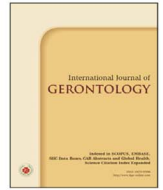




International Journal of Gerontology

journal homepage: <http://www.sgecm.org.tw/ijge/>



Special Issue

An Integrative Literature Review: Health Literacy and Learning Ability among Older Adults with Chronic Illness

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ARTICLE INFO

Accepted 6 July 2019

Keywords:

health literacy,
elderly learning,
chronic illnesses

SUMMARY

Background: Chronic illness is life adversity that suffered older people. Health literacy plays an essential role to improve their quality of life, also relates to how the elder learned from their entire lives. To promote suitable health care, an understanding of health literacy in older people is needed to be described and expanded. This study aims to understand an existing knowledge about health literacy and learning ability among older people who experience chronic illness. It will consequentially guide to improve the older wellbeing and deliver better care services.

Design: An integrative review of literature.

Methods: This review was limited to original articles in English and Thai. Bowling and Pearson's quality appraisal were critically reviewed to integrate the results of the literature.

Results: This study delivered the three associated issues about health literacy and their learning ability to promote and improve health among older people with chronic illness. There were; 1) health literacy and older people, 2) related factors of learning in older adults and older adults with chronic illness, and 3) health literacy among older people with chronic illness.

Conclusion: Existing knowledge of health literacy and learning ability among older adults with chronic illness was dismissed. Low level of health literacy significantly has a diverse impact on their holistic health. Social and cultural issues were found as both positive and negative related to their learning. An appropriated approach to understanding the uniqueness of each older person is required for future learning health literacy.

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1. Introduction

The world population of an older adult will increase 2.1 billion by 2040, and half of these are from Asian countries. The rising life expectancy has contributed to the high proportion of very old ages people. This increase has led to a rise in the incidence of chronic illness such as hypertension, heart disease, diabetes and cancer.^{15,41,42} Chronic illness is a significant burden on the health care system internationally and contributes to social and economic problems. The major factor that has contributed to this burden is the increasing numbers of an older adult who are living longer but with chronic illness.

With regards older people are experiencing chronic diseases, they require for medical and nursing reliance. Older people are highly expected to understand and be able to read throughout the health information for example prescriptions, and medication's label. Although aging changes found to limit them to access, understand and making a decision themselves. Chronic diseases also clinically impact on elder's intellectual which related to physical and

abilities reduction. These associated to their presently thought and decision making due to sensory and cognitive declines.^{8,12,26,34,44}

Health literacy has been defined as an individual understands together with social skills. It helps to establish oneself abilities for accessibility, be able to understand, communicate and using information in order to promote and maintain the elder's wellbeing. Additionally, health literacy has been recognized as a significant outcome throughout health education and health promotion.^{6,11,12,32} Whereas, health education is a path to deliver knowledge to improve health literacy. Health literacy, therefore, is the process of learning that assist people to change for their healthy behaviour.^{8,28} Additionally, McClusky¹⁸ explained that teaching and promote learning in elderly needs to consider their physical changes, cognitive functions, also stages of changes in emotion and psychosocial. Accordingly, to promote elder's capabilities of perceiving, understanding and making an appropriate decision needs a clearly considerations of patterns and methods of how elderly are learning.^{1,9,14,16}

An understanding of existing knowledge about health literacy and learning ability among older people who have experienced chronic illness(s) is needed. This aim to establish an improvement of an elder's health and their wellbeing also address a future impact on health promotion program, better health services.

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2. The integrative review

2.1. Aim

To describe the existing knowledge of health literacy and their learning ability among older adults with chronic illness(s).

2.2. Search strategy

A review of the literature was conducted utilizing CINAHL, Medline, EMBASE, ERIC, Thai LIS, and manual checking to seek and retrieve articles. The search was limited to English and Thai language articles published from 2000 to 2017 in three main search terms; health literacy, older adult with chronic illness, and learning ability.⁹

Inclusion criteria: Qualitative and quantitative studies were included about: theory relevant to learning and health promotion for older adult, older adult and learning, and older adult with chronic illness and learning. Studies about the older people included only those that recruited adults aged 50 years and over, which is consistent with the definition of educational gerontology.

Exclusion criteria: Systematic reviews or discussion papers with

insufficient information for quality appraisal, unable to access the full paper, and research that recruited adults younger than 50 years were excluded.

2.3. Search results

Search 1: Initially, the search retrieved 12,155 articles and after removal of discussions and other non-empirical papers, and duplications.

Search 2: The initial results of the search delivered four hundred and forty-nine (n = 449) articles. Assessing keywords, the titles and abstracts were used in the primary review to remove the inappropriate articles. The remaining one hundred and fourteen (114) articles were reviewed using two methods in order to select the relevant articles: revisiting the inclusion and exclusion criteria. A quality appraisal of qualitative studies was guided by Bowling, 2009 and quantitative studies were used Pearson, 2004. Manual checking was also expanded to search for papers and resulted in the retrieval of additional papers of which that suit for quality appraisal. The literature review was performed on the final total of thirty-five (35) relevant articles (See Figure 1).

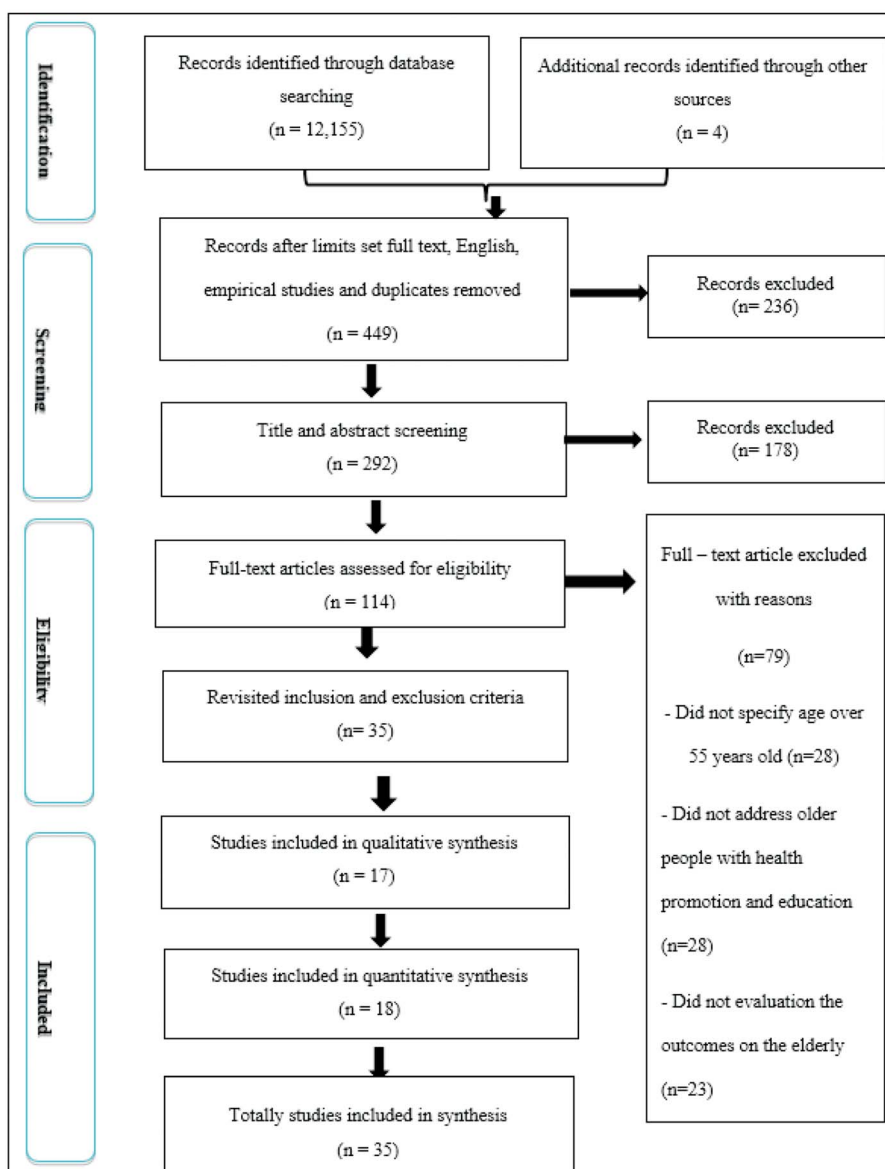


Figure 1. Flow chart of PRISMA (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009).

2.4. Summary of the articles

The quality appraisal of the quantitative papers was conducted using the method developed by Pearson.²⁷ Ten papers were medium quality (met 13–16 criteria) and nine were high quality (met 17–20 criteria).

The quality appraisal of the qualitative papers was conducted using the method developed by Bowling.⁵ Most of the appraisal criteria were met by fifteen qualitative papers. Fourteen were classified as being of high quality (met 8–10 criteria) and only one study was medium quality (met 6–7 criteria). Most of the quantitative studies utilized descriptive statistical methods and only some correlation or regression analysis. Additionally, one reference tracking from a manual searched also included (See Table 1).

3. Results

Health literacy is an essential outcome that exhibited from oneself learning, health education and health promotion program. Based on the literature, it revealed results which divide into three topics of; 1) health literacy and older people, 2) related factors of older adults and older adults with chronic illness learning, and 3) health literacy among older people with chronic illness.

3.1. Health literacy and older people

Health literacy addressed to promote and improve health among older people, regardless of an aging process that possibly limited the literate level.^{21,40} It also was an essential tool to improve health outcomes and reduce health inequities.⁴⁰ Health literacy was documented as an individual's capacities. Accordingly, it associated with health care policies which provide environmental support and deliver the change of elder's behavior – to be transformed.^{40,41}

Low level of health literacy in older people found to be related to a high prevalence of health risk which includes poor self-management, poor diseases outcomes, poor medication adherence, poor overall health status, and less participation in health prevention ac-

tivities. A short of health literacy also increase adverse medication events, less effective communication with health care professionals, increased healthcare cost, and increase hospital admission and re-admission.⁴³ Additionally, a low level of health literacy has been significantly found in older people who live in low and middle-income countries. This was considering on the barriers to access to health information and services pertaining to non-communicable risk behaviors which include consumed less vegetable, fruits, and fish.^{42,43}

Health literacy therefore was considered as the key to resolve those problems, as well as to meet with the health needs of older person who unable to engage the existing health care services. Health literacy has been described as an ability to engage with health information and services in order to make an effective decision about health for oneself. The studies showed that health literacy of each individual was different where the needs of everyone are not the same. This different was due to the individual health status, social and cultural needs, race, and educational attainment.^{12,42,43}

3.2. Related factors of learning in older adults and older adults with chronic illness

Learning is about “any combination of learning experiences designed to help individuals and communities improve personal health, by increasing their knowledge or influencing their attitudes and behaviours” page 16.⁴⁰ Learning of each older person is different from others and this due to their aged that could affect their learning abilities. Effective teaching is consequentially accomplished by understanding their unique abilities for learning.^{10,18} Future more, culture and experience play a vital role in their learning ability.^{6,10} Twelve studies were found about this matter and it divides to two categories: older adult learning and learning in the older adult with chronic illness.

3.2.1. Older adult learning

Most of the quantitative studies were conducted in western countries while the qualitative studies were conducted in US and

Table 1
Quality of appraisal

Quantitative studies critical appraisal checklist (Bowling, 2009) (N = 18)	Quality of Appraisal			Qualitative studies critical appraisal checklist (Pearson, 2004) (N = 17)	Quality of Appraisal		
	Yes	No	Unclear		Yes	No	Unclear
1. Aims and objectives clearly stated	18	-	-	1. Congruity between stated philosophical perspective and research methodology	17	-	-
2. Hypothesis/research questions clearly specified	18	-	-	2. Congruity between methodology and research question or objectives	17	-	-
3. Dependent and independent variables clearly stated	18	-	-	3. Congruity between methodology and methods used to collect data	17	-	-
4. Variables adequately operationalized	18	-	-	4. Congruity between methodology and representation and analysis of data	16	1	-
5. Design adequately described	18	-	-	5. Congruity between methodology and interpretation of results	17	-	-
6. Method appropriate	18	-	-	6. There is a statement locating the researcher culturally or theoretically	17	-	-
7. Instruments used tested for reliability and validity	6	12	-	7. The influence of the researcher on the research, and vice-versa is addressed	14	3	-
8. Source of sample, inclusion/exclusion, response rates described	18	-	-	8. Participants and their voices are adequately represented	17	-	-
9. Statistical errors discussed	7	11	-	9. Ethical according to current criteria, evidence of ethical approval	10	7	-
10. Ethical considerations	10	8	-	10. Conclusions drawn flow from analysis or interpretation of data	17	0	-
11. Was the study piloted	8	10	-				
12. Statistically analysis appropriate	18	-	-				
13. Results reported and clear	18	-	-				
14. Results reported related to hypothesis and literature	18	-	-				
15. Limitations reported	11	7	-				
16. Conclusions do not go beyond limit of data and results	18	-	-				
17. Findings able to be generalised	0	18	-				
18. Implications discussed	18	-	-				
19. Existing conflict of interest with sponsor	-	-	-				
20. Data available for scrutiny and reanalysis	18	-	-				

Estonia. The quantitative studies reported descriptive statistics and the qualitative studies used various research methods. The factors that positively influenced learning included: hobby-linked, fun or productive activities;^{25,31} being interested in a topic;^{21,20} engaging in social contact;^{9,20,22} desire to continue to develop as a person.²⁵ One study found that older adult in different cultures has different factors that positively influence their learning.^{13,16}

Factors that were reported to be barriers to older adult learning were time management, the expense of a programs, and lack of information.^{30,31} Only two papers focused on older adult learning materials; they found that older adult access the internet for learning and a number of recommendations for the presentation of learning materials.³⁴ However, both of these studies were conducted in Estonia and had a small sample size.

3.2.2. Learning of older adult with chronic illness

The factors that positively influenced older adult learning and assisted them to manage their chronic illness were: culture;^{2,3,12} group activities; support from friends and family,²⁸ and the health care provider's assistance.²⁶ One study from China reported barriers to learning about the chronic illness as having health insurance, those who did not participate in social activities, and had no family history of chronic illness.^{32,43} A low awareness level of chronic illness conditions was reported as a barrier in India and Bangladesh.

3.2.3 Health literacy among older adult with chronic illness

There were some papers which explored the health literacy in relation to chronic illness. A descriptive research that aimed to evaluate the level of health literacy and self-care behaviours among 25 DM patients were carry out in primary health care centre. Two third of participants had a low level of health literacy. All the most found not be able to interpret the level of their blood sugar as well as had inadequate to understand the purpose of blood sugar control, complications, and do not know how to manage when they missed the time to take pill.²⁹

One action study was conducted at the municipal district of one province in Thailand. The study aimed to assess the level of knowledge among 84 chronic illnesses elder. The findings revealed that

more than half of every groups of NCDs patient have an accurate knowledge of nutrition and exercise associated to their disease(s). This study showed that the elder preferred the health trainings program to improve their behaviours.³⁸

Another cross-sectional study was studied from the primary health care centre. The study aimed to explore the causal relationships between health literacy, culture and society, cognitive ability, the and medication adherence in elder (n = 600). This study found 48.7% of the participants had inadequate health literacy. The greatest effects on blood pressure level were critical and communicative health literacy.³⁹

Gazmararian and colleague¹² conducted a survey from 653 elder with chronic illness at community in the US. This research examined the relationship between health literacy and knowledge of chronic diseases. This study reported that 24% of older adult patients had inadequate health literacy skills, and 12% had marginal health literacy. This study concluded that low health literacy was directly related to an increase in the co-morbidity and mortality of chronic illnesses in older adult.

4. Discussion

Health literacy is an essential path to reach healthy outcomes. Health education is to positively influence through educational processes of health literacy and associated the individuals' health behavior, social activities, and their communities. This integrative review provides evidence of health literacy that links to various factors were affected by learning ability among older adults.

Currently, learning processes in older people is a key path of health promotion that determine an essential component of improving quality of life and health outcomes. How health care professionals can promote healthy ageing is challenged globally.^{3,7,8,43,44}

Literate and educational level found to support and trigger health literacy. Knowledge about the disease(s), lifestyle, and positive health perception were helped to promote elder's learning capacities and improve health outcomes.^{7,35-37} The literature indicated that the older person's previous experience, for instance, their occupational background, was also recommended to use as a link

Table 2
Summary of the factor relating to older adults learning and health promotion.

Factors	Internal factors	External factors
A. Factors related to learning by older people		
Positive factors	- Social experiences - Local ways of learning associated with culture And cognitive interest	- Social contact - Technological and internet-based learning
	- Experiences and self-interest - Self-motivation - Making life meaningful	- Hobby-linked, fun or productive activities - Group activities
Negative factors	-	- Daily life management - Lack of time
B. Factors that influence learning by and health promotion of older people with chronic illness		
Positive factors	- Spiritual beliefs - Positive health perceptions - Self-management - Self-motivation - High level of disease knowledge - High level of awareness of the chronic illness - The knowledge of their disease and lifestyle - Knowing about community services	- Health care providers' support - Family and friend's support - Social participation - Group sharing
Negative factors	- Fear of pain and injury and treatment efficacy concerns - Low health literacy was associated with low levels of knowledge about illness - Low self-awareness of chronic condition	- Time conflicts and transportation - Family's culture and beliefs - Low levels of education; not participating in social activities

toward what they already know to new information that facilitates a learning process.^{1,2,14,17,20,23,30,31}

Significantly, this study found that culture was assisted older adult for their learning^{16,24,33} as well as barrier them to be learned. An understanding of different culture thus gains a varied perception of elder's learning abilities.^{1,4,13} Social support within their culture showed as a crucial factor to promote their learning in health behaviour especially from friends, family, and health care providers. Additionally, diverse countries presented an impact on learning barriers. This caused by culture and socio-economic background.^{14,24,35} For example, in China, the barriers of learning about the chronic illness were found in older people who ensured health insurance, the one who not participate in social activities, and had no family history of chronic illness. Whereas, a low awareness level of chronic illness conditions was reported as a barrier in India and Bangladesh. Time conflicts, transportation, fear of pain, and an injury were the learning barriers that identified from the US.¹

The benefits of health literacy and understanding learning processes of the elderly are widespread. Improving an individual health leads to improve their social interactions and personal motivation. A healthy population will contribute to the stability of an economy and reduce costs to the health care system.^{40,41}

5. Limitations

Articles used in this integrative review only showed findings from evidence based mostly in Western countries. Some studies were conducted in Asia. Many studies did not report an ethical approval processes, and also did not describe the validity and reliability of the instruments used in the quantitative studies. No study results were able to be generalised, despite one study being a RCT. Most of the quantitative studies utilised descriptive statistical methods and only some used correlation or regression analysis.

6. Conclusion

Older adults are living longer but so with increasing levels of disability from chronic illness, significantly increasing the burden on the health care system. Health literacy found to be the essential key to pass on knowledge and skills in order to promote a health promotion. Significantly, literature now tells us that there is little evidence concerning the factors that facilitate health promotion among elder who experienced chronic disease(s). Those factors were found to be positive and negative impacts on their learning ability. Accordingly, sociocultural within the different counties also shows an essential impact.

Conflict of interest

No conflict of interest has been identified by the authors.

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