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ผลของความรอบรู้ด้านสุขภาพและการรับรู้ภาวะสุขภาพของตนเองต่อคุณภาพชีวิตของผู้สูงอายุในสามจังหวัดชายแดนใต้ประเทศไทย

Effects of Health Literacy and Self-Perceived Health Status on Quality of Life of Elderly in Three Southern Border Provinces of Thailand

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บทคัดย่อ

การวิจัยเชิงพรรณานี้เพื่อศึกษาความสัมพันธ์ระหว่างความรอบรู้ด้านสุขภาพ การรับรู้ภาวะสุขภาพและคุณภาพชีวิตของผู้สูงอายุ เก็บข้อมูลจากผู้สูงอายุ 433 คนที่มีอายุ 60 ปีขึ้นไปในสามจังหวัดชายแดนใต้ประเทศไทย คัดเลือกอาสาสมัครจากกลุ่มตัวอย่างใน 17 องค์การบริหารส่วนตำบลที่สมัครใจเข้าร่วมการดำเนินการตามนโยบายส่งเสริมสุขภาพผู้สูงวัยไทยให้แข็งแรง เครื่องมือที่ใช้ คือ แบบวัดความรอบรู้ด้านสุขภาพ แบบประเมินคุณภาพชีวิตของผู้สูงอายุ (WHOQOL-BREF-THAI) และประเมินภาวะสุขภาพด้วยตนเอง การวิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนาและการวิเคราะห์การถดถอย ผลวิจัยพบว่า

ผู้สูงอายุ 416 คน (ร้อยละ 96.07) สะท้อนความรอบรู้ด้านสุขภาพของตนเองในระดับปานกลางถึงระดับเพียงพอ ระดับความรอบรู้ด้านสุขภาพที่สูงและการรับรู้ภาวะสุขภาพที่ดีสามารถพยากรณ์การเพิ่มขึ้นของคุณภาพชีวิตโดยรวมอย่างมีนัยสำคัญ (p<.01) โดยมีค่าสัมประสิทธิ์สหสัมพันธ์พหุคูณเป็น .649 และสามารถพยากรณ์คุณภาพชีวิตได้ร้อยละ 42.10 โดยมีค่าสัมประสิทธิ์การถดถอยในรูปคะแนนมาตรฐาน (b, ***β***) เป็น .007 , .590 และ .096 , .145 ตามลำดับ นอกจากนี้พบว่าอาชีพและระดับการศึกษา มีความสัมพันธ์ทางบวกกับความรอบรู้ด้านสุขภาพโดยมีค่าสัมประสิทธิ์สหสัมพันธ์ .136 และ .136 ตามลำดับ สามารถพยากรณ์ความรอบรู้ด้านสุขภาพได้ร้อยละ 13.40 อย่างมีนัยสำคัญทางสถิติ

ควรให้ความสำคัญกับการดูแลส่งเสริมให้บุคคลมีความแตกฉานด้านสุขภาพโดยเฉพาะผู้สูงอายุที่มีระดับความแตกฉานด้านสุขภาพในระดับที่ไม่เพียงพอ และที่รายงานตนเองว่าคุณภาพชีวิตต่ำนอกจากนี้ควรให้ความสำคัญกับการพัฒนาให้บุคคลมีความรอบรู้ด้านสุขภาพโดยเฉพาะผู้สูงอายุที่มีระดับความรอบรู้ด้านสุขภาพในระดับไม่เพียงพอและรายงานคุณภาพชีวิตตนเองต่ำ

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Abstract

Health literacy and its effects on the quality of life remain a fundamental component for public health promotion. The differences in health literacy levels are widely hypothesized to contribute to health disparities. An elderly person with limited health literacy has less health knowledge, worse self-management skills, and lower use of preventive services. This study evaluated the association between health literacy, perceived health status, and the quality of life in elderly. The data was obtained from 433 elderly aged over 60 years in the three Southern Border Provinces of Thailand. They were selected using the voluntary convention sampling from 17 sub-district administrative organizations that implemented the policy regarding promoting healthy aging of Thai elderly. The tool used was a questionnaire including 1) demographic data, 2) the Health Literacy Scale, 3) WHOQOL-BREF-THAI questionnaire, and 4) self-reported health status. Data were analyzed by using descriptive statistic and linear regression analysis.

The results revealed that 416 elderly (96.01%) reported their health literacy at a moderate to an adequate level. Health literacy and perceived health status significantly predicted quality of life ($p<.01$); the coefficient of multiple correlation was. 649 and predictive coefficient was 49.8%. And the regression coefficient standardized (b, β) was .007, .590, and .096, .145 respectively. In addition, occupation and educational levels also predicted better health literacy, which accounted for 13.40% of the variance in health literacy.

The findings of this study suggest that it is necessary to focus more attention on improving people's health literacy, especially elderly with inadequate health literacy and low self-reported quality of life.

Keywords: Elderly, Health Literacy, Perceived Health Status, Quality of Life

Introduction

Thailand is currently experiencing an ageing society resulting from changes in population structure, with a decrease in birth and death rates. This phenomenon has led to the social and economic development in past decades, leading to high technology in medicine and public health services, hence, extending the age of people. In 2009, the elderly rate rose from 11.5 percent up to 16 per cent in 2016, and it is expected to further rise to 20 percent in 2021. By this time, the society will transform to a complete ageing society (Assanchai, 2009; Jitipankul, Pananiramai, Sombat, Yodpetch, Siriboon, Chantasirikarn et al., 2002; Foundation of Thai Gerontology Research and Development Institute, 2017).

The elderly people in the three Southern border provinces (Narathiwat, Yala and Pattani) are diverse in their social, culture, belief, lifestyle, and economic status (Tongdee, Rongmuang, & Nakchatree, 2012) They are not only confronting the degradation of their bodies, like others in different areas, but are also experiencing the unrest situation which is becoming increasingly complex. Moreover, the role and importance of the elderly within their family are reduced. They are increasingly left on their own and not appropriately taken care of by the younger labour force, due to migration from rural to urban areas for better employment opportunities, as well as unwilling temporary migration with family members. This thus creates a certain problem for

the elderly by resulting in stress and non-communicable diseases (Ratnatilaka Na Bhuket, 2013). Even though the government agency has launched out the right health care for elderly such as home health care, special senior clinic in hospital in 2002-2022 (Sritgalin, 2018); it was issues in unrest area.

Experiencing the unrest and becoming homeless, the loss of their loved ones and expansion of individualistic values result in health status and quality of life in the elderly differing from one another (Ratnatilaka Na Phuket, 2013; Tongdee, Rongmuang, & Nakchatree, 2012). Furthermore, most of the elderly persons have at least one chronic disease, such as hypertension, diabetes, renal failure or heart disease. All these factors result in low quality of life for the elderly in the deep border provinces. In addition, there is a low-level quality of education in this area (Pattani Provincial Administrative Organization Report, 2016). Most of the elderly use their local dialect as a means of communication. By using their local dialect, they are only able to communicate with their religious leader and not with everyone. However, when they are neglected, they ought to know how to serve themselves.

The perception of health status is a person's self-awareness towards a healthy condition and their sickness. As far as the related studies are concerned, it was found that those who maintain good health have a good health behaviour (Phan-Ubol, 2010; Plianbumroong, 2016; Waebuesa, 2008) and also exhibit a positive relationship with quality of life (Tangpaisarn, Punchuea, Oraboot, & Sridach, 2007). Since past research have revealed the overall health related quality of life of older people was at a moderate level, because of young healthy elderly, who can work and get enough income for living. However, elderly people are vulnerable and have difficulty in accessing their rights and health services, because the government agency responsible provides an inadequate service and deprives the elderly of their rights (Ratnatilaka Na Phuket, 2013). Therefore, the more cooperation that exists between a family of an elderly person and the community, the better the quality of life they have. In this regard, health literacy was considered a factor that has a direct impact on the quality of life (Tung, Lu, Chen, Liang, Wu & Chu, 2014; Miller, Cage, Nowacki, Jackson & Modlin, 2018).

Health literacy is an important health care environment (Cutilli, 2007). As Paasche-Orlow; Parker, Gazmararian, Nielsen-Bohlman, & Rudd (2005) state "Health literacy is defined as the degree to which individuals have the cognitive and social skills to appropriately access, understand and use health information and services needed to maintain good health"(p. 175). Studies suggest that low health literacy levels are the predictors of disparaging health outcomes, such as poorer self-rated health (Bennett, Chen, Soroui, & White, 2009), higher rates of hospitalization (Cho, Lee, Arozullah, & Crittenden, 2008), and higher rates of mortality (Baker, Wolf, Feinglass, & Thompson, 2008). Additionally, low health literacy level is a predictor of disparaging health outcomes and more frequent use of emergency services (Chesser, Woods, Smothers & Rogers, 2016) and it affects health-related quality of life (Miller, Cage, Nowacki, Jackson & Modlin, 2018). On the other hand, higher health literacy was associated with better physical and mental well-being ((Miller, Cage, Nowacki, Jackson & Modlin, 2018). Likewise, Suksri & Dariwan (2017) show that health literacy and self-caring are related to the quality of life. There

are many factors that influence health literacy level in elderly, such as age, gender, education, a persons' ability, language, culture and so on. Past studies have indicated that higher health literacy was associated with good self-rated health, independently of age, gender, ethnicity, language, religion and education (Khuu, Lee, & Zhou, 2018; Von Wagner, Knight, Steptoe, & Wardle, 2007).

Understanding health literacy among elderly persons is increasingly becoming a world-wide interest (Kobayashi, Wardle, Wolf, Wagner, 2014; Nutbeam, 2008). However, there is very rare information regarding to health literacy of elders in this certain area.

Objectives

The main aim of this study was to examine the effects of health literacy, self-perceived health status on different domains of quality of life and identify socio-demographic factors associated with health literacy.

Hypotheses

We hypothesized that elders with high health literacy levels, self-perceived good health status would report well on the quality of life score. Additional there were some sociodemographic factors associated with health literacy.

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Conceptual Framework

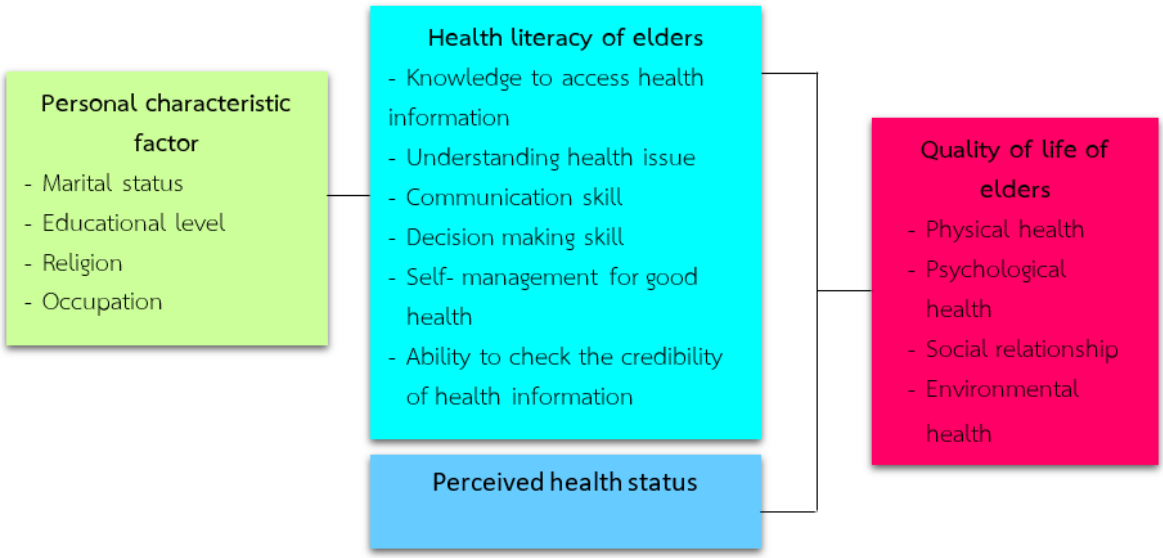
In this study, the researchers used conceptual framework of health literacy and Quality of life.

1. Health literacy of Nutbeam (2008) which consists of 1) Knowledge to access health information and health care services, which are the selection of health data sources, basic rights, community health support. 2) Having knowledge and understanding health issue to practice for being good health. 3) Communication skill to obtain health needs from their healthcare team, skill to evaluate the reliability of health information. 4) Decision making skill to select or avoid health practice to be good health. 5) Self- management for good health behaviors including exercise, coping with stress management, herbs and supplements, and drugs used. 6) Media literacy and ability to compare and check the credibility of health information. When people's knowledge, motivation and competence to access, understand and apply health information to make judgments for disease prevention and health promotion to improve QOL.

2. The perception of health status is a person's self-awareness towards a healthy condition and their sickness. Self-perceived health which is subjective appraisal of his or her health status. Related studies yielded that perceived health status strongly influence quality of life (Kim, 2017).

3. Quality of life (MOP, 2007) that is an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It consists of the person's physical health, psychological health, social relationships and environmental health.

Moreover, it was found from literature review that many socio-demographic factors associated with health literacy



Picture1 Conceptual framework

Methods

This study is descriptive survey research that uses a structured questionnaire in order to grasp an effect on health literacy, self-perceived health status, and on the quality of life for elders in the three Southern border provinces.

Population and Sample

The subjects included 433 Thai elderly eligible men and women. The selection was based on convention sampling under 17 sub-district administrative organizations in the three Southern border provinces that were selected for promoting healthy ageing of Thai elders. The criteria for subject selection were those who were over 60 years with no problem of cognitive function and who have resided in the community for at least 6 months. Any elder with difficulty in communication due to a hearing problem or mental disease was excluded. Total elders were and the elderly sample was analysed at a significance of 95% (Yamane, 1973). Each sub-district administrative organizations were calculated to find out the number of elders who belong to each sub-district administrative organizations. A total of 400 samples from 17 sub-district administrative organizations was obtained. However, the total sample was increased by 10% to account for missing and incomplete data. Thus a total of 433 elderly persons participated in this study.

Research Instrument

1. Demographic questionnaire: this questionnaire was used to collect personal information from the elders. This information includes age, gender, marital status, educational level and others.

2. Health status: a self-report measure of health status was used to measure the health status of the elders. The score ranges were very fare, fair, good, and very good.

3. Quality of life (QoL): 26-items of the World Health Organization Quality of Life Assessment (WHOQOL-BREF-THAI) (Department. of Mental Health, Ministry of Public Health, 2007) comprising of 2 aspects i.e, overall health (Item No 1st and 26th) and QoL with 4 domains

i.e., physical, psychological, social relationship and environmental QoL was employed in this study. Question of physical health domain relates to sleep, energy, mobility, the extent to which pain prevents the performance of necessary tasks, need for medical treatment to function in daily life and capacity for work. Question of psychological domain relates to concentration capacity, self-esteem, body image and mood. Question of social relationship domain relates to satisfaction with personal relationships, social support and sex. Finally, the question of environment domain relates to safety and security, physical environment satisfaction and finance.

4. Health literacy: 5-items of this tool were assessed in order to examine health literacy (emphasizing both health literacy as well as self-care aspects). The questions were pertaining to basic rights, community health support, knowledge to receive health care service, knowledge to access health information, communication skill to obtain health needs from their healthcare team, skill to evaluate the reliability of health information, self-responsibility for health, travel capability, skill to access healthy diet, exercise, coping with stress management, herbs and supplements, and drugs used. The total score was 67-335 points and subsequently transformed into categories of health literacy into 3 levels namely: inadequate, moderate, and adequate health literacy.

Validity and Reliability of the Research Instrument

The Thai version of the questionnaires (demographic data, a self-report measure of health status, Quality of life assessment, and health literacy assessment questionnaires) were initially tested for validity of content by three experts. Suggestions from the three experts were incorporated in the final revision of the questionnaires.

Reliability, The Thai version of quality of life questionnaires and health literacy questionnaires were tested for reliability with 30 elders who met the inclusion criteria and whose characteristics were the same as the subjects in Pattani province. Conbach's alpha coefficient was computed for ascertained internal consistency to test the reliability of Quality of Life Questionnaire and Health Literacy Questionnaire; their reliabilities were 0.88 and 0.93 respectively.

Data collection

The data collection was carried out through face to face interview by research assistants, who are well-trained to be an interviewer and who also belong to each sub-district administrative community. More attention was given to elderly persons who are illiterate in communication and can only speak their local dialects. Hence, the interview was carried out through a questionnaire organized into 4 parts, as mentioned. Furthermore, a structured questionnaire WHOQOL-BREF- THAI was also administered for data collection. The period of data collection was from October 1, 2016, to May 31, 2018.

Data analysis

Descriptive statistics, such as frequency, percentage, mean and SD, were used for demographic data and descriptive results in two main variables, health literacy and quality of life. Linear regression was used to evaluate the association among health literacy, perceived

health status and overall quality of life of an elderly person. The socio-demographic factors associated with health literacy were also examined by multivariate linear regression providing stepwise technique. In addition, the four assumptions were tested before using regression statistic namely: 1) Scatter plots was tested for homoscedasticity. 2) Normality was checked by Kolmogorov-Smirnov test with not significance (p = .20). 3) Multicollinearity was employed by VIF value (VIF= 1.10). 4) Durbin-Watson was tested for autocorrelation. The score 1.34 was acceptable for linear regression. The significance level of 0.05 was considered statistically significant.

Ethical consideration

This study obtained ethical approvals from the Human Research Ethics Committee, Prince of Songkla University via REC No. PSU.1-025/60. During data collection, the study's purpose, the risk and benefit of participation and confidentiality of personal information was explained to each participant. Then he/she was invited to participate in the study and data collections were made according to their voluntary agreement.

Results

1. Demographic data of elders

Table 1 Number and percentage of elders of demographic characteristics (N=433)

Variable	Number	%	*M*	*SD*
1. Gender				
Male	205	47.34		
Female	228	52.65		
2. Age				
60-70	260	60.00	70.25	7.39
71-80	137	31.64		
>80	36	8.36		
3. Educational level				
illiterate	246	56.81		
Primary school	174	40.19		
High school	6	1.39		
- Diploma or higher	7	1.61		
4. Marital status				
Single	7	1.62		
Married	251	57.97		
Widowed	163	37.64		
Separate/divorced	12	2.77		
5. Religion				
Buddhist	76	17.55		

Table 1 (Continue)

Variable	Number	%	*M*	*SD*
Christian	8	1.85		
Islam	349	80.60		
6. Occupation				
Unemployed	193	44.57		
Agriculturist	155	35.80		
Pensioner	6	1.39		
General employee	38	8.78		
Business	41	9.47		
7. Income (Thai baht)				
< 5000	390	96.07	2992.26	4279.98
5001-10000	32	7.39		
10001-20000	9	2.08		
> 20000	2	0.46		
8. Family membership				
Alone	31	7.15		
Spouse	44	10.16		
Less than 6 persons	263	60.74		
More than 6 persons	95	21.94		

The half of elders were female (52.65%) and married (57.97%) with a mean age of 70.25 (SD=7.39) years. 56.81% of the elders were illiterate and used local dialects for communication. The level of education for most elders was primary school level or below (96.90%). The majority of elders practised the Islamic religion (80.60%) and lived with their children (Table 1).

2. Descriptive result of health literacy

Table 2 Number percentage mean, standard deviation and level of health literacy of elders (N=433)

Characteristic of Health Literacy	Number	%	*M*	*SD*
Inadequate	17	3.93		
Moderate	238	54.97	235	45
Adequate	178	41.11		

Table 2 presents the descriptive results of health literacy. Mean score of health literacy was 235.10. There were 238 elderly persons (54.97%) having moderate health literacy. Only 3.93 % present reported inadequate health literacy.

3. Perceived health status

Half of the elderly perceived their health status to be at a good level (52.65%) and rated their health status at a fair level (23.13%). Only one of five rated their health status as healthy or very good level (20.32%).

4. Descriptive result of the quality of life (QoL)

Table 3 Mean and standard deviations of quality of life (Qol) of elders (N=433)

Domain QoL	*M*	*SD*	Meaning
Physical	23.07	3.24	Moderate
Psychological	21.43	3.66	Moderate
Environment	28.26	5.13	Moderate
Social relationship	10.51	2.07	Moderate
Overall	90.53	13.72	Moderate

Quality of life of the elderly in these Southern border provinces was overall at a moderate level (*M* =90.53, *SD* =13.72). Four components of physical, psychological, environmental, and social relation domains were rated at a moderate level (23.07 ± 3.24; 21.43 ±3.66; 28.26 ±5.13; 10.51 ± 2.07 respectively) (Table 3).

5. The effects of health literacy and perceived health status on quality of life

Table 4 Analysis of linear regression for prediction of overall quality of life (N= 433)

Independent variables	*b*	*SE*	*β*	*t*	*p-value*
Health literacy	.007	.000	.590	15.327	.00
Perceived health status	.096	.025	.145	3.776	.00

Constant =0 .519 ; SE $_{est}$ ±.38 R= .649; R^2 = .421 ; F= 156.388; *p* = .00

Health literacy and perceived health status associated with the overall quality of life with multiple correlation coefficient of .649. Health literacy and perceived health status could statistically predict for a better overall quality of life by accounting for 42.10% of the variance in quality of life (R^2 = .421; F= 156.4) as seen in Table 4.

6. Factors associated with health literacy

Table 5 Analysis of socio-demographic factors associated with health literacy of elders by linear regression analysis

Variables	*b*	*SE*	*β*	*t*
Marital status	-7.535	3.55	-0.97	-2.123*
Educational level	9.154	3.35	0.133	2.729 **
Religion	-12.462	2.84	-0.211	-4.383**
Occupation	3.596	1.24	0.136	2.938**

Table 5 (Continue)

Variables	*b*	*SE*	*β*	*t*
Living arrangement	-3.145	2.58	-0.056	-1.218
Constant = 273.86	R = .367 R^2 = .134	SE_{est} = 42.295	F= 11.026	$p< .05^{*}$, $p< .01^{**}$

Researchers analysed which factors, such as marital status, educational levels, religion, occupation and living arrangement, associated with health literacy of elders. The factors significantly associated with health literacy levels were marital status, educational levels, religion, and occupation. Moreover, the linear regression analysis shown in Table 5 reveals that occupation and educational levels were independent factors in predicting better health literacy, which accounted for 13.40% of the variance in health literacy.

Discussion

Regarding the results, the majority of elders' educational level was illiterate, but their health literacy was at a moderate level. This phenomenon may be explained by the fact that the research assistants translated or interpreted the contents of the questionnaire to them thoroughly so they could answer fully, besides the illiterate elders that indicated only that they were "unread" or "unbookish". They may be poor in reading, but in their daily life, they are alert and aware of social learning. They focus on community health support; acknowledge health information, desire healthcare service, and their needs are attended by the healthcare team. They can adequately account for how to evaluate the reliability of health information etc. Therefore, they can access health information by lifelong learning.

Half of the elderly perceived their health status to be at a good level (52.65%) and 23.13% perceived their health status at a fair level. According to the perception of health status of elders in three Southern Border Provinces of Thailand, they perceived similar to elders in other part of the country (Watcharanat, Tanpichai & Sajjasophon, 2019).

The study revealed that the quality of life for the elderly persons in the three Southern border provinces was overall at a moderate level. The reason for this may be due to the fact the majority of the subjects were young elders (age < 65, 32.80%). Thus, their lifestyle and social context in the community are more likely to be the interactive types, who assist one another.

Moreover, the government promotes a self-reliant community where healthy and young elders could work and earn enough income for living, hence promoting their quality of life. This corresponds to the study of Hongthai, Treesorn, and Pongpoottipat (2014) that studied factors correlating to the quality of life of elderly people in residential homes and found that the overall quality of life was at a good level. This is also similar to the study in other parts of Thailand (Sukanun, Jariyasilp, Thummanon & Jitpakdee, 2011). The positive effect of health literacy on health outcomes has been widely discussed in several kinds of literature (Howard, Garmararian & Parker, 2005; Marathe, Ogden & Woodroffe, 2014), however to the best of our knowledge this is the first study to investigate the positive effect of health literacy on the quality of life of

elderly persons. This relationship has been explained by the elderly persons, who have adequate health literacy and self-perceived health status and good overall quality of life ($p< .001$). Thus, the higher the ability of an elder person, the better they tend to make good health decision and maintain a good quality of life. This has been proved.

This research was done in cooperation with the Sub-District Administrative Community to promote healthy ageing. However; the data collection might be overabundant during the interviewing stage as tools used for measuring health literacy in this study comprises of 67 items which might be difficult for the elderly persons. Confinement of data which collected only from 17 sub-district administrative communities in three Southern Border provinces also may also suffer from lack of systematic sampling.

Implications and Recommendations

Since the limitations of the elders are reading as well as writing skills, however they are able to communicate with their dialect language. By establishing up an innovative dimension will help them to promote not only health literacy but also quality of life supporting their culture and way of life.

Recommendation for further study

1. Elders in this area obeyed in religious leaders utilized them for health information and promoting health literacy to elders.

2. Establishing an innovation which is suitable to elder's limitation with reading and writing skills for promoting health literacy.

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