



## Future Nursing Research of Older Adults: Preserving Independence and Reducing Health Disparities

Ladda Thiamwong\*

**Abstract:** Nursing professionals are at the forefront of primary care and the largest segment of the health workforce, and nurse researchers can bring vital perspectives to aging research and clinical practice. Although healthcare systems are experiencing more work from the aging of populations, unfortunately there are limited nurse researchers trained in gerontological nursing. Future research in older adults needs to be based on the current needs of and for older adults. In this article, I identify potential future research of aspects for older adults by highlighting opportunities and examples to conduct culturally appropriate interventions that aim to reduce health disparities and preserve independence.

Because there is a complexity of health issues in older adults, nurse researchers need to pursue the best ways to address their needs, investigate and disseminate technology-based assessments, provide culturally appropriate interventions to promote independence, prevent chronic conditions, and enhance health equality. Nurses and nurse researchers also need to monitor the changes in functional status and health of older adults, especially as the global burden and costs of diseases and disability of this population grows, and to save unnecessary health care expenditure. To create new knowledge and discover best practices in aging care, nurse researchers lead multidisciplinary teams, develop innovative ideas with the potential for significant clinical impact, and use appropriate research approaches that steer to successful grant applications to national funding agencies. It is essential to establish a program for training or mentoring nurse researchers dedicated to caring for older adults, advocating, and disseminating innovative care to maximize the independence of older adults.

*Pacific Rim Int J Nurs Res 2022; 26(1) 1-6*

**Keywords:** Aging, COVID-19, Health Disparities, Independence, Nursing, Nurse Researchers, Older Adults, Technology

Received 7 April 2021; Revised 14 April 2021;  
Accepted 23 April 2021

Nursing professionals are at the forefront of primary care and the largest segment of the health workforce. Nurse researchers bring vital perspectives to aging research and clinical practice that may be

*Correspondence to: Ladda Thiamwong, \* PhD, RN, Associate Professor, College of Nursing, University of Central Florida, Orlando, FL, USA. Email: ladda.thiamwong@ucf.edu*

undervalued or overlooked by other disciplines. Whereas healthcare systems encounter population aging, there still are limited nurse researchers trained in gerontological nursing. As revised by the American

Nurses Association (ANA) in 2018, the goals of gerontological nursing are to optimize health and functions, prevent illness and injury, facilitate healing, alleviate suffering, and advocate for older adults, families, carers, groups, communities, and populations.<sup>1</sup> Caring is a core nursing value and a desirable attribute that developed in nurses. Positive attitudes toward aging and caring behaviors in nurse researchers lead them to play an essential role in working with researchers in other fields (e.g., engineering, computer science) and interact with older adults and their families to better address complex health problems.

By 2030, the number of people aged  $\geq 60$  years is projected to grow by 56% (1.4 billion) and is expected to grow fastest in Latin America and the Caribbean, Asia, and Africa, respectively.<sup>2</sup> More than 1 billion adults aged 60 who live in low- and middle-income countries do not have access to essential resources and combat multiple barriers.<sup>3</sup> Extreme global poverty rose in 2020 as the disruption of the coronavirus disease (COVID-19) pandemic compounded the forces of climate change.<sup>3</sup> In addition, aging speeds up during middle adulthood (ages 40–65) and over half of adults aged  $\geq 60$  years live with two or more chronic health conditions.<sup>4</sup> A recent scoping review revealed that older adults with chronic conditions require care models and support services, especially older workers and older carers, since they have unmet care needs related to physical, psychological, social, and environmental factors.<sup>5</sup>

Aging populations are more negatively affected by disasters, including climate change, and health emergencies such as the current COVID-19 global pandemic, and they are less likely to access resources to help mitigate the consequences.<sup>6</sup> This pandemic has magnified life's uncertainty and inevitable health, social and economic consequences,<sup>7</sup> especially in older adults who experience health disparities and ageism. Physical/social distancing and lockdown have been adopted as a critical strategy to help reduce the further spread of COVID-19. However, prolonged periods of those strategies may worsen existing health problems,<sup>8,9</sup>

including frailty and falls. As evidenced in a systematic review, social isolation is significantly associated with falls.<sup>10</sup>

In many regions, the cumulative effects of chronic conditions, the COVID-19 pandemic, and climate change effects such as floods, have impacted and highlighted several existing gaps for populations of older people, including an inability to access healthcare resources and essential public services, and technology services such as telehealth, apps to manage health conditions. There is a need to address the differences in technological accessibility and improve digital literacy within impoverished communities.<sup>6</sup> Even in a high-income country like the United States, almost 22 million seniors (42%) do not have internet access at home, and 40% of COVID-19 deaths among older adults occurred when they were unable to access essential online resources at their place during the pandemic.<sup>11</sup> Older adults have been using technology to keep in touch with family and friends to reduce the adverse effects of prolonged social isolation.<sup>6</sup>

#### **Future nursing research in older people**

Future research should be based on the current needs of older adults, so the role of nurse researchers is to identify potential topics, and highlight opportunities and examples to conduct research for this population aiming to 1) preserve independence and provide culturally appropriate interventions; and (2) reduce health disparities.

#### **Preserving independence and providing culturally appropriate interventions.**

Aging is a risk factor for functional decline and diseases,<sup>12</sup> and primary prevention is a public health priority. A prospective cohort study in the United States found that the number of extra disease-free years is around 10 for women and 7.6 for men compared to persons with no low-risk lifestyle factors.<sup>13</sup> It is never too late to change health behaviors to decrease the risk of chronic diseases by starting an early investment in health and wellness that centers on disease prevention and promotion across the life span are keys. As nurse

researchers we need to try to understand future disease patterns better that are related to disability in later life. Health behaviors such as physical activity, diet quality, and appropriate body weight can extend lifespan, and postpone the onset of disability at older ages. For instance, several research studies revealed that older adults are less likely to participate in physical activity<sup>14-16</sup> and the lack of this activity is related to falls, chronic conditions, and poor quality of life.<sup>17,18</sup> Physical activity protects against frailty in men and women of all ages.<sup>19</sup> A longer life free from diseases such as type 2 diabetes, cancer, and cardiovascular disease is linked to healthy habits in middle age.<sup>13</sup> Strategies for promoting physical activity adherence among midlife and older age in real-world contexts are needed. A recent study in the United States shown that a culturally adapted exercise program helped Hispanic older adults to be more active and improve their physical function.<sup>20</sup>

Assessment plays a vital component in aging research and is embedded in the nursing process. Utilizing innovative and cost-effective technologies to assess physical and cognitive, and other abilities associated with maintaining independence are needed. Additionally, an intense research effort is warranted to identify risks by using a combination of subjective measure and objective measure is likely to be more beneficial to older adults and health care providers in terms of assessment and tailor interventions. For example, using innovative portable technology (BTrackS Balance System) to assess discrepancies of physiological fall risk (objective measure) and perceived fall risk (subjective measure) and provide virtual physio-feedback based on an objective measure.<sup>21</sup> Novel physio-feedback technology is affordable, easy to use, provides visual presentation, and possibly encourages older adults to participate in the exercise program.<sup>22</sup>

A systematic review indicated that technology-based exercise interventions have good adherence and may provide a sustainable method of promoting physical activity and preventing falls.<sup>23</sup> Integrating digital technology into interventions may increase accessibility

and success of screening and tailor interventions based on older adults' culture and context to increase adherence and drive improvement. Furthermore, connecting older adults with technology may be an effective way for older adults to maintain self-reliance without leaving their residence,<sup>24</sup> and enhancing technology-based assessments may facilitate better outcomes.<sup>25</sup> Innovative technology brings effective strategies to maintain independence, prevent disability, and increase access to quality care. For example, apps linked to a mobile phone can help with medication management and exercise adherence, and wearable technologies can track activities in real-time. Moreover, future research should provide the insights needed to facilitate a safer environment that encourages physical and psychosocial engagement and identifies safety risks at home or in neighborhoods to reduce falls and injuries.

#### **Reducing health disparities**

Health disparities are the differences between populations in their ability to access and achieve positive health outcomes. Several factors are associated with health disparities, such as age, gender, education, socioeconomic status, disability, ethnicity, race, and geographic location. For instance, in the United States, the National Institute on Aging (NIA) is accelerating efforts to understand how to prevent or lessen the effects of chronic conditions by designing more culturally appropriate interventions and discovering means to enhance healthy behaviors among ethnically diverse older adults.<sup>26, 27</sup> In addition, the National Institutes of Health (NIH) has funded research activities that help communities disproportionately affected by COVID-19, build trust, and address barriers and challenges surrounding prevention and treatment.<sup>28</sup>

As the number of frail older adults increases sharply and the demand for informal care by disabling older adults from their adult children is projected to rise faster than supply over the next 20 years, future research may gear to promote informal caregiving and support carers. Having an informal caregiver can improve older adults' well-being and reduce depressive

symptoms. However, the burden on caregivers and changes in their health status may be related to earlier institutionalization for older patients. We need to have a better understanding of how caregiving impacts older patients and caregivers' health issues.

In conclusion, regarding the complexity of health, not only in "normal" situations but also in global pandemics and disasters, nurse researchers pursue the best ways to address the needs of older adults, investigate and disseminate technology-based assessments and culturally appropriate interventions to promote independence and enhance health equality. We also need to monitor the changes in functional status and health of older adults on the global burden and costs of diseases and disability as the older population grows to save unnecessary health care expenditure. To create new knowledge and discover best practices in aging care, nurse researchers lead multidisciplinary teams, develop innovative ideas with the potential for significant clinical impact, and use appropriate research approaches that steer to successful grant applications to national funding agencies. It is essential to establish a program for training or mentoring nurse researchers dedicated to caring for older adults, advocating, and disseminating innovative care to maximize the independence of older adults.

## **Acknowledgments**

National Institutes of Health/National Institute on Aging (NIH/NIA 1R03AG06799-0)

Learning Institutes for Elders (LIFE) at the University of Central Florida (26038A06)

## **References**

1. Bickford C. A contemporary look at gerontological nursing. [cited 2021 March 3]. Available from: <https://www.myamericannurse.com/gerontological-nursing/>
2. United Nations. World population ageing-the United Nations 2015. [cited 2021 March 3]. Available from: [https://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015\\_Highlights.pdf](https://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Highlights.pdf)
3. The World Bank. Poverty. [cited 2021 March 3]. Available from: <https://www.worldbank.org/en/topic/poverty/overview>
4. Office of Disease Prevention and Health Promotion. Older adults: Healthy People 2020. [cited 2021 March 3]. Available from: <https://www.healthypeople.gov/2020/topics-objectives/topic/older-adults>
5. Abdi S, Spann A, Borilovic J, de Witte L, Hawley M. Understanding the care and support needs of older people: a scoping review and categorisation using the WHO international classification of functioning, disability and health framework (ICF). *BMC Geriatrics*. 2019;19(1): 195. doi: 10.1186/s12877-019-1189-9.
6. Martins Van Jaarsveld G. The effects of COVID-19 among the elderly population: a case for closing the digital divide. *Front Psycho*. 2020;11:577427. doi: 10.3389/fpsy.2020.577427.
7. Douglas M, Katikireddi SV, Taulbut M, McKee M, McCartney G. Mitigating the wider health effects of COVID-19 pandemic response. *BMJ*. 2020;369:m1557. doi: <https://doi.org/10.1136/bmj.m1557>.
8. Lithander FE, Neumann S, Tenison E, et al. COVID-19 in older people: a rapid clinical review. *Age Ageing*. 2020; 49(4):501-15. doi.org/10.1093/ageing/afaa093.
9. Sands LP, Albert SM, Suitor JJ. Understanding and addressing older adults' needs during COVID-19. *Innov Aging*. 2020;4(3): 1-3. doi.org/10.1093/geroni/igaa019.
10. Petersen N, König H-H, Hajek A. The link between falls, social isolation and loneliness: a systematic review. *Arch of Gerontol Geriatr*. 2020 May-Jun;88:104020. doi: 10.1016/j.archger.2020.104020.
11. Bussinesswire. 22 million U.S. seniors lack broadband internet access; first time study quantifies digital isolation of older Americans as pandemic continues to ravage nation. [cited 2021 March 3]. Available from: <https://www.businesswire.com/news/home/20210127005243/en/Report-22-Million-U.S.-Seniors-Lack-Broadband-Internet-Access-First-Time-Study-Quantifies-Digital-Isolation-of-Older-Americans-as-Pandemic-Continues-to-Ravage-Nation>
12. Niccoli T, Partridge L. Ageing as a risk factor for disease. [cited 2021 March 3]. Available from: <https://www.sciencedirect.com/science/article/pii/S0960982212008159>

13. Li Y, Schoufour J, Wang DD, et al. Healthy lifestyle and life expectancy free of cancer, cardiovascular disease, and type 2 diabetes: prospective cohort study. *BMJ*. 2020; 368:l6669. doi.org/10.1136/bmj.l6669.
14. Plow MA, Allen SM, Resnik L. Correlates of physical activity among low-income older adults. *J Appl Gerontol*. 2011; 30(5):629-42. doi.org/10.1177/0733464810375685.
15. Boyan N & Jackson C. Health and finances top concerns of the United States seniors [cited 2021 March 3]. Available from: <https://www.ipsos.com/en-us/news-polls/Ipsos-NCOA-2019-National-Survey-of-Older-Americans>
16. Craike M, Bourke M, Hilland TA, et al. Correlates of physical activity among disadvantaged groups: a systematic review. *Am J Pre Med*. 2019;57(5):700-15. doi: 10.1123/japa.2017-0213.
17. Gaskin CJ, Orellana L. Factors associated with physical activity and sedentary behavior in older adults from six low-and middle-income countries. *Int J Env Res Pub Health*. 2018;15(5):908. doi: 10.3390/ijerph15050908.
18. Su TT, Azzani M, Adewale AP, Thangiah N, Zainol R, Majid H. Physical activity and health-related quality of life among low-income adults in metropolitan Kuala Lumpur. *J Epidemiol*. 2019;29(2):43-9. doi: 10.2188/jea.JE20170183.
19. Landi F, Abbatecola AM, Provinciali M, et al. Moving against frailty: does physical activity matter? *Biogerontology*. 2010; 11(5):537-45. doi: 10.1007/s10522-010-9296-1.
21. Burrows B, Andrade FCD, Piedra L, et al. The influence of evidence-based exercise and age reattribution on physical function in hispanic older adults: results from the ¡Caminemos! Randomized Controlled Trial. *J Appl Gerontol*. 2021;40(3):278-88. doi: 10.1177/0733464820927171.
20. Thiamwong L, Sole ML, Ng BP, Welch G, Huang H, Stout J. Assessing fall risk through combined physiological and perceived fall risk measures using innovative technology. *J Gerontol Nurs*. 2020;46(4):41-7. doi.org/10.3928/00989134-20200302-01.
22. Thiamwong L, Stout JR, Sole ML, Ng BP, Yan X, Talbert S. Physio-Feedback and Exercise Program (PEER) improves balance, muscle strength, and fall risk in older adults. *Res Gerontol Nurs*. 2020; 13(6): 289-96. doi.org/10.3928/19404921-20200324-01.
23. Valenzuela T, Okubo Y, Woodbury A, Lord SR, Delbaere K. Adherence to technology-based exercise programs in older adults: a systematic review. 2018;41(1):49-61.
24. Thiamwong L, Huang HJ, Ng BP, et al. Shifting maladaptive fall risk appraisal in older adults through an in-home Physio-fEedback and Exercise pRogram (PEER): a pilot study. *Clin Gerontol*. 2020;43(4):378-90. doi.org/10.1080/07317115.2019.1692120.
25. Thiamwong L, Stout JR, Park J-H, Yan X. Technology-based fall risk assessments for older adults in low-income settings: protocol for a cross-sectional study. *JMIR Res Protoc*. 2021;10(4):e27381. doi: 10.2196/27381.
26. National Institute on Aging. Selected future research directions. [cited 2021 March 20]. Available from: <https://www.nia.nih.gov/about/budget/selected-future-research-directions>
27. National Institute on Aging. The US National Institute on Aging: strategic directions for research 2020-2025. [cited 2021 March 20]. Available from: <https://www.nia.nih.gov/about/aging-strategic-directions-research/goal-health-interventions#c3>
28. National Institutes of Health. NIH to invest \$29 million to address COVID-19 disparities. [cited 2021 May 11]. Available from: <https://www.nih.gov/news-events/news-releases/nih-invest-29-million-address-covid-19-disparities>

## การวิจัยทางการแพทย์ในอนาคตของผู้สูงอายุ: สงวนรักษาอิสรภาพและลดความไม่เท่าเทียมทางสุขภาพ

ลัดดา เถียมวงศ์\*

**บทคัดย่อ:** วิชาชีพพยาบาลเป็นด้านหน้าของการดูแลสุขภาพในระดับปฐมภูมิและเป็นกลุ่มที่ใหญ่ที่สุดในทีมสุขภาพ นักวิจัยพยาบาลเป็นผู้นำมุมมองที่สำคัญมาสู่การวิจัยด้านการสูงอายุและการปฏิบัติทางคลินิก ในขณะที่ระบบสุขภาพเผชิญกับกลุ่มประชากรผู้สูงอายุที่เพิ่มมากขึ้น แต่จำนวนนักวิจัยพยาบาลที่ผ่านการฝึกทางด้านการศึกษาการพยาบาลผู้สูงอายุยังมีจำนวนจำกัด การวิจัยเกี่ยวกับผู้สูงอายุในอนาคตขึ้นอยู่กับความจำเป็นในปัจจุบันของผู้สูงอายุและผู้ดูแลผู้สูงอายุ บทความนี้มีจุดมุ่งหมายเพื่อนำเสนอแนวโน้มและโอกาสการวิจัยในผู้สูงอายุในมุมมองในสองเป้าหมาย คือ เพื่อสงวนรักษาอิสรภาพและจัดกิจกรรมให้เหมาะสมกับวัฒนธรรม และลดความไม่เท่าเทียมทางสุขภาพ เนื่องจากความซับซ้อนทางสุขภาพของผู้สูงอายุนักวิจัยพยาบาลจะต้องมุ่งหาวิธีการที่ดีที่สุดที่จะตอบสนองความจำเป็นของผู้สูงอายุ ต้องทดสอบ และนำเสนอวิธีการประเมินสุขภาพโดยใช้เทคโนโลยีและจัดกิจกรรมให้เหมาะสมกับวัฒนธรรมเพื่อส่งเสริมการมีชีวิตที่อิสระ ป้องกันการเจ็บป่วยเรื้อรัง และสนับสนุนความเท่าเทียมทางสุขภาพ นอกจากนี้นักวิจัยพยาบาลจะต้องเฝ้าติดตามการเปลี่ยนแปลงของสมรรถภาพและความสามารถในการทำหน้าที่ของผู้สูงอายุต่อทุกภาระและค่าใช้จ่ายของโลกโดยรวม เพื่อป้องกันการสูญเสียค่าใช้จ่ายทางสุขภาพในสิ่งที่ไม่จำเป็น เพื่อบรรลุเป้าหมายในการสร้างองค์ความรู้ใหม่และค้นหาวิธีการดูแลผู้สูงอายุที่ดีที่สุด นักวิจัยทางการแพทย์จะเป็นผู้นำทีมสหสาขาวิชาชีพ พัฒนาความคิดเชิงสร้างสรรค์ที่มีความสำคัญและมีแนวโน้มที่จะทำให้เกิดผลลัพธ์ที่เด่นชัดในคลินิก โดยใช้ระเบียบวิจัยที่เหมาะสมและนำไปสู่การประสบความสำเร็จในการขอทุนวิจัยจากองค์กรระดับชาติ จึงจำเป็นอย่างยิ่งที่จะต้องพัฒนาโปรแกรมเพื่อฝึกหัดหรือเป็นพี่เลี้ยงให้นักวิจัยพยาบาลที่มุ่งมั่นเพื่อการปกป้องดูแลผู้สูงอายุ และนำเสนอเผยแพร่การดูแลโดยใช้แนวคิดเชิงสร้างสรรค์ ที่ช่วยส่งเสริมความเป็นอิสรภาพของผู้สูงอายุ

*Pacific Rim Int J Nurs Res 2022; 26(1) 1-6*

**คำสำคัญ:** การสูงอายุ โควิด-19 อนาคต ความไม่เท่าเทียมทางสุขภาพ อิสรภาพ พยาบาล ผู้สูงอายุ วิจัย

ติดต่อที่: ลัดดา เถียมวงศ์,\* PhD, RN, รองศาสตราจารย์ มหาวิทยาลัยเซนต์ฟรัล  
ฟลอริดา ออแลนโด ฟลอริดา สหรัฐอเมริกา E-mail: ladda.thiamwong@ucf.edu

Copyright of Pacific Rim International Journal of Nursing Research is the property of Thailand Nursing & Midwifery Council and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.