audit is an independent examination of the efficiency and effectiveness of government undertakings.

a. True

b. False

WHO guidelines for outbreak response vaccination

- Recommended if there is a high risk of a large outbreak *and* capacity exists to conduct a high quality and safe campaign
- Should be conducted in the affected and adjacent areas as rapidly as possible, targeting age groups with highest attack rates and highest total number of cases

Common problems

- Low detection rate (national and subnational)
- Data entry gaps – line lists not entered in case based database
- Missing variables in case investigation form
- Poor/late detection and investigation of outbreaks
- Poor awareness of active surveillance for measles (training gaps?)
- Poor feedback of lab results to health facilities.
- Specimens not sent timely and lab not informed of shipment.
- Non- harmonization between lab and case based databases

Self-test question

Disease surveillance is ongoing and unsystematic

a. True

b. False

11.5 Unit Summary

We have now come to the end of unit 11 where discussed quality assurance which involves

performance audit, consumer driven quality and accreditation. We also discussed disease surveillance. I believe you now appreciate that monitoring and evaluation is important in the health sector as it is a roadmap to success. One cannot tell a deviation from normal without monitoring and evaluating the progress of work process. As discussed earlier, without consumers being part of the goods and services supplied to them, appreciation and utilization of the said goods and services is minimal.

Now we are going to move on to another interesting topic which is covering occupational health and safety.

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http://en.wikipedia.org/wiki/Accreditation

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UNIT 12 OCCUPATIONAL HEALTH AND SAFETY

12.1 Introduction

We would like to look at another unit that focuses on care within the working setting. We were looking at monitoring and evaluation of services. This is important as it allows you to know when things are going well and which areas need attention. As we look at the welfare of those in employment I would like you to pay extra attention as this part deals with those in the working environment including the nurse.

During the previous session we looked at how to carry out monitoring and evaluation in the health care system. Therefore we are going to progress from there and look at occupational health and safety.

Occupational Health involves the prevention of adverse health effects from occupational and environmental health hazards. It provides for and delivers occupational and environmental health and safety services to workers, workers' populations and community groups. It is an autonomous specialty and nurses make independent nursing judgements in providing health care.

Occupational health nurses work in traditional manufacturing, industry, service, health care facilities, construction sites, consulting and government settings.

12.2 Specific Objective

At the end of the session you should be able to:-

1. Define terms that will be used
2. Explain policies and regulations
3. Mention Common occupational health hazards
4. Explain the STI/HIV/AIDS and the work place policy
5. Mention human rights at the work place

12.3 Definition of Terms

Occupational Health – These are safety programs designed to prevent and control work-related illness and injury and to create environments that foster and support health promoting activities.(Stanhope M. & Lancaster J., 2000).

Occupational Health Nursing - means the specialty practice that focuses on the promotion, prevention, and restoration of health within the context of a safe and healthy environment. (American association of occupational Health Nurses, 1999)

Occupation health hazards – dangerous process or materials within a working environment that result in harm to an employee.(Stanhope M & Lancaster J., 2000)

Health hazard – It is a condition which facilitates the occurrence of injury. (Vlok M.E 1996)

It can be biological, physical, chemical or psychological threat to health that arises from the environment.

Roles of the Occupational Health Nurse

Their scope of practice is broad and includes:

- Work/workplace assessment and surveillance
- Primary care
- Case management
-
- Health promotion/protection
- Administration and management
- Research
- Legal/ethical monitoring
- Community orientation

12.4 Policies and Regulations

I would like to take you back to unit one of Public Health Nursing where we discussed some policies and regulations that govern the public health system. As discussed earlier, occupational health also has some policies and regulations that govern the specialty. These are the ones we are going to discuss now. I invite to contribute and feel free to ask questions.

Policy- A policy is a principle or rule to guide decisions and achieve rational outcomes

At this stage we will look at some of the policies and guidelines that are used in a place of work to promote the safety of those providing a service. The available provisions on occupational safety and health of workers are found in some specific parts of the constitution these are as follows:

The Factories Act, Chapter 441

This Act provides for the regulation of the conditions of employment in factories and other places as regards to the safety, health and welfare of persons employed therein. It specifically provides forsupervision of safety and health in factories, inspection of factories and certain plant and machinery by inspectors from occupational safety and health services department; and reporting and investigation of occupational accidents and diseases. Further there are regulations under the Act that cover safety and healthy in the construction sector, electrical installations and woodworking machinery.

The factories Act is divided into 15 parts, namely: Part I – preliminary, Part II – administration: Part III –

Regulations under the Act include

- The construction (Safety and Health) Regulations- These regulations provide for the regulation of safety and health in building operations and works of engineering construction
- *The factories (Electricity) Regulations*- these regulations provide for the regulation of safety and health in the generation, transformation, distribution and use of electrical energy in any undertaking.
- *The woodworking Machinery regulations* – These regulations apply to the safe use of woodworking machines in any undertaking.
- *The factories (Benzene) Regulations* – These regulations provide for safety and health in the use of benzene

  The factories (First Aid) (Prescribed Standard of Training) Regulations – These regulations provide for standards of training in first aid treatment for first aiders.

  Source; Mukosiku, G.M, 2012

Self-test question

What is a policy

a) A principle or rule to guide decisions and achieve rational outcomes

b) A standard that should be followed by the public health nurse

c) The application of a test to people who are asymptomatic for the purpose of classifying them with the likelihood of having a particular disease.

The Occupational Health and Safety Act, 2010

This Act provides for the followingestablishment of the occupational, Health and safety institute and its functions; establishment of health and safety committees at workplaces and for the health, safety and welfare of persons at work; the duties of manufacturers, importers and suppliers of articles, devices, items and substances for use at work; the protection of persons, other than persons at work, against risks to health or safety arising from , or in connection with the activities of person at work; and related matters.The Act stipulates the duties of the employer such as;

- Establish a health and safety committee where he/ she employees ten or more person
- Ensure the health, safety and welfare of the employees
- Place and maintain an employee in an occupational environment adapted to the employee's physical, physiological and psychological ability.
- Provide plant and systems of work that are safe and without any risks to human health and maintain them in that condition.
- Ensure that articles, devices, items and substances provided for the use of employees at a workplace are used, handled, stored and transported in a manner that is safe and without any risks to the health and safety of the employees at the workplace.
- Provide for measures to deal with emergencies and accidents including adequate first aid arrangements.
- Provide at the employer's expense all appropriate protective clothing and equipment to be used in the workplace by employees, who in the course of employment are likely to be exposed to the risk of bodily injuries, and adequate instructions in the use of such protective clothing or equipment.

Source: The occupational Health Safety Act, 2010,, part III section 11, part IV Section 16

It has also stipulated duties of the employees, they are as follows;

- Take reasonable care of the employee's own health and safety and that of other persons who may be affected by the employee's acts or omissions at the workplace.
- Not to operate any machine or engage in a process which is unsafe or is an imminent risk to the employee's own health or safety and that of others.
- Cooperate with the employer or any other person in relation to any duty imposed on the employer or that other person, so far as it's necessary to enable that duty or requirement to be performed or complied with.
- Where an employee has reasonable grounds to believe that any item, device, article, plant or substance, condition or aspect of the workplace is or may be dangerous to the employees' occupational health or safety at or near the workplace, the employee shall immediately inform the employer and the committee or health and safety representative.

Source; occupational Health Safety Act, 2010,, part III section 11, part IV Section 17

The Mining Regulations

These regulations provide for the supervision of safety and health in mines, inspection of mines by inspectors from mines safety department (MSD), reporting and investigation of occupational accidents, and the compilation and publication of statistics on accidents, occupational diseases and dangerous occurrences. These regulations also provide for the responsibilities, duties and conduct of mine owners/ employers and workers.

12.5 Common Occupational Hazards

- **Extremely low or high environmental temperatures**

If the workers are subjected to temperatures which are not conducive, this affects their work performance. For example high temperatures will make workers become fatigued easily, while too low temperatures may lead to frostbite.

Air/dusty pollutants – workers found in mining areas, chemical plants and cement manufacturing plants are exposed to polluted air. Workers with allergic conditions may fail to perform effectively as they will always be sick.

- **Noise** – workers who work in noisy environment if not supplied with right protective wear end up suffering from hearing defects after exposure to too much noise for a long period of time.

Radiations – this applies to workers who work in radiological departments such as the oncology radiotherapy center, x-ray department, lead mines and mercury emission plants. If not protected, these workers tend to have cancerous conditions later in life.

Work overload – if workers are subjected to heavy duty beyond their capacity or longer hours than recommended, there is tendency to develop lowered immunity and burnout.

Chemicals -workers who are daily dealing with different chemical substances need protection to prevent pneumonia and skin conditions. Examples of these are people working in pharmaceutical companies, detergents/disinfectants.

Unserviced plant machinery can easily cause accidents and major injuries to the workers.

- **Occupational Diseases/Condition**

    1. Pneumoconiosis/Silicosis
    2. Hearing impairment
    3. Contact Dermatitis
    4. Poisonings e.g. lead poisoning, Pesticide poisoning
    5. Partial or total blindness
    6. Secondary infertility

7. Physical disabilities
8. Occupational Asthma
9. Carpal Tunnel syndrome
10. Computer Vision syndrome

Preventive measures by the health authority

> **Activity:**
>
> Get your notebook and write down 3 preventive measures you think can help prevent occupational health hazards at the workplace.

Good attempt!

Let us now discuss the preventive measures as outlined below:-

Interventions may be planned at primary, secondary and tertiary levels of prevention.

Primary Prevention

Primary prevention in the occupation setting is directed towards minimising the risk of injury and illness and promoting health and wellbeing.It includes;

- ***Health promotion***

Occupational health nurses educate employees to lead healthier lives through awareness, motivation, behaviour change, culture change and prenatal care for pregnant employees.

Awareness programmes are designed to make employees of the ill effects of unhealthy behaviours and encourage change. Posters should be solicited from the health department and displayed for workers to read so as to promote behavioral change.

- ***Illness prevention***

Illness prevention involves modifying risk factors that predispose one to develop a specific health problem. The employers should ensure that full gear of protective clothing is supplied to all employees. Supplementary food or fluids like milk should be easily accessed by employees to improve their immunity. Normal recommended working hours should be observed for all workers. Employers should remind and grant leave where due.

- ***Injury prevention***

Employees need to be acquainted with safety procedures to prevent accidents.

They also need to be educated in the correct use of safety equipment such as use of protective clothing, handling of hazardous substances, proper use of machinery, need for fluid replacement in high heat areas and good body mechanics that may be appropriate in certain industrial settings. First Aid and fire drills should be taught and demonstrated to all workers in case of any emergency

- **Secondary Prevention**

Secondary prevention is aimed at recognising and resolving existing health problems.

The occupation nurse is involved in screening, treatment for existing conditions and emergency care.

Screening*:* screening begins with pre-employment of potential employees; screening may also be conducted at periodic intervals to monitor employee health status and the work environment may be screened periodically for the presence of hazardous conditions. The type of screening done depend on the risk involved and the capabilities required.

Treatment of existing conditions The second aspect of secondary prevention is the diagnosis and treatment of existing health problems.

It is recommended that all major companies should have clinics within their premises manned by qualified health personnel and easily accessible at all times. There is also supposed to be a referral network with an ambulance on standby.

Emergency response another aspect of secondary prevention in the work setting is response to emergency situations. .

Emergencies may result from serious occupational disasters such as explosions, fires, radiations exposure and hazardous substances leaks. Sometimes it may be due to conditions such as heart attack, stroke, seizures and diabetic complications.

Tertiary Prevention

Tertiary prevention involves workers that need long-term health care services to prolong life and continue working. Employee's fitness to return to work after an illness or injury is assessed and recommendations made. Sick leave is allowed to employees not fit to work due to illnesses.

Measures to Promote Health in places of work

Management at work places should:

1. ii. Have a health and safety policy which is easily accessible and known by all workers.
2. iii. Periodic medical checkups for all employees. These can be yearly or twice a year as per company policy.
3. iv. Improve ventilation -The infrastructure where the employees/workers operate from should have good ventilation. You should have adequate maintenance of air conditioners where necessary.
4. v. Put posters/warning signs where necessary. These should be clear and put in strategic points for easy visibility.

5. vi. Provide protective clothing where necessary e.g. gloves, helmets, coats, boots Acid proof overalls
6. vii. Orient all workers on safety measures and First Aid
7. viii. Have a health and safety committee which is active and knowledgeable of the company/industry or work place safety points to ensure early detection of any deviation from normal.
8. ix. Provide for proper disposal of waste/poisonous substances according to the environmental safety guidelines.
9. x. Have a schedule for normal working hours in order to prevent fatigue.

12.6 STI/HIV/AIDS and the Work Place Policy

Section 28 of the Employment Act requires that every employee shall be medically examined by a qualified and competent Medical Officer before he/she enters into a contract of service of at least six months' duration. The purpose of the examination is to ascertain the fitness of the employee to undertake the work that he/she is required to do. Although the Act does not require that prospective employees be tested for HIV/AIDS, some employers still request for mandatory testing. Prospective employees usually comply, as there is no law to protect them. Currently there is no provision in the labour act for continuous testing for physical fitness of employees.

The broad objectives of the national HIV/AIDS/STI/TB policy

- (a) To ensure that Zambia complies with international practices in its interventions against the HIV/AIDS pandemic and treatment of infected and affected people.
- (b) To promote partnership and ensure that all sectors of society are actively involved in the design implementation, review, monitoring and evaluation of the national response to HIV/AIDS in order for it to be effective
- (c) To achieve the highest levels of social mobilisation against and political commitment to the fight against HIV/AIDS/ STI/TB
- (d) To effectively mainstream equity considerations and gender in HIV/AIDS programmes and activities and to enhance women's role in making decisions in sexual partnerships
- (e) To fully exploit the potential of faith-based organisations in the fight against HIV/AIDS HIV/AIDS/STI/TB policy.
- (f) To promote the use of traditional values and strengths as part of the foundation for the fight against HIV/AIDS
- (g) To resolve the challenges associated with HIV/AIDS at work place,

- (h) To ensure that rights of HIV-infected and affected people are protected and stigma and discrimination are eliminated
- (i) To protect the rights of children and young people and to avail them access to HIV/AIDS prevention and care services.
- (j) To promote and support public and private scientific research initiatives in causes and treatment of HIV/AIDS
- (k) To create a supportive environment for the effective prevention of HIV/AIDS.
- (l) To raise public awareness of the dangers of contracting HIV/AIDS and the negative impact that the pandemic has on society and also to promote good social norms and behavioural change
- (m)To equip Zambians, and especially the youth, with knowledge and life-saving skills as a way of preventing HIV infection
- (n) To sensitise communities to the importance of VCT as a means of knowing ones status.
- (o) To make condoms and other barrier methods available, accessible and affordable to all sexually active individuals throughout the country to ensure that only safe and secure blood is used in blood transfusion services in health facilities
- (q) To provide quality STI diagnostic and treatment services at all levels of the health care delivery system.
- (r) To minimise vertical transmission of HIV from the mother to the child.
- (s) To provide effective diagnostic and treatment services for HIV/AIDS-related opportunistic infections at all levels of the health care system
- (t) To increase the availability and accessibility of antiretroviral drugs and their safe and equitable distribution
- (u) To promote the use of safe alternative or traditional remedies
- (v) To engender public awareness of the link between good nutrition and good health.
- (w) To strengthen treatment, care and support structures for infected and affected people
- (x) To mitigate the high risk of HIV infection common among vulnerable groups.
- (y) To establish and strengthen structures for effective coordination of multisectoral HIV/AIDS/STI/TB responses at national, provincial, district and community levels.
- (z) To create a conducive legal framework for addressing the HIV/AIDS pandemic.

- To ensure availability of adequate resources for fighting against the HIV/AIDS, STIs, TB and other opportunistic infections.

- To strengthen programme monitoring and Evaluation of various HIV/AIDS/STI/TB interventions.
- To build capacity in human development and training in the area of HIV/AIDS/STI/TB

Source; Ministry of Health, 2005

The HIV/AIDS/STI/TB policy's one of the objectives is

a) Right to refuse to work in environment or department this is not safe.
b) To resolve the challenges associated with HIV/AIDS at work place.
c) Put posters/warning signs where necessary.
d) Ensure the health, safety and welfare of the employees

12.7 Human rights at the workplace in relation to health hazards

we are now going to discuss about human rights. Every worker has rights which protects him/her in the working place. Below are the fundamental human rights of a worker in Zambia.

Human Rights - Fundamental Freedoms and Basic Human Rights that every person is entitled to in the Constitution of Zambia and International Human Rights to which Zambia is a party

-Right to information concerning the nature of toxic substances that they may encounter during their employment. This assists a worker to be aware of the type of protective clothing to wear .e.g. welders should always be supplied with shields

-Right to refuse to work in environment or department that is not safe. For example a worker may refuse to work in an industry with lead emissions when protective measures are not in place.

-Right to good conditions and safe environment. A worker' working environment should be conducive .e.g. clean dry place with temperature controlled within the recommended parameters and with good lighting system.

-Right to compensation when injured or die while at work. Each industry/workplace should have a deliberate policy which allows them to contribute to the workman's compensation in order to allow workers access compensation in case they are injured whilst on duty.

-Right to privacy and confidentiality. The worker's confidential file should be kept under lock and key and only accessed by the designated personnel. Moreover, in case of any disciplinary action, the worker's personal integrity should be preserved. Moreover, the occupational health nurses strive to

safeguard employee's rights to privacy by protecting confidential information and releasing information only upon written consent of the employee so as required or permitted by law.

-Right to go for further studies. Every worker is entitled to further their education. Therefore, the employers should have Human Resource Development Policy in place, and be able to grant paid study leave to their employees.

-Right to be paid according to the level of education. All workers are entitled to be paid according to their level of education as this serves as a motivating factor among employees.

-Right to go on leave, a day off or sick leave when unwell. Conditions of service for each industry/workplace should always be in line with the government policy.

Self-test question

Occupational health diseases include the following except;

a) Pneumoconiosis/Silicosis
b) Work overload
c) Hearing impairment
d) Contact Dermatitis

12.8 Unit Summary

In this lesson we have looked at the safety of workers in their work place. Safety is important as it promotes a healthy workforce and hence increased production. Currently many regulations and acts are still being formulated despite Zambia having ratified them sometime back, therefore as a nurse you need to identify those that are available and apply them to other disciplines.

We defined the main terms, discussed the policies and regulations, and common occupational health hazards. We have also looked at the STI/HIV/AIDS workplace policy as well the human rights at the workplace.

I hope this will help you provide adequate care to the workers as you attend to them, even within their working environment.

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UNIT 13: INFECTION PREVENTION (IP) IN THE COMMUNITY

13.1 Introduction

In the previous session we looked at occupational health and safety, which is important for us to have a good understanding and apply the knowledge in this unit. During the working period workers are exposed to many risks which may include infectious diseases. Prevention is better than cure. The primary level of infection prevention involves taking measures which can prevent disease or injury and this can be achieved by taking universal precautions practices which are a set of practices to protect the community from infectious diseases.

13.2 Objectives

At the end of the lecture the learner should be able to

1. Define infection prevention

2. Mention the purpose of Infection Prevention in the community

3. Explain infection prevention practices

13.3 Definition of IP in the community

Infection prevention refers to measures taken within the community to prevent occurrence of disease or infection.

Purpose

It is important for protecting of health workers, patients and communities from infections. Possible sources of infection are the clients / patients themselves- through blood, semen, liquor, lochia, and vaginal discharge or through droplets

Infection can be also through equipment, Instruments and Environmental Surfaces i.e. through contaminated needles, gloves forceps, etc.

Health facility - through contaminated couches, walls, floors and other surfaces

13.4 Measures TO Control Spread Of Infection

a) **Hand washing**

This is a procedure that is simple and economical in the removal of microorganisms from the hand. Meticulous hand washing is one of the recommended guidelines in infection prevention .

How would you explain the best way to wash hands?

Figure 23: Hand washing

Read below and get the other options.

Hand washing may be the single most important procedure in preventing infection. Microorganisms grow and multiply in standing water, therefore have a continued supply of fresh water either from the tap or bucket and use a soap rack to allow water to drain away. Avoid dipping hands repeatedly in basins containing standing water, make sure it is done under running water either from the tap or somebody just holding a container and pouring. Use a detergent or soap whenever washing hands if possible. After hand washing it is advisable that they are thoroughly dried using a small personal towel that is replaced or cleaned daily or when wet or visibly dirty. A wet or dirty towel harbour microorganisms and contaminate hands even after proper hand washing or hand rub. Hands should be washed before preparing food, after the use of the toilet and whenever they are dirt. Wash hands also

after changing the baby's nappy and before and after eating. Long fingernails may also interfere with the hand washing process; therefore keep your fingers short at all times.

Disinfection

This is the process of removing microorganisms on an object to a level that is not harmful. This may be achieved by using JIK (potassium hypo chlorite) to clean equipment or material that they suspect could have microorganisms. In urban areas there are disinfectants that are meant to wash dirty vegetables and fruits. Caretakers should use Jik to clean napkins and excretory they suspect to be infectious. Bathing is equally a disinfectant that may be used in almost every home for cleaning objects, bathing and washing clothes. There are certain soaps that may have more disinfectant effects such as Dettol and protex etc. In homes that can afford they may buy the disinfectants from pharmacies or chemists.

Boiling is another method that may be used to kill microorganism though it spares the spore forming organisms. This is used to treat items like water for drinking; baby's eating utensils and other items like clothing.

Processing Of Soiled Items And disposal

This may be done by the government on behalf of the community at a larger scale and from individual communities or persons.

Government level

The government should provide bins and refuse pits where the waste will be disposed. The collection vans are to go round collecting all the disposed rubbish for disposal at designated areas. Community leaders should ensure that no resident throws rubbish along roads in their residential areas.

Soiled items should be soaked in a disinfectant such as soapy water, JIK etc. for at least 1-2 hours before washing. If they are to be discarded they should first be disinfected as explained above and then discarded in a bin with a lid or thrown in a pit latrine. They can also be thrown a pit which has a cover and some ashes spread over the contents of the pit. If not then the contents can be sprayed with paraffin and burnt. All these measures are to prevent transmission of infection. One can also throw the contents in a pit and cover with soil on top submerging whatever has been thrown in waste Disposal.

The government has to plan the town, cities, and compounds in such a way that they are able to manage waste for the bigger city as they build more waste. The non-biodegradable waste should be burnt away from where people live. Industries should be educated and forbidden to produce waste in streams, gathers, cisterns that may be a nuisance to the public.

Household waste such as food, peels, leaves, flowers, dust etc. shells, paper cardboards, bottles, tins, and plastics should be discarded in a container with a lid/ refuse bin to exclude them from flies, cockroaches and rodents. Pits can be done where to throw the waste and burn them or cover them with soil.

Some rubbish such as paper can be recycled e.g. like Zambezi paper mills and part of the waste should be used to fill the land. Where you have plastic, flesh materials can be incarcerated. Domestic waste can be pulverised to small material (fine) by a special machine and then sent down the sewer or collected by the local authorities.

Domestic waste water from bathing, laundry and cooking can be sent in the municipal sewer line. Human excreta can be sent through the local authorities through the sewer lines. In rural areas where this is absent encourage use of VIPs and other areas they send the excreta to the dam and treat it , the water is later used in gardens and farms. When they allow bacteria to work on them they render them harmless.

Self-test question

Processing of soiled items at government level involves

a) Burning

b) Heaping together

c) Dumping in the rivers

Not recycling

Figure 24: A VIP Toilet

Source: http://www.google.co.zm/imgres?imgurl=http://www.tumberfourie.co.za/home/wp-

You can also use a pit privy- a small structure put around a hole in the ground and has a seat and a lid to prevent flies.

Pail privy – where latrines have a hole which lead into a container and this container is removed at every two weeks and emptied into the main sewer or into a ditch which feel with soil before it reaches the top (about 60 cm below) but is taken to prevent contaminating the top soil.

a) Provision Of Clean Water

Figure 25: Provision of clean water

Water is essential for life and any contamination can affect a large section of society. Water is supplied and processed in many different ways. Some of the ways was handled is as follows:-

- Piped water

This is the water supply that is provided by the water and sewerage company. From the entry point the water is sent into sedimentation tanks where particles settle. It is then pumped to sand beds where other small particles are filtered. As it leaves aluminium hydroxide is added to make other particles that could have passed through agglutinate or coagulate and the water goes to the other sedimentation tanks. At this stage oxygen and chlorine are added to kill microorganisms and give taste. The water is pumped into circulation for consumption. This is effective where there is proper maintenance of water pipes. If in doubt then boiling method is used to supplement the destruction of the microorganism.

- **Boiling Method**

  This is when the already clean water is boiled for

  at least 10 minutes to kill microorganisms and remove impurities such as salt, air and causes of deposition of calcium carbonate. Then it is stored in a clean covered container.

- **Filtration**

This is when water is passed through a filter and the large particles are allowed to settle. Some bacteria may be trapped too but viruses can pass. This does not render water safe for drinking.

- **Distillation**

This is method where water is obtained from the condensation of steam. This water is pure but tasteless. It can be costly to get in large quantities for the family. It's also time consuming.

- **Chemical**

This is a method where chemicals are added to destroy microorganisms that may be found in water. You can add chlorine or iodine 2% and let the water stand for 30 minutes. For example you put chlorine in the inner part of the lid and add to a five litre container of water or outer part of the lid and add to 20 litres of water and let it stand for 30 minutes. You may also use chlorine water tablets and let the water stand for 5 minutes. This kills the microbes and can be used for water from any source.

- **Sedimentation**

The water is made to stand for some time and the larger particles settle down making the top part clean. However, the microbes may remain and cause harm to the family as the water may be clear but not fully safe.

Self-test question

1. The easiest way to keep water clean at home is by

a) Distillation
b) Filtration
c) Boiling

Segmentation

2. Water is made safe for drinking by boiling for

a) 30 minutes
b) 15 minutes
c) 20 minute
d) 10 minutes

13.5 Unit Summary

Infection prevention is a cross cutting element in the community as it reduces infection within members. Therefore it is important for every community member to understand and practice infection prevention measures. Infection prevention is key to promotion of good health.

In this discussion we looked at measures to control the spread of infection that includes hand washing, disinfection and processing of soiled items and disposal.

13.6 References

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4. UNIT 14: HOME VISITING

14.1 Introduction

We welcome you to yet another exciting topic in public health. You have learnt how to take care of the needs of your clients in different environment orientation apart from the hospital. This must be interesting. At this stage we need to provide you with knowledge on how you are going to achieve meeting your objective of providing care with minimum equipment in the community. We are going to discuss home visiting.

Community health nursing has broadened to encompass many settings and places; the home visiting concept still remains a strategic tool for delivering of health care to particular households to meet the needs of individuals and families.

The home visit is presented to the family as a 'service', for this reason, every nurse working in any community setting is required to be familiar with that community including the resources and the cultural beliefs found in that community. In this unit we will identify the principles of home visiting, bag technique and home based care. We will also look at counseling and networking with stakeholders. We will finally look at the referral system.

14.2 Objectives:

At the end of the session the learner should be able to:

1) State the principles of home visiting
2) Describe the bag technique
3) Discuss home based care
4) Discuss counseling
5) Discuss Networking with stakeholders
6) Describe the referral system

14.3 Principles Of Home Visiting

- Voluntary participation and collaborative relationships.

- Promote personal and program goals.
- Address multiple goals, long-term as well as short-term gains in health status.
- Permit flexibility in the intensity and duration of services provided.
- Include sensitivity to client diversity.
- Employ well-educated staff.
- Address realistic expected outcomes.
- Evaluation focuses on outcomes, cost-effectiveness, and processes used.

Purpose Of Home Visiting

-To Prevent and control diseases.

-To Preserve and promote health.

-To Provide curative interventions to the sick.

-To Give follow up care to discharged cases.

-To Follow up delinquent patients who do not go for review.

-To Carry out some demonstrations for care-

-Caring for the chronically ill patients and the dying.

-Case finding and referral

-Health promotion and illness prevention

Risk Groups For Home Visiting

-Families with chronic diseases such as; mental illnesses, malnutrition and discharged patients, TB, --- Cancer and HIV/AIDS.

-Single parent families

-Post natal women

-Pregnant mothers

-Nursing mothers

-Motherless babies

-Mothers with pre term babies or twins.

Process Of Home Visiting

Home visit provides an opportunity to implement nursing process in the community. The home visit itself can be viewed as the process which consists of the following phases;

- Initiation phase
- Pre-visit phase
- Activities during home visit phase
- Termination of visit phase
- Post visit phase

Initiation phase

In this phase the community health nurse (CHN) clarifies the source of referral for visit and also share information on reasons and purposes for home visits with the family.

Pre – visit phase

When the nurse is assigned to home visit he/she must know certain prior information regarding the home and the family which includes location of the house and the distance, address and some information with regard to home visit.

This is the part of assessment phase in which the nurse gathers information about the patient, investigates community resources, assembles supplies and plans for the first patient contact.

The information may be obtained from the family records, another from the family nurse or health care provider regarding age, sex, family culture, health problems, care given and many other information.

This information will help you as a nurse to plan for his/her visit and know the resources required.

In short the nurse initiates contact with the family.

-
- **Activity phase**

Activities during home visits

The Community *Health Nurse* should do the following activities at the home for visitation;

- Introduce herself to the members of the family if the client is not able to so.
- Observe the interactions of the members of the family.

- Make an effort to meet the head of the family.

Make an effort to meet other members of the family.

- *Make a contract with a family*

- During the visit to the household you should explain the following things to the client as well as the care taker;

- Duration of visiting and frequency.

- Purpose of that visit.

- Reassure the client that confidentiality will be observed.

The nurse will also do the following activities;

- -Assess the needs of the family and implement the nursing care accordingly.
- You should also carry out roles of being a collaborator, consultant, coordinator, educator, implementer, care giver and epidemiologist.
- -During all these periods of interaction the nurse should bear in mind the utilization of the nursing care process in order to meet the individual needs of the individual family members.

- **Termination phase of care**

Termination of visits occurs when;

- Nurse – Patient goals are reached, health is restored and the patient can function without nursing actions.

- A patient changes his residence or the home to go to other home.

- The nurse transfers the patient's care to another nurse or other health care provider.

- **Post – visit activities**

Post – visit activities include recording and reporting.

The nurse records the important events in the family and reports the necessary materials to the higher authorities and discusses the problems of the family colleagues and other members of health team and make plans accurately to meet the next needs of the family.

Records are kept where only authorized person can read them.

Advantages Of Home Visiting

-Home visiting provides an excellent opportunity to implement the nursing process.

-It provides an opportunity to study the home and family situation.

-It provides an opportunity to render services to the family members at their own surroundings.

-Prompt and proper home visits create a good understanding of a nurse and family and builds good image of nurses.

-Home visit clarify doubts raised by family members.

-It provides an opportunity to observe family practices and progress of care given by nurses and others.

-It helps in the prevention and handling of health problems.

-It helps the nurses and family members to modify the ways of their care.

-Home visits are convenient for the patients.

-Home visits facilitate patient control of setting.

-Home visits are the best option for patients who are unwilling to travel to the health centre.

-Home visit provides natural environment for the discussion of concerns and needs.

Problems Of Home Visits And Possible Solutions

Consumes a lot of time and energy:

Community Health Nurses have to make a trip from their place to home which consume a lot of time than required to the actual purpose of a visit or to provide care.

It is also costly considering the costs of fuel or bus fares needed to reach the place.

To overcome this problem the nurse has to have a proper map or knowledge of location and good orientation to the area prior to visit.

Unforeseen events:

The family which is to be visited is not having similarities; they may be good or bad because the children or any other in the family may be rude, alcoholic or drug addict.

In such a situation, the nurse has to cancel the home visit temporally and try to develop good relationship with the families and be tolerant.

Non – acceptance:

The family may not accept the nurse due to various factors such as religion differences, cultural differences, socio – economic factors, race and personal characteristics of the nurse and patients.

To prevent such non – acceptance, mutual understanding between the nurse and the patient should be developed.

The nurse should give an accurate description of the purpose and nature of the visit.

The nurse should be careful when communicating to the patient and should behave in a friendly and professional manner.

Problem of local language:

The language of the region may also play an important role as the nurse may not be fully acquainted with the local/community language. The nurse should try to learn the language as this will also contribute to the acceptance of the nurse. The nurse can also identify one person in the family who can be of help in interpreting the language for her/him and the patient.

Role confusion:

Confusion may prevail vis-à-vis the roles of a community health nurse due to lack of knowledge.

Individuals or family may fail to understand the roles of the nurse.

14.4 Bag Technique

Bag technique is a procedure or a skill used by the Community Health Nurse in home visiting.

It involves using a community health nursing bag.

It also involves observing certain principles and following certain steps closely when handling, packaging and when using the bag.

A bag is a vehicle used for carrying the tools needed during home visiting.

Definitions;

Bag technique -a tool making use of public health bag through which the nurse, during his/her home visit, can perform nursing procedures with ease and deftness, saving time and effort with the end in view of rendering effective nursing care.
Public health bag - is an essential and indispensable equipment of the public health nurse which a nurse has to carry along when he/she goes out home visiting. It contains basic medications and articles which are necessary for giving care.

- **Rationale**
  To render effective nursing care to clients and /or members of the family during home visit
-

Principles Of Bag Technique

- i) The use of the bag technique should minimize if not totally prevent the spread of infection from individuals to families, hence, to the community.

    i) ii) Bag technique should save time and effort on the part of the nurse in the performance of nursing procedures.

- Bag technique should not overshadow concern for the patient rather should show the effectiveness of total care given to an individual or family.
- Bag technique can be performed in a variety of ways depending upon agency policies, actual home situation, etc., as long as principles of avoiding transfer of infection is carried out.

Special Considerations in the Use of the Bag

- The bag should contain all necessary articles, supplies and equipment which may be used to answer emergency needs.

- The bag and its contents should be cleaned as often as possible, supplies replaced and ready for use at any time.
- The bag and its contents should be well protected from contact with any article in the home of the patients. Consider the bag and it's contents clean and /or sterile while any article belonging to the patient as dirty and contaminated.
- The arrangement of the contents of the bag should be the one most convenient to the user to facilitate the efficiency and avoid confusion.
- Hand washing is done as frequently as the situation calls for, helps in minimizing or avoiding contamination of the bag and its contents.

The bag when used for a communicable case should be thoroughly cleaned and disinfected before keeping and re-using.

Contents of the Bag

When going in a home visit the nurse should carry the bag containing the following:-

Outside Pocket; Newspapers, Hemoglobin scale, note book, soap in a soap dish, plastic sheet, a small hand towel. Extra paper for making bag for waste materials (paper bag), apron

Inside the bag*;* Inner pocket containing the following: Needles-21g and 23g, syringes –2mls, 5mls and 10mls, a small Container for sterile pack, 4 gallipots, spatula and 2 receivers.

In the bag*;* there will be sphygmomanometer, cotton wool, stethoscope savlon, Menthylated spirit, gloves, multi-sticks, 2 pairs of forceps [curved and straight]. If post-natal mother include the tape measure, Sterile dressings, Sterile Cord Tie, sterile maternity pads, baby weighing scale (spring), 2 pairs of scissors [1 surgical and 1 bandage], needle holder, gown, and sutures.

Drugs*;* Injection ergometrine, tab panadols 500mg,ferrous sulphate tablets, folic acid 5mg/tablet, Aldomet 250mg tab, valium, tab fansidar 525mg.

Other items*;* Water container, disposable gloves and water for injection

Steps/Procedures of conducting a visit

Actions	Rationale
1. Upon arriving at the client's home, place the bag on the table or any flat surface lined with paper lining, clean side out (folded part touching the table). Put the bag's handles or strap beneath the bag.	To protect the bag from contamination.
2. Ask for a basin of water and a glass of water if basin is not available. Place these outside the work area.	To be used for hand washing. To protect the work field from being wet.
3. Open the bag, take the linen/plastic lining and spread over work field or area. The paper lining, clean side out (folded part out).	To make a non-contaminated work field or area.
4. Take out hand towel, soap dish and apron and the place them at one corner of the work area (within the confines of the linen/plastic lining).	To prepare for hand washing.
5. Do hand washing. Wipe, dry with towel. Leave the plastic wrappers of the towel in a soap dish in the bag.	Hand washing prevents possible infection from one care provider to the client.
6. Put on apron right side out and wrong side with crease touching the body, sliding the head into the neck strap. Neatly tie the straps at the back.	To protect the nurses' uniform. Keeping the crease creates aesthetic appearance.
7. Put out things most needed for the specific case (e.g.) thermometer, kidney basin, cotton ball, waste paper bag) and place at one corner of the work area.	To make them readily accessible.
8. Place waste paper bag outside of work area.	To prevent contamination of clean area.

9. Close the bag.	To give comfort and security, maintain personal hygiene and hasten recovery.
10. Proceed to the specific nursing care or treatment.	To prevent contamination of bag and contents.
11. After completing nursing care or treatment, clean and alcoholize the things used.	To protect caregiver and prevent spread of infection to others.
12. Do handwashing again.	
13. Open the bag and put back all articles in their proper places.	
14. Remove apron folding away from the body, with soiled sidefolded inwards, and the clean side out. Place it in the bag.	
15. Fold the linen/plastic lining, clean; place it in the bag and close the bag.	
16. Make post-visit conference on matters relevant to health care, taking brief notes preparatory to final reporting.	To be used as reference for future visit.
17. Make appointment for the next visit (either home or clinic), taking note of the date, time and purpose.	For follow-up care.

Self-test question

Bag technique is a procedure or a skill used by community nurse in home visiting.

a. True

b. False

c.

After Care

1. Before keeping all articles in the bag, clean and ensure that they are surgically clean.

2. Get the bag from the table, fold the paper lining (and insert), and place in between the flaps and cover the bag.

Evaluation and Documentation

1. Record all relevant findings about the client and members of the family.
2. Take note of environmental factors which affect the clients/family health.
3. Include quality of nurse-patient relationship.
4. Assess effectiveness of nursing care provided.

14.5 Home based care

Definition

Community Home Based Care is any form of care given to sick people in their homes through family participation and community involvement within available resources and in collaboration with health care team Such care includes physical, psychosocial, palliative and spiritual activities, WHO,2002.

Principles of Home based care

Home-based care should be regarded as a holistic system of care to ensure success of the programme. The following basic principles govern home based care programmes;

1. Clients should have cost-effective access to quality health care and support to enable them retain their self-sufficiency and maintain quality of life.
2. The family and community should actively participate in order to provide support to the client.
3. Caregivers should equally receive support and care, in order to minimize the physical and spiritual exhaustion that can come with the prolonged care of the terminally ill.
4. Basic human rights of the terminally ill should be upheld at all times in the process of care in order to preserve human dignity.
5. There should be a multi-sector approach to care and support of the terminally ill to ensure holistic provision of care.
6. Build good referral networks/ linkages and collaboration among participating entities to ensure continuity of care (WHO, 2002).

Self-test questions

Home visiting is a mandate for a community nurse whether she wants or not.

a. True

b. False

3. A home visiting nurse preserves and promotes health and offers care after discharge.

a. True

b. False

Care of the sick

Care of the sick uses team approach to ensure holistic care. Patient care is divided into 3 components namely physical care,

Physical care- basic nursing care is provided at home. The care includes symptom recognition, diagnosis, symptom management, follow up and referral where need arises (refer to the topic on Palliative care in your Fundamentals of Nursing course for management of various symptoms which the terminally ill might have) Universal infection prevention precautions should be observed when rendering care to protect both the client and caregiver. Management depends on the ill person's condition. Common symptoms includes; fever, pain, diarrhoea, vomiting, cough and general fatigue and weakness. The client might also require assistance with meeting activities of daily living depending on their energy levels.

Spiritual Support- the clergy play an important role in helping the client come to terms with the illness and successfully pass through the grieving process. Wherever possible engage the client's clergy in the management to offer pastoral support to the client. Spiritual problems which the client might have include anxiety related to fear of death, self-blame, anger, denial etc.

Psychosocial support- The client's family and community form a very important support network for the client in meeting some of the psychosocial needs. Ongoing psychosocial counselling is vital in identifying psychosocial problems that the client may need support for. Common areas in which the client may need support include home chores and responsibilities such as care of children or aged parents. The client should however be encouraged to maintain their social roles in order to promote self -esteem and a sense of belonging and purpose in life.

Care of the aged

Older adults can remain in their family and community with necessary support and environmental modification to suit the older client's needs. Where family support is inadequate, the aged may benefit from placement in an old people's home.

Home remedies

These are spices, vegetables, fruits or other substances available at home that can be used for treating ailments or diseases. For example ginger, lemon, garlic and onion are commonly used for treating coughs. Most common home remedies do not cause any undue harm to the client or drug interaction with the drugs the patient may be taking. However, the client and family need to be discouraged from using herbal medicine that may interact with the drugs the patient is taking.

Role of the family and community

The family and the community play a very important role in the care of the patient as they are always with the patient. Their roles include the following;

- To accept the patient and offer emotional, physical and spiritual support.
- To collaborate with the members of the home based care team in providing care to the patient.
- To involve the patient in care activities and other family/community activities without discrimination.
- To consult the patient on matters that affect him/her.

Role of the nurse

- To initiate the home based care through careful assessment and identification of clients who require home based care.
- To prepare the client for discharge and home care.
- To prepare the family for the caring responsibility at home.
- To assess the client, formulate nursing diagnosis, plan and offer nursing care according to the client's needs.

To coordinate the home based care process and activities of the various members of the home based care team.To initiate the referral and networking systems

Self-Assessment test

1. Community Home Based Care is any form of care given to sick people in their homes through family participation and community involvement within available resources and in collaboration with health care team.
    a. False
    b. True
2. The 3 cardinal components of home based care are physical care, spiritual support and psychosocial support.
    a. True
    b. False
3. Home based care takes a holistic approach in caring for the client
    a. True
    b. False

14.6 Counseling, Health Promotion And Education

Definition of counselling

It is a process of mutual dialogue between the counsellor and the client aimed at problem solving, understanding and motivation (WHO, 1995).Counseling is a process in which clients learn how to make decisions and formulate new ways of behaving, feeling, and thinking. (Brammer, 1993; Egan, 1990).

Goals of counselling

- To promote change when it is needed
- To help a client use the given information to solve the problem at hand for their own well being
- To help clients in crisis situation

Importance Of Counseling

1. Counseling aims to help you deal with and overcome issues that are causing pain or making you feel uncomfortable.
2. It can provide a safe and regular space for you to talk and explore difficult feelings.
3. The counselor is there to support you and respect your views.
4. They will not usually give advice, but will help you to find your own insight and understanding of your problems.
5. Counseling can help you to: cope with a bereavement or relationship breakdown.
6. It can help you cope with redundancy or work-related stress
7. It can also assist one to explore issues such as sexual identity.
8. It also help deal with issues that are preventing you from achieving your ambitions.
9. Counseling also helps one deal with feelings of depression or sadness, and have a more positive outlook on life

People Who Need Counseling

Activity:

Take your notebook and list 5 people you think may need counseling

Very good! Now compare your lists with the notes below:

- Mental patients
- Adolescents in crisis
- Patients with chronic illnesses
- Couples going through hard times
- Students failing to adjust with school work
- Clients with depressions
- Addicts etc.

Qualities of a Good Counselor

We are now going to discuss the qualities of a good counselor. Not everyone who counsels can do so effectively without exhibiting the qualities explained below:-

a) Patience:

You need to be very patient. Allow the client to explain her/his problems, ask questions and express his/her emotions without unnecessary interference

Go to the next step of explanation only when the patient/client has clearly understood the content of the information you are giving.

Thus you need to have ample time.

b) Good Listener:

You need to be a good listener.

Never interrupt what the patient/client has to say.

Give your inputs only when the client / patient have finished talking.

c) Observant:

You need to be very observant and able to interpret non-verbal communication e.g. if the patient/client looks angry, find out the cause of his/her anger first.

d) Warm:

Provide non-possessive warmth in a counseling environment.

Smile and show concern and acceptance to the patient/client.

Knowledgeable:

You should have good knowledge on the topic /problem e.g. compliance to medication. Some people do not take medication for one reason or the other, while others demand drugs/medication. For example, Muslims do not take oral medication when they are fasting while Jehovah's witnesses do not accept blood transfusion.

Having empathy with the patient/client: - Try to understand the feelings the patient/client is having in the counseling process. In other words put yourself in his/her position.

Maintaining a therapeutic relationship with a patient: - Give the patient/client the opportunity to make his/her own decision from the discussion. Avoid over-familiarization with the client as it brings complications.

h). Confidentiality: - Although confidentiality is important in health matters it does not apply very much to all situations e.g. most people will openly say what they feel. However, ensure that you maintain confidentiality on what the client tells you. The client would feel greatly offended if you disclose any information about him or her to other people. This means that counseling must be done individually.

TAKE NOTE:

Personal integrity: - Maintain a high degree of personal integrity, credibility and mutual trust as counseling is highly sensitive.

Counseling Skills

I want you to bear in mind that effective counseling occurs only when there is mutual understanding between the health worker and the patient/client which is brought about by information sharing and exchange of ideas for therapeutic purposes.

The following are some of the skills that you need as a counselor:

i). Active Listening; - As a health worker, you should listen to what your client says. Show the client that you are paying attention. For example, rather than looking through papers on your desk as the client is talking to you, you should look at his/her face as you listen

ii). **Attending behaviour -** You should greet your client politely and make him/her feel comfortable and relaxed. With facial expression, eye contact, gestures, and posture, show him/her that you are interested.

iii). Interviewing/Asking Questions: - As a good counselor, you should ask open-ended questions as opposed to close-ended questions. You should also ask probing questions.

We have used three expressions i.e. close ended, open-ended and probing questions. An open-ended question is a question that leaves room for client to give a detailed and complete answer. For example, "tell me about your experience so far with the drug you are taking". *What is a probing question?* A probing question is a question that asks for more details for example, "And what else can you tell me?" or "What happened after that?" "Is there anything else you would like to add?" And so on.

iv) Reflecting **Feelings: -**By observing and listening, you can imagine how a client feels. You can then tell the client what you think. When a client gives a vague answer, you can point this out by saying "You seem not to be clear on this".

v) **Praise appropriate practices: -** You should praise a client for any good practice he/she may mention which is done in a recommended way.

vi) Giving Information and negotiating changes: - After the client has told you his/her problem, you should give her/him relevant information and negotiate changes. You should use words that the patient/client understands. Check whether the client understands you by asking him/her to repeat the information and instructions you have given. If the feedback shows that

the client did not understand the information or cannot remember, you repeat the information with politeness.

vii) **Use of local language: -** whenever possible use a local language that the client understands best. It is important for both you and the patient to understand each other very well.

viii) Remain neutral and non-Judgmental: - Whenever possible give advice but do not judge**.**

ix) Be consistent in giving advice: - If you are sure of the facts be consistent.

x) Summarizing and Paraphrasing: - By re-stating in your own words what the client says, you show that you are listening and that you have understood what the client has said. For example, "What you are saying is that you have no problem with the drug so far…" It is important to develop skills in counseling so that you can effectively help your clients.

Self-Assessment test

1. What is a probing question?

a. A question that gives room to the client to give a more detailed and complete answer.

b. A question that does not allow the client to give a detailed and complete answer.

c. A question that asks for more details

d. A question that requires the client to answer 'yes' or 'no'.

We will now discuss the process of counselling. Please pay attention as you will need to apply the theoretical concept in your counselling practical sessions in Fundamentals of nursing.

Process Of Counselling

The four counselling processes include the following;

i) Opening the session.

ii) Discussing the issues.

iii) Developing the plan of action.

iv) Recording and closing the session.

Open the Session:

In the session opening, state the purpose of the session and establish a client centered setting. The environment should be comfortable and allowing privacy. Establish the preferred setting early in the session by inviting the client to speak. This is an important part as the client should be able to trust the counselor in order to open up and be able to co-operate.

Discussing the Issues

The counselor or educator allows the client to explain the purpose of the visit, explains the problem he/she is facing. At this time, the counselor listens and applies all the skills of counseling. The counselor only interferes to clarify point or ask a checking question. She/He shows empathy as expected. After, the client has explained and expressed Him/ Herself, the counselor will now discuss more on the problem.

For example: - if the client came for HIV test, the counselor will explain more on the disease process, prevention and care and measures available to allow the client be able to live a normal life. This will allow the client to make an informed choice. The duty of the counselor is to give different options to solve the problem, while the client chooses the best option to solving her problem. Once a choice has been made by the client with the help of counselor, then the session moves to developing the plan of action.

Develop a Plan of Action:

A plan of action identifies a method for achieving a desired result. It specifies what the client must do to reach the goals set during the counselling session. The plan of action must be specific: it should show the client how to modify or maintain his behaviour. For example, after the client has accepted to undergo test, has gotten the result and is HIV positive and should undergo further investigations to decide on whether to initiate treatment or not. The counsellor supports the client throughout the process and praises him/her for the decision made. However, during this process, the Counsellor should avoid vague intentions/hopes.

Record and Close the Session:

Although requirements to record counseling sessions vary, a counselor always benefits by documenting the main points of a counseling session. Documentation serves as a reference to the agreed upon plan of action and the client's accomplishments, improvements, personal preferences, or problems.

Follow Up

Counselor's Responsibilities: The counseling process doesn't end with the counseling session. It continues through implementation of the plan of action and evaluation of results.

After counseling, you must support clients as they implement their plans of action. Support may include: -

i) Teaching, coaching, or providing time and resources.

ii) You must observe and assess this process and possibly modify the plan to meet its goals.

iii) Appropriate measures after counseling include follow-up counseling, making referrals

iv) Informing the chain of command

v) Taking corrective measures when the chosen line of action is not followed or not yielding results.

Methods Of Counselling

1. **One to one**

This is a highly personalized approach. The subject is related to the learner's need. This approach provides privacy and allows emphasis on relevant subjects/topics. In the end the learner opens up and asks questions. Non- verbal cues must be observed as a response.

2. **Group Counselling**

The educator counsels a small or large group of learners with similar problems like a family with physically disabled child. You may counsel them as you go for your visit. Questions are posed and answers are given. Much of the information comes from the health care provider.

3. **Couple Counselling**

The educator counsels couples undergoing either medical or social problems. Counselling can be either done in a home setting or at a health centre. When a couple is counselled as one, there is better response to the intended outcome compared to when counselled as individuals.

Self-test question

A good counsellor should observe less and talk more.

c. True

d. False

14.7 Networking with stakeholders

There are a lot of partners who are working with the Ministry Of Health in order to improve the health of the community and some of them include:

3. **WHO:** Assists in human resource development, health systems research, malaria control, expanded program for immunization and provision of vaccines and emergency drugs.
4. **UNICEF**: Responsible for immunization programs, maternal and child health, nutrition, HIV/AIDS control, PHC strengthening and control of diarrheal diseases.
5. **USAID**: Responsible for family planning programs, HIV/AIDS control and child survival programs.
6. **DANIDA**: Responsible for quality assurance, district and provincial capacity building and management of information system.
7. **JICA**: Assist in the provision of drugs and vehicles to different institutions including ministry of health.
8. **SIDA**: Provide essential drugs, involved in reproductive health, rehabilitation of rural health centers, family planning and management.
9. **CARE INTERNATIONAL**: Food security, family planning, road maintenance and supply of treated mosquito nets.
10. **WORLD VISION**: Builds clinics, HIV counseling, training community health workers + TBAs.

11. Community Partnerships

Remember that we discussed community partnership under both unit 2 and unit 3. This is because PHC is a community oriented nursing system which cannot work effectively without community participation.

Here, partnership focuses on the individual community and their role in counselled clients..

The community is involved in the following manner; dialogue on health problems and also actively participating in the laid down activities in order to achieve the set goals.

14.8 Referral system

Referral is a process by which a health worker or facility transfers the responsibility of care to another health worker or facility or social institution that provide another service that provide the needed service.

Reasons for referral

i) Expert advice and examination, this is when the patient will need to be seen by someone who is specialized in the identified needs of the patient and special examinations are done to confirm the diagnosis

ii) Technical intervention – the client has to receive medical care either at the health clinic or they are taken to the hospital. The Community Health Workers have their own limitation. Therefore, it is important to refer patients for technical intervention for conditions beyond the community's scope.

iii) Care beyond the facility's capability- this basically includes the care which is given outside the facility because the facility has no expertise and needed equipment.

iv) Unavailability of resources – the health facility might have the expertise to handle the situation but do not have certain drugs or equipment for conducting investigations and drugs. This entails that identifying other places with the resources will help.

Roles And Responsibilities

Below are the roles and responsibility of health workers during a referral process;

- ***Referring health worker***

- -Should know what, where and when to refer
- - Fills referral form and attach documents
- - Explains to patient/ client the reason, cost and the expected outcome
- - Informs the receiving facility about the referral.
- - Answers queries from liaison officer or receiving facility

  - Receiving health worker

-Responds promptly to consultation requests

- Feedback with all required information

- Communicates with the patient the findings of the assessment

- Not to undermine referring worker by any means

- Referral coordinator/liaison officer

-Responsible for both referrals in and out

-Facilitates scheduling by using communication methods like telephone

-Ensures availability of service at receiving end

- Facilitates transportation for emergency cases

-Keeps referral registry

- **Referring facility**

- Ensures staff awareness

-Continuous supply of referral form

-Keeps directory of health facilities

-Ensures recording of referral activities

-Devises mechanisms to track referral

-Provides transport to emergency cases

-Assigns referral coordinator/liaison officer

- Receiving facility

-Assigns referral coordinator

-Ensures staff at point of entry understand referral process

-Ensures referred patients are seen by appropriate professional

-Considers attached investigations

-Ensures prescheduled referrals are seen without delay

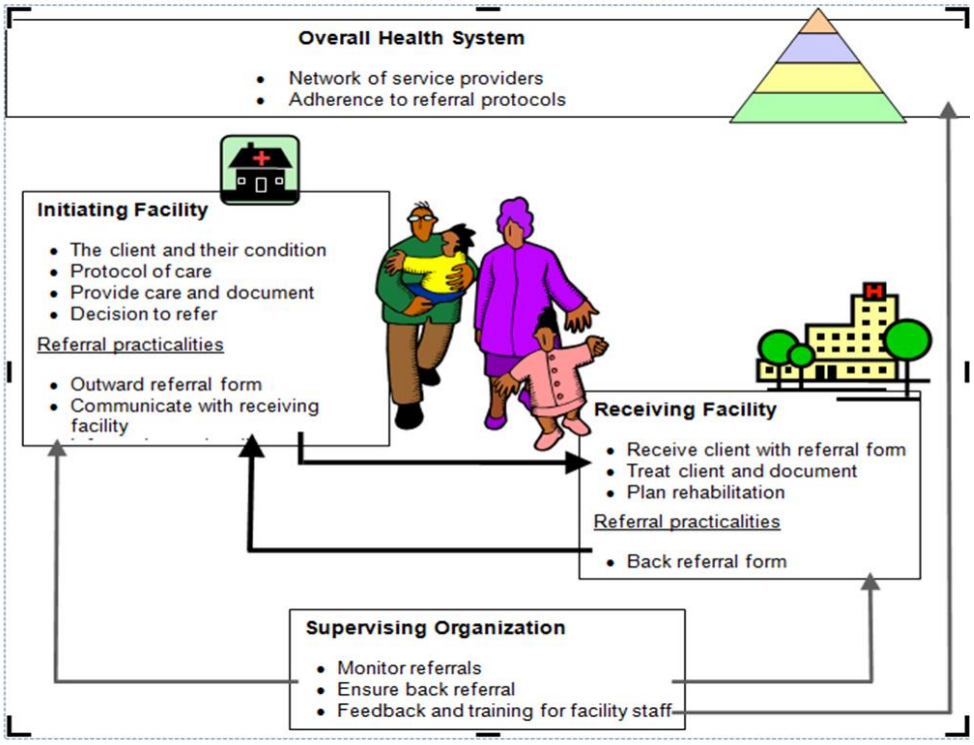

Figure 26: Referral system flows

Self-test question

A patient is referred from one level to another when members of staff are tired of his/her complaint.

a. True

b. False

14.8 Unit Summary

We have just finished discussing the last unit in PHN which is Home Visiting. Under this unit we covered principles of home visit, bag technique, home based care, counselling, health promotion and

education, networking with stakeholders and referral system. We discussed the various types of roles that the PHN assumes in caring for the sick at home, care of the aged etc. we looked at home remedies and also some stakeholders in the community that can help in home based care.

I hope we have realised that it is important to follow up client who have been discharged for continuity of care.

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