Original Article

Effects of the Health Promotion Model Development Program on the Quality of Life of the Elderly using Local Wisdom and Ways of Life

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Abstract

OBJECTIVES: This quasi-experimental design aims to study effects of the health promotion model development program on the quality of life (QOL) of the elderly using local wisdom and ways of life

MATERIALS AND METHODS: Health promotion model, development program, and QOL of the elderly using local wisdom. The way of life consists of 1) food according to nutritional principles that are local foods; 2) exercise using local materials or games; and 3) stress management that is consistent with the religion and cultural beliefs of the community. The sample group consisted of elderly people aged ≥ 60 years in Bang Khla District Chachoengsao Province, divided into intervention groups, and a control group of 30 people per group. Data were collected using questionnaires for the period from July 2022 to February 2023. Chi-square and Paired Samples T-test comparing results before and after within the experimental group (EG) and Independent Samples T-test.

RESULTS: The study found the elderly benefitted, in terms of health and QOL, when applying wisdom and ways of life. Food consumption in the experimental group (EG) (2.80 ± 0.31) and in the control group (CG) (4.06 ± 0.27), exercise in EG (1.86 ± 0.77) and CG (4.54 ± 0.25), and mental and spiritual health in the EG (2.60 ± 0.39) and CG (3.76 ± 0.49), when tested statistically, they were significantly different at $p < 0.001$ level in terms of QOL of the EG (2.88 ± 0.67) and CG (3.92 ± 0.84) significantly different at $p < 0.001$ level.

CONCLUSION: From the results of the study, it is recommended that the primary health service system apply activities for the elderly to promote health and develop QOL using local wisdom and ways of life.

Keywords: health promotion for the elderly, quality of life for the elderly, local wisdom, way of life

Elderly society (Aging Society) is a trend that every nation around the world cannot avoid. The United Nations predicts that worldwide there will be 1,200 million people aged over 60 years in 2025 and 2,000 million people in 2050, or 20% of the total world population. The problem of health inequality is a major problem for the elderly.[1] Access to health services for older people: The World Health Organization (WHO) defines healthy aging as the process of maintaining the ability to function for well-being in old age. WHO, member states, and partners to Sustainable Development Goals have created a global strategy and action plan for aging and health for 2016–2020 and built on WHO's The Decade of Healthy Aging 2020–2030. WHO has set key priorities, such as supporting country planning and implementation of better global data collection and promoting research on healthy aging. and organizing the health system to meet the needs of the elderly.[2] According to the World Bank, the status of health equity and social coverage for elderly society in Thailand 2016 was that although people receive benefits from the health insurance system, there are still gaps in accessing and using health services due to non-treatment costs, such as lack

of caregivers and travel costs to health care facilities. In particular, poor elderly people and late elderly people (80 years and older) living in rural areas, are faced with high transportation costs, the most significant barrier to elderly people's access to health services. For elderly people with poverty status, none of them were able to afford to rent a private car to travel to the regional hospital or university hospital in another province. When comparing the average annual medical expenses of the elderly in urban and rural communities in the research sample, it was found that while elderly people in urban communities had travel expenses of 474 baht and food expenses of 343 baht, elderly people in rural communities had travel expenses of 6,004 baht and food expenses of 1,891 baht.[3]

The elderly are considered an important resource and a valuable social asset. They have potential in knowledge, operational skills and experience through the process of accumulated learning and inheritance from the past to the present. After the process of becoming an expert in various fields that are valuable and beneficial to one's own life and society, the elderly's knowledge is accepted as true wisdom or seen as a folk philosopher. This experience and knowledge of local wisdom in taking care of oneself in health is a body of knowledge that a person has learned from experience and self-treatment primarily in response to health problems and some of their own illnesses treated appropriately in the folk way, using local wisdom and various ceremonies.[4] This plays an important role in maintaining physical, mental, emotional, social and spiritual health. It is considered a health service system in the community sector that focuses on caring for and managing the health of the elderly in a self-reliant manner.

The population of the elderly in Chachoengsao Province has been continuously increasing from 2021, with the average age of the elderly of 74.7 in 2022, 77.67 in 2023, and 78.87 respectively.[5] This province has the oldes communities and has an ancient culture. Therefore, the elderly have access to the wisdom and the way of life to ensuring improved health conditions and QOL. This study aims to study the development of a model for promoting health and QOL of the elderly, using wisdom and way of life in Chachoengsao Province.

Materials and Methods

This study is a quasi-experimental research (Two Groups Pretest-Posttest Design—Quasi Experimental Research) consisting of 2 groups (experimental group-EG and control group-CG). The study draws on data before and after the experiment (Before-After One Group Pretest-Posttest Design), using an interview form to collect and develop a model to promote health status and QOL in the elderly group.

The wisdom and way of life in Chachoengsao Province was studied, within the population group of people aged 60 years and over in Bang Khla District, Chachoengsao Province. Activity formats to promote health and QOL among the elderly using local wisdom and the way of life, the identity of the community, consists of:

1. Food according to nutritional principles that are local foods.
2. Exercise using local materials or games.
3. Stress management that is consistent with the religion and cultural beliefs of the community that is preserved and has been inherited.

Population and sample

Demographic group: The study group population is people aged 60 and over who are members of the Elderly Club and are able to help themselves without speech problems, listening and writing. The participants are both females and males living in Chachoengsao Province for a period of 1 year or more (July 2022 to February 2023).

Sample group

Sample size in this study was derived from the analysis of the power value of the test using the G-power 3.1.9.4 package, and the researcher determined the influence value (effect size) of the sample size from previous research: Development of a model for health promotion activities for the elderly in the Klang Wisdom Elderly Club, Ban Pong District, Ratchaburi Province. The samples have similar characteristics, namely the study among members of the elderly club, with an effect size value of 0.77 and an alpha value of 0.05. Using the test power (power) of 0.95, the total sample size was 20 people, and the sample size increased by a further 50% to prevent loss of the sample or incomplete sample responses to the interview questionnaire. The researcher increased the sample size of the EG (30 cases) and the CG (30 cases), and used a simple sampling method by drawing lots for participants, to be allocated as a representative of the EG or CG.

Tools used for research

The researcher applied the tools in this study to concepts, theories, and research documents related to promoting the health status and QOL of the elderly. The use of wisdom and way of life consists of 2 parts:

Part1: A model for promoting the health condition and QOL of the elderly, consisting of 5 activities:

1. Healthy food comes from wisdom, to give the elderly an understanding of nutrition in terms of quantity and value of food combined with wisdom through food demonstration activities according to the community way.
2. Good health, community ways, the objective is to promote exercise by emphasizing participation. of the elderly and the community by demonstrating appropriate exercise for the elderly.
3. Mental health, with the objective of allowing the elderly to talk and promote stress management and prayer. Elderly people meet with religious representatives to exchange experiences.

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4. Give advice and encouragement. Follow up and visit the homes of bedridden patients to encourage and meet friends of the same age.
5. Promote the health condition and QOL of the elderly by applying wisdom and way of life to the public health service system to create sustainability for the community.

There are 4 weeks of activities and promotion of food activities and exercise in weeks 6-11 and these are evaluated in week 12.

Part2: Interview form to promote health status and QOL of the elderly drawing on wisdom and way of life, consisting of 3 parts:

1. General information, 7 items.
2. Access to health services for the elderly. The nature of the question is by estimation (Likert scale) There are a total of 5 answers, divided into 5 levels: very high, high, neutral, low and very low.
3. Health promotion behavior using wisdom and QOL. The nature of the question is by estimation. (Likert scale) There are a total of 5 answers, divided into 5 levels: very high, high, neutral, low and very low. QOL questionnaire consists of 4 aspects: physical, emotional, social, and environmental, divided into 5 levels: very high, high, neutral, low and very low. Applied QOL questionnaire from the Department of Mental Health Ministry of Public Health.

Data collection

Testing tools

Testing for validity by presenting interviews and surveys to 3 experts to check the validity of the content. Consistency with purpose: from the literature review, there must be an expert or someone with experience in evaluating the analysis (face validity) and finding the coefficient of consistency (Index of Item-Objective Congruence, IOC) for the interview form. There will be a confidence test (Reliability) of the interview form by testing with a group of 30 elderly people and finding the reliability of the interview form as rating scales using Cronbach's alpha method. Cronbach's alpha coefficient (Alpha Coefficient) has a value of 0.82.

Data analysis

Descriptive statistics, percentage, mean, and median in the study of general data of the sample and health conditions; chi-square paired-samples T-test statistics, comparing results before and after within the experimental group; and independent samples T-test comparing results before and after the experiment between the EG and the CG.

Human research ethics

This research received approval taking into account ethical considerations for human research studies, from the Chachoengsao Provincial Public Health Office Research, project code PH_CCO_REC 021/2022.

Results

The majority of the elderly in the EG and CG were female, at 73.3% and 80%, respectively. Most were between 60 and 69 years of age (43.3% and 40%), between 70 and over (36.7% and 36.7%), marital status married (70.0% and 83.3%). Educational levels were for the most part at the primary school level (63.3%and 60.4%). As for participation in religious activities 1-3 times/week (40% and 38.0%), and had the right to medical treatment, respectively. Most of them use health insurance (60% and 61%). Risk conditions for various chronic, non-communicable diseases include high blood pressure and high blood fat with the highest proportion. When statistically tested, it was found that there was no difference. When statistical testing was found, they were not different. As shown in Table 1

Access to health services for the elderly in terms of sufficiency of health services was at a high level (4.20 ± 0.61), followed by health service facilities (3.90 ± 0.30) and access to health service sources (3.70 ± 0.65), respectively, with overall access to health services for the elderly at a high level (3.90 ± 0.30). As shown in Table 2.

Comparison of the results of behavioral development for the elderly to promote health status and QOL. Using wisdom and way of life in terms of food consumption, the EG (2.80 ± 0.31) and the CG (4.06 ± 0.27) were significantly different at the 0.05 level. In terms of exercise, the EG ($1.86 \pm .77$) and the CG (4.54 ± 0.25) were significantly different at the 0.05 level. In terms of mental and spiritual well-being, the EG (2.60 ± 0.39) and the CG (3.76 ± 0.49) were significantly different at the 0.05 level. The QOL of the EG (2.88 ± 0.67) and CG (3.92 ± 0.84) were significantly different at the 0.05 level, as shown in Table 3.

Discussion

Access to health services for the elderly in terms of the sufficiency of health services is at a high level. It was found that the elderly group has access to the health service system at the community level, (Subdistrict Health Promoting Hospital) situated conveniently and were able to quickly receive health services that are easily accessible. There is holistic care practiced by a family medicine doctor[6,7] nurses and health professional teams, including forwarding information to elderly people with complex health conditions. Modern communication technology systems connected to hospitals at the district level [8], there is equipment to care for the health of the elderly. This is sufficient to assess health status physically and mentally, including the mouth and teeth.[9] There is equipment to restore basic health, with personnel trained in Thai traditional medicine, mixed care and restoring health using local wisdom.[10] In terms of co-paying for health

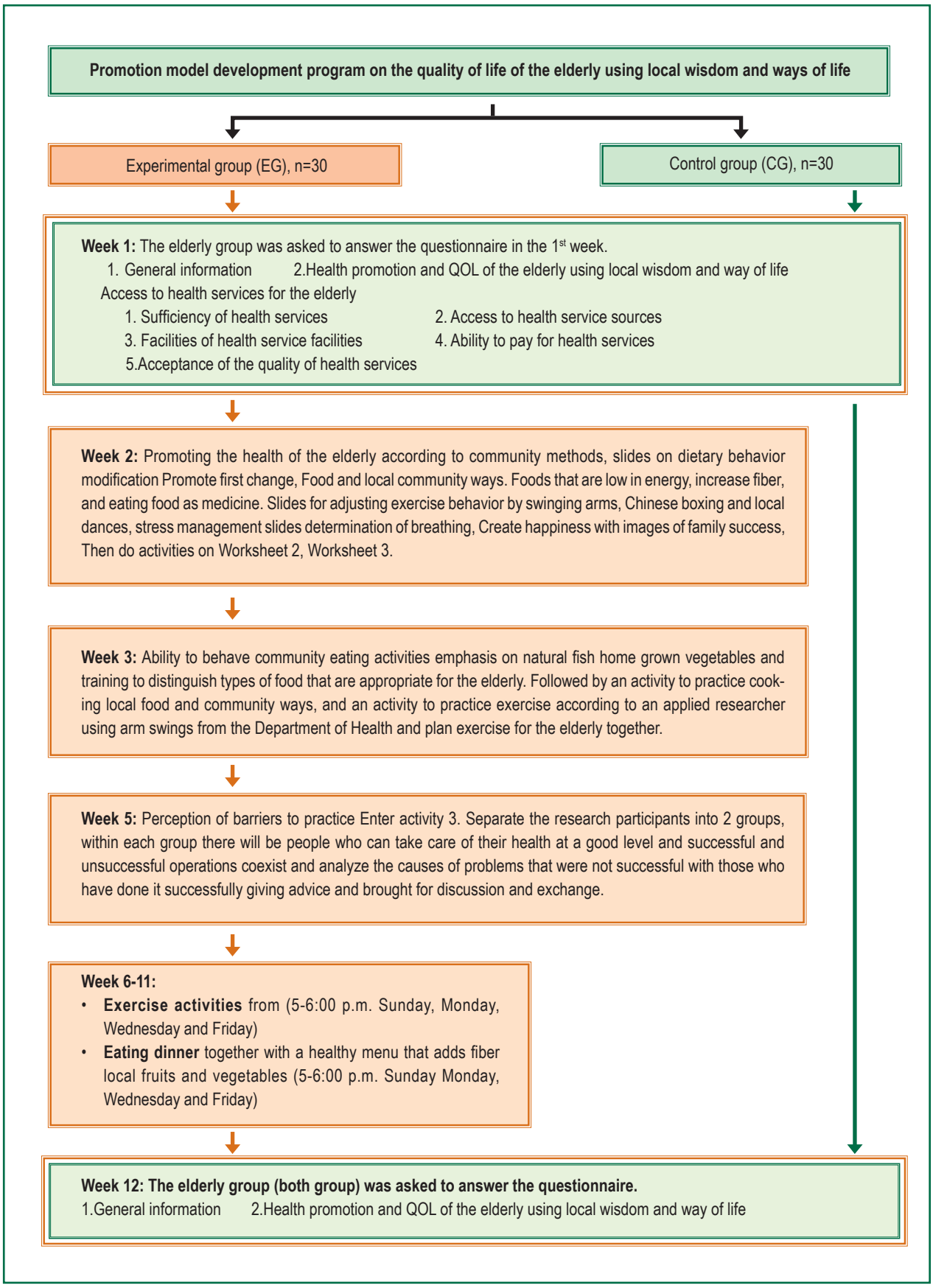


Figure 1: Showing the data collection process

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Table 1: General information between the EG and the CG

General information	EG (n = 30)	CG (n = 30)	*p*
	n (%)	n (%)	
Sex			0.175
Male	8 (26.7)	6 (20.0)	
Female	22 (73.3)	24 (80.0)	
Age (years)			0.579
60-69	13 (43.3)	12 (40.0)	
70-79	11 (36.7)	11 (36.7)	
≥ 80	6 (20.0)	7 (23.3)	
Mean ± SD	3.70 ± 9.52	64.10 ± 9.78	
Min - Max	60-89	60-88	
Status			0.479
Pair	21 (70.0)	25 (83.3)	
Not having a partner (single/widowed/divorced/separated)	9 (30.0)	5 (16.7)	
Education level			0.251
Elementary school or less	19 (63.3)	18 (60.4)	
Secondary school or higher	11 (36.7)	12(39.6)	
Participate in religious activities			0.276
Never joined	8 (26.7)	9 (28.7)	
1-3 times a week	12 (40.0)	11 (38.0)	
More than 4 times a week	10 (33.3)	10 (33.3)	
Medical treatment rights			0.259
Government welfare	25 (83.3)	26 (86.7)	
Right to pay yourself/social security/life insurance	5 (16.7)	4 (13.3)	

Table 2: Results of average access to health services for the elderly

Access to health services for the elderly	EG (n = 30)		CG (n = 30)	
	Mean ± SD	Level	Mean ± SD	Level
1. Sufficiency of health services	4.20 ± 0.61	High	4.18 ± 0.42	High
2. Access to health service sources	2.70 ± 0.45	Medium	2.66 ± 0.44	Neutral
3. Facilities of health service facilities	2.90 ± 0.32	Medium	3.01 ± 0.33	Neutral
4. Ability to pay for health services	3.70 ± 0.63	High	3.67 ± 0.63	High
5.Acceptance of the quality of health services	2.70 ± 0.36	Medium	2.61 ± 0.21	Neutral
Total	2.90 ± 0.29	Medium	2.86 ± 0.25	Neutral

Table 3: Comparison of health promotion and QOL of the elderly using local wisdom and way of life after participating in the activities, EG and CG.

Health promotion and quality of life of the elderly using local wisdom and way of life	EG (n = 30)	CG (n = 30)	t	df	*p*
	Mean ± SD	Mean ± SD			
1.Food consumption	4.06 ± 0.27	2.80 ± 0.31	16.34	29	< 0.001*
2. Exercise	4.54 ± 0.25	1.86 ± 0.77	17.76	29	< 0.001*
3.Stress management that is consistent with the religion and cultural beliefs of the community	3.76 ± 0.49	2.60 ± 0.39	11.61	29	< 0.001*
4. Overall quality of life	3.92 ± 0.84	2.88 ± 0.67	17.03	29	< 0.001*

services for the elderly in the community health service system, it was found that most elderly people have a universal health insurance card. There is no co-payment service fee. As for the group of senior citizens who have the right to withdraw money directly (the rights of pensioners), there is no need for reservations for maintenance.[11] At the community level, groups have social security cards, and a joint agreement in the primary health care system, there is no need to make a reservation to pay the service fee[12,13] and patients can link to the health service system at a higher level in Thailand. The health promotion model development program and QOL of the elderly using local wisdom and way of life was applied in

the field of food consumption. Most elderly people are able to prepare their own meals. In the beginning, there were problems detected, with the use of salty seasonings and very wet food. After the activity, it was found that the elderly were able to use condiments and to reduce the consumption of salty and sweet foods. Healthy menus from vegetables and herbs in food preparation were created according to the community's way of life.[14] Cooking has been found to be the most beneficial way to affect long-term changes in dietary intake in older adults and result in positive health outcomes.[15] This includes the application of exercise formats, body movement, and group exercise such as basketball, robe, petanque, and Muay Thai boxing. There is a combination of exercising in the evening every day. In terms of health and spirituality, among the elderly in the beginning, it was found that they felt that they had health problems including stress that affects insomnia after the home visit, follow-up activity, and participation in religious activities. As a result, the elderly group can accept and live with illness, solve problems, reduce complications, and be happy with life in the present. [16] The QOL; most of the elderly group have a QOL physical movement, illness, and the mental aspect at the middle level. After receiving the program, elderly people receive support and care from the community health service system. There is a team of family doctors and staff. The QOL of the elderly in society involves doing activities together and exercising in groups. There are elderly people who visit the house.[17] They do religious activities together. Regarding the environment, the elderly support an environment in community health care facilities that is conducive to receiving services and living their lives. As a result, the overall QOL of the elderly is at a good level.[18,19] The program can promote the health of the elderly through local wisdom and ways of life. It has achieved the objective of increasing the QOL. Elderly people have the ability to lead various activities including the preparation of proper food with vegetables in the community group exercise. There are continuous activities and managing stress from religious activities and exchange of conversations to apply in everyday life.

Conclusion

Agencies involved in developing the health of the elderly in the local area should consider bringing local wisdom and way of life to form part of the plan to develop and promote the health of the elderly in the area.

The primary health care system should adopt a health promotion model and QOL for the elderly, using local wisdom and ways of life as guidelines for designing activities to promote the health of the elderly. Organize activities to cover knowledge-giving and increasing skills needed for health care. Increase the creation of opportunities to develop the QOL, taking into account the context of each area.

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References

1. Ploeg J, Yous ML, Fraser K, et al. Healthcare providers' experiences in supporting community-living older adults to manage multiple chronic conditions: a qualitative study. *BMC Geriatr* 2019;19(1):316. doi: 10.1186/s12877-019-1345-2.
2. Ploeg J, Matthew-Maich N, Fraser K, et al. Managing multiple chronic conditions in the community a Canadian qualitative study of the experiences of older adults, family caregivers and healthcare providers. *BMC Geriatr* 2022;17(1):40. doi: 10.1186/s12877-017-0431-6.
3. Pfeuffer N, Beyer A, Penndorf P, et al. Evaluation of a health information exchange system for geriatric health care in rural areas: development and technical acceptance study. *JMIR Hum Factors* 2022; 9(3): e34568. doi: 10.2196/34568.
4. Phongsakchart P, Malai C, Noisiphum N, et al. Promoting behavior health according to local wisdom. *Royal Thai Army Nurses* 2019;20(3):44-53. (in Thai).
5. National Statistical Office Ministry of Digital Economy and Society. Chachoengsao Provincial Statistical Report 2020. Chachoengsao: Chachoengsao Provincial Statistical Office, Thailand, 2020.
6. Kino S, Bernabe E, Sabbah W. The role of healthcare system in dental check-ups in 27 European: multilevel analysis. *J Public Health Dent* 2017;77(3):244-51. doi: 10.1111/jphd.12204.
7. Urnbull N, Chada W, Chuppawa W, et al. The relationship of knowledge and attitude towards elderly care practice of elderly caregivers. *Hlth Sci Res J* 2020;14(3):83-94.
8. Sun Y, Zhang X, Han Y, et al. Evolutionary game model of health care and social care collaborative services for the elderly population in China. *BMC Geriatr* 2022;22(1):616. doi: 10.1186/s12877-022-03300-3.
9. Hoshino S. Paying for the health and social care of the elderly. *J Aging Soc Policy* 1996;8(2-3):37-55. doi: 10.1300/J031v08n02_04.
10. Chen X, Su D, Chen X, et al. Effect of informal care on health care utilisation for the elderly in urban and rural China: evidence from China health and retirement longitudinal study (CHARLS). *BMC Health Serv Res* 2022;22(1):271. doi: 10.1186/s12913-022-07675-2.

11. Gan Y, Li W, Cao S, et al. Patients' willingness on community health centers as gatekeepers and associated factors in Shenzhen, China : a cross-sectional study. *Medicine (Baltimore)* 2016;95(14):e3261.doi:10.1097/MD.0000000000003261.
12. Baum F, Freeman T. Why community health systems have not flourished in high income countries: what the Australian experience tells us. Int *J Health Policy Manag* 2022;11(1): 49-58. doi: 10.34172/ijhpm.2021.42
13. Raber M, Baranowski T, Crawford K, et al. The healthy cooking index nutrition optimizing home food preparation practices across multiple data collection methods. *J Acad Nutr Diet* 2020;120(7)1119-32. doi: 10.1016/j.jand.2020.01.008.
14. Kim JE, Factors affecting home cooking behavior of women with elementary school children applying the theory of planned behavior. *Nutr Res Pract* 2021;15(1):106-21. doi: 10.4162/nrp.2021.15.1.
15. Wises S. People council of Ing river basin: civil society dynamic in natural resource management in Ing river basin. *J Budd Stud* 2019;10(2):331-45. (in Thai).
16. McClintock CH, Anderson M, Svob C, et al. Multidimensional understanding of religiosity/spirituality relationship to major depression and familial risk. *Psychol Med* 2019;49(14):2379-88. doi: 10.1017/S0033291718003276.
17. Hajinejad F, Ebrahimi E, de Jong A, et al. Factors promoting Iranian older adults spirituality: a qualitative content analysis. *BMC Geriatr* 2019;9(2):132. doi: 10.1186/s12877-019-1146-7.
18. Nanthamongkolchai1 S, Phowat T. Influence of self-esteem and preparation for aging on the happiness of older Thai adults: a cross-sectional study. *Open Access Maced J Med Sci* 2022;10(B):532-7. doi:10.3889/oamjms.2022.8461.
19. Bao J , Zhou L, Liu G, et al.Current state of care for the elderly in China in the context of an aging population. *Biosci Trends* 2022;16(2):107-18 doi:10.5582/bst.2022.01068.