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Original Article

Participatory Action Research for Developing a Wellness-Promoting Model for Community-Dwelling Older Adults in Thailand

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Abstract

Older adults have a high prevalence of long-term negative health consequences and this is a challenging public health concern. Aging brings an increase in the prevalence of chronic diseases, such as hypertension, diabetes, and dementia. Older adults face more challenges with everyday living activities. Promoting wellness for them is an important issue. This research study had two phases, phase I for examining the experiences, backgrounds, and health perspectives of older adults. In phase II, a participatory action research (PAR) approach was utilized for developing a wellness-promoting model for community-dwelling older adults in Thailand. A total of forty-six participants participated in interviews and focus groups. The results of phase I revealed seven factors related to the wellness behaviors of older adults: 1) physical, 2) psychological, 3) social, 4) family, 5) age-friendly environment, 6) life goals, and 7) spiritual. These findings were used for creating the preliminary wellness-promoting model in phase II, which consisted of four input factors, namely, personal, family, social, and environmental factors. All these factors affected the cycle of change among older adults. This cycle consisted of three steps. The first was to promote self-competence, the second was to promote self-empowering, and the last was to promote growth. The output of the model was aging independently with four components: 1) physical fitness, 2) psychological fitness, 3) spiritual fitness, and 4) social fitness. This model can be applied continuously and sustainably because it suits older individuals' lifestyles, cultures, and community contexts.

Worldwide, the age group of 60 years old and older is growing faster than any other age group. The number of persons aged 65 years or older worldwide is expected to double over the next three decades, reaching 1.6 billion in 2050, when older people will account for more than 16 percent of the global population (United Nations Department of Economic and Social Affairs, 2023). According to a survey in Thailand, the number of persons 60 and older in the Thai population was projected to more than double, increasing from 16 percent in 2015 to 35 percent in 2050 (Teerawichitchainan et al., 2019). In 2022, the number of Thai older adults has been around 20–30 percent, which can be considered the ultimate aged society similar to Japan with 28 percent of persons aged 60 years and older in 2031 (Department of Elderly Affairs, 2020). It is likely that Thailand will be the first country among developing countries to become an aged society; thereafter a super-aged society by about 2032. The context of this research is Samut Prakan, a province in the central region of Thailand, has been declared an aging society since 2014 and will become a super-aged society in 2030, (Samut Prakan Provincial Health Office, 2015). The transition to an aging society is a significant situation in public health. Because of an increasing number of older adults coupled with inappropriate health behaviors. The environment around them is also changing. All these have negative effects on health, economic, and society systems.

The impacts of an aging society can be broadly classified into three levels, individual, interpersonal, and community or national. Previous studies have found that Thai older adults are inevitably affected physically, mentally, socially, spiritually, and economically (Chaisompong, 2017). In terms of the interpersonal-level impact, the participation rates in the activities of older adults with other people (family, friends, neighbors, community) have declined, and household income has decreased. As for community- and national-level impact, the public budget has increased (such as welfare, medical care, and pension costs), the old-age dependency ratio has increased, and changes have occurred in the economic system, etc. (National Statistical Office, 2019).

Based on a review of the above situation, it was found that the Thai government recognizes the importance of this matter and has made improvements in various policies and action plans in preparation for becoming an aging society. The government has set implementation goals aligned with the World Health Organization's action plan (World Health Organization, 2017) and the United Nations' sustainable development goals (SDGs) (2017) to promote older adults to achieve their well-being by means of leading a valuable life with dignity, autonomy, and security.

As the population of older adults expands, the importance of their wellness rises. Wellness was an active process of learning and the ability to make decisions that led to a happy and healthy life. Wellness comprises eight dimensions: physical, emotional, social, spiritual, intellectual, occupational, financial, and environmental dimensions (Swarbrick, 2006). Each dimension was interrelated with the others, and all are equally important. A review of the literature revealed that different interventions were being studied to promote the wellness of older adults. For example, a study by Strout et al. (2016) found an intervention to promote wellness in four dimensions: the physical dimension (through walking, running, gardening, yoga, etc.); the social dimension (through social engagement in groups at movies, concerts, elder club activities, etc.); the emotional dimension (through meditation, yoga, positive affirmations, etc.); the occupational dimension (through volunteer work, paid work, or career); the intellectual dimension (through computer games, reading, music, arts and crafts, cooking, etc.). A study by Lopez et al. (2021) implementing forgiveness interventions to promote spirituality among older adults. Although there are many activities to promote wellness among older adults, there are still gaps of knowledge in practical research due to the differences among older adults in terms of experiences, lifestyles, cultures, contexts, and different elements of each area. Therefore, studies of various factors were important in the development of activities to promote wellness among older adults that were specific, appropriate to the context, and responded to the health needs of this group (Harooni et al., 2014).

A review of relevant Thai literature found that several research projects have explored and enhanced the well-being of older people through the participatory action research (PAR) process (Milincharoonpong et al., 2018; Rojpaisarnkit & Kreingkaisakda, 2017). Despite the development of models to promote the wellness of the elderly in many communities, these issues remain significant. Differences in community context, culture, and lifestyle are important factors affecting differences in the needs associated with this issue. The PAR process can close that the gaps in terms of differences. In addition, most studies in Thailand have been conducted in rural areas. This research was conducted in a semi-urban, semi-rural community in Samut Prakan, a province in Thailand. The difference between semi-urban, semi-rural areas and solely rural areas is the development of geographic areas and environment. These differences in community types result in diverse lifestyles among community residents.

Based on the above, it is evident that research to promote wellness among older adults is an important and challenging issue in public health work. The researchers are nursing personnel who have an important role in holistic care among older adults. We recognize the importance of developing a wellness-promoting model for community-dwelling older adults based on the PAR process. PAR was an appropriate methodological process for meeting the objectives of this study. These strategies will help healthcare professionals empower older adults with the confidence to adjust behaviors and relationships to maintain a functionally balanced

lifestyle (Bendien et al., 2022; Blair & Minkler, 2009). The researcher believe that this qualitative approach could improve nursing practice and help solve problems. The creation of this model will reflect the needs and concerns of older adults and relevant community stakeholders. These could result in community-dwelling older adults having sustainable healthy lifestyles and well-being.

Literature Review

In a rapidly aging society, older adults' problems become social problems that require urgent community attention. Older adults, like the poor, are frequently perceived as having characteristics that cause them problems. They are at high risk for chronic illness, functional decline, and geriatric syndromes. Thiers are usually perceived as passive users of services rather than as active members who can contribute to the community. However, in view of the growing issues that the older face, senior services cannot end at the service delivery level. The older have a right and an obligation to participate in solving their own problems. As the population of older people expands, the importance of their wellness rises. Wellness was considered "an active process through which people become aware of and make choices toward a more successful existence" (Stoewen, 2015). Wellness is more than freedom from disease; it is a dynamic process of change and growth. Wellness offers older adults an opportunity to reflect on personal values, priorities, and strengths, which promotes living according to those values and being well. It is a relatively new movement aimed toward establishing positive health through positive health habits (Miller, 1991). This study focused on wellness among community-dwelling older adults. Community-dwelling older adults were defined by their age (≥ 60 years of age), both male and female, and by living independently.

A review of studies by Harooni et al. (2014) recommends that health care providers promote health-promoting behaviors for older adults in all communities by designing appropriate intervention programs based on effective factors influencing the health-promoting behaviors among older adults in each country. The development of new care models through research considers differences in setting, culture, and context. The application of the PAR process will help provide greater clarity in different health contexts among older adults. The main objective of this study was to create a wellness-promoting model for community-dwelling older adults based on the PAR process. PAR provides a collaborative commitment to improving communication among older participants. Practice adjustment is a self-reflective PAR process resulting from investigating practices and involves studying the reality of participation by people in specific environments. The PAR process could lead to interventions that adapt to the dynamic changes of older adults and set a mutual goal of action to help increase efficiency in caring and enhance the independence of older adults (McTaggart et al., 2017). According to literature reviews, PAR has been used as a guideline for many nursing kinds of research. Cusack et al. (2018) used participatory action research to construct a professional practice model with public health nurses in Canada. The use of participatory action research in this study resulted in changes in individuals and systems. The emphasis was on participant participation and awareness of lived experiences, which encouraged empowerment, leadership, and consciousness-raising.

Research Objectives

1. To explore the ways of living and processes that reflect the changes in older adult lifestyles, living factors, caring needs, community resources, and other factors related to wellness promotion for community-dwelling older adults.
2. To design a creation process and create a wellness-promoting model for community-dwelling older adults through a participatory action research spiral.

Method

Research Design

This research was based on PAR approach given by Kemmis and McTaggart (1988). The PAR process is a "spiral of individual and collective self-reflective cycles of planning change, acting and

observing the process and consequences of the change, reflecting on these processes and consequences, and then re-planning, acting and observing, reflecting, and so on" (McTaggart et al., 2017, p. 21). It is a form of research that focuses on the information and experience gained from a group of participants. In addition, PAR is often used to draw on participants' experiences, meanings, and interpretations in accordance with the qualitative research line.

Participants

This research was conducted using a purposive sample from a suburban community in Samut Prakan Province, Thailand. The sample comprised 33 older adults who met the following inclusion criteria: (a) community-dwelling individuals aged 60 years or older; (b) willingness to participate in the research project; (c) residence in the suburban community in Samut Prakan Province, Thailand; (d) normal mental health; (e) no cognitive impairment; and (f) ability to read and speak the Thai language. The exclusion criteria applied to rejecting participants consisted of severe illness (such as participants on dialysis or chemotherapy) and refusal to participate in the research project. The sample also included 5 family members of older adults, 1 registered nurse, 2 community health officers, 1 doctor of Thai traditional medicine, 3 village health volunteers (VHV), and 1 senior citizen club president. In the participant group of 33 older adults, there were more women than men. The average age was 69.82 years, with the youngest being 60 years old and the oldest being 84 years old. The majority of the group was married and had completed primary education. The average monthly income was 6,215.36 Baht (177.68 USD). Sources of income included older adults' subsistence allowance from the state, their occupations, and allowances from their children or grandchildren. As for their health status, most of the group was found to be able to perform self-care and were members of older adults' clubs.

Instruments

The researcher is considered the most significant research instrument in PAR studies. Therefore, the researchers prepared themselves both in terms of knowledge of qualitative research methodology, attending various training courses on topics related to qualitative research techniques, and gaining experience to practice and develop data collection and qualitative research analysis skills together with senior researchers.

The instrument used to collect basic data on the participant group was a personal information questionnaire, and the instruments used to evaluate and screen the older adult group to determine qualifications according to the inclusion criteria included the Barthel Index for activities of daily living (ADL), the Thai Geriatric Mental Health Assessment Tool (T-GMHA-15), and the Thai version of the Mini-Mental State Examination (MMSE-Thai, 2002). To determine the reliability of the instruments, the researcher tested all three questionnaires against a participant group composed of 30 samples with similar properties to the participant group in this study, yielding Cronbach's alpha coefficient values equal to 0.92, 0.81 and 0.94, respectively. The instruments used to collect data in the research process included in-depth interview questions, group discussion questions, official observation notes, unofficial observation notes, and audio recorders. The in-depth interview and group discussion questions created were submitted by the researcher to five experts in nursing and caring for older adults in order to check the content accuracy and index of item objective congruence (IOC). The IOC values ranged between 0.6 – 1 point for the in-depth interview questions and between 0.8 – 1 point for the group discussion questions.

Procedure

The research and data collection were carried out after being accredited by the Human Research Ethics Committee of Thammasat University (Science) (HREC-TUSc). Before going to the study area, the researcher wrote a letter requesting permission and sent it to notify the relevant agencies of the implementation. Upon obtaining permission, the researcher inspected the quality of the research instruments and selected research volunteers at the communities under the health service jurisdiction of a Thai sub-district health promoting hospital according to the selection and elimination criteria of the research project. The researchers protected the rights of the volunteers by informing them of their participation in the research based on the participant

information sheet and giving the research volunteers the right to decide on their own participation without coercion. The research and data collection were conducted from May 2022 to January 2023. In this study, the researchers divided the study into two phases: phase I- examining the experiences, backgrounds, and health perspectives of community-dwelling older adults to explain their lifestyles, living factors, care needs, community resources, and other factors and phase II- developing a wellness-promoting model for community-dwelling older adults utilizing a PAR process.

Data Analysis and Trustworthiness of the Data

Quantitative data were analyzed with descriptive statistics, and qualitative data obtained from the in-depth interviews and group discussions were submitted to content analysis using Miles and Huberman's qualitative approach (Miles et al., 2014). The detailed steps of the qualitative data analysis process are as follows: 1) organized and prepared the data for analysis; 2) read and looked at all the data (familiarizing with the data); 3) started coding all of the data; 4) used the coding process to generate a description of the setting or people as well as categories or themes for analysis; 5) advance how the description and themes will be represented in the qualitative narrative; and 6) the researcher interpreted qualitative research by contrasts and comparisons of the findings. The researchers used the ATLAS.ti 23 software program to assist in the qualitative data analysis process. The researchers established the trustworthiness of the data according to the principles of Lincoln and Guba (1985) consisting of credibility, dependability, transferability, confirmability, and authenticity. For credibility, the steps undertaken included a constant comparative method of data collection and analysis; data triangulation of different data sources and methods; prolonged involvement with participants, member checking, and peer debriefing with participants. The older adults gave information that ensured the accuracy of the concepts presented in the study until their satisfaction was met during the research activities, along with coding and categorizing processes. For the criterion of dependability, an inquiry technique was employed to inspect the theoretical consistency, clarity of the study question, and language suitability of inquiry by five experts as mentioned above. For transferability, the researchers used a descriptive technique to explain the findings relevant to promoting the wellness of older adults and used three techniques, peer debriefings, theoretical triangulation, and member checking, to build confirmability. The researcher confirmed authenticity by sending the information to the participants to verify the accuracy again after the data analysis. The conclusions and interpretations could have been in the form of explanations, conceptual frameworks, or theories about the subject analyzed. These three elements were closely related throughout the research process and provided feed-forward and feedback to one another (Miles et al., 2014).

Ethical Considerations

The research was approved by the Human Research Ethics Committee of Thammasat University (Science) (HREC-TUSc) on March 23, 2022, under certificate no. COA 018/2565. Before data collection, the participants were informed of the study purpose and process and of their right to voluntary withdrawal from the study, privacy, confidentiality, and anonymity. Each participant consented to participate in the study by filling out and signing the consent form.

Results

In phase I, the researchers started studying the data obtained from face-to-face in-depth interviews with older adults, which allowed discussion thoroughly while acknowledging and gaining insight into the perspectives of older adults, including older adult lifestyles affecting the wellness. The researchers conducted this phase from May to September 2022. While collecting data, the researchers analyzed the data from the audio recorder and field notes simultaneously in order to create additional questions that would lead to in-depth information to investigate stories obtained from interviewing new older adults in cases where the information obtained was insufficient or lacking. Data collection in this phase was conducted until no new issues were found, or data saturation was achieved. In this phase, the researchers conducted in-depth interviews with 26 individual older adults until information was obtained covering the

issues to be studied and no new issues were found from the interviews. The preliminary analysis data was then presented and verified for accuracy through focus group discussions among 7 older adults, and 13 relevant stakeholders (5 family members of older adults, 1 registered nurse, 2 community health officers, 1 practitioner of Thai traditional medicine, 3 VHV, and 1 senior citizen club president), in addition to discussions to exchange information on incomplete issues. It was found that the factors related to the lifestyles of community-dwelling older adults affecting the development of behaviors promoting wellness consisted of seven factors: 1) physical, 2) psychological, 3) social, 4) family, 5) age-friendly environment, 6) life goals, and 7) spiritual. An example of a quotation of each factor is shown in Table 1. The data obtained were then used as a basis of information for creating a preliminary model to design and create a wellness-promoting model for community-dwelling older adults through the PAR cycle in phase II.

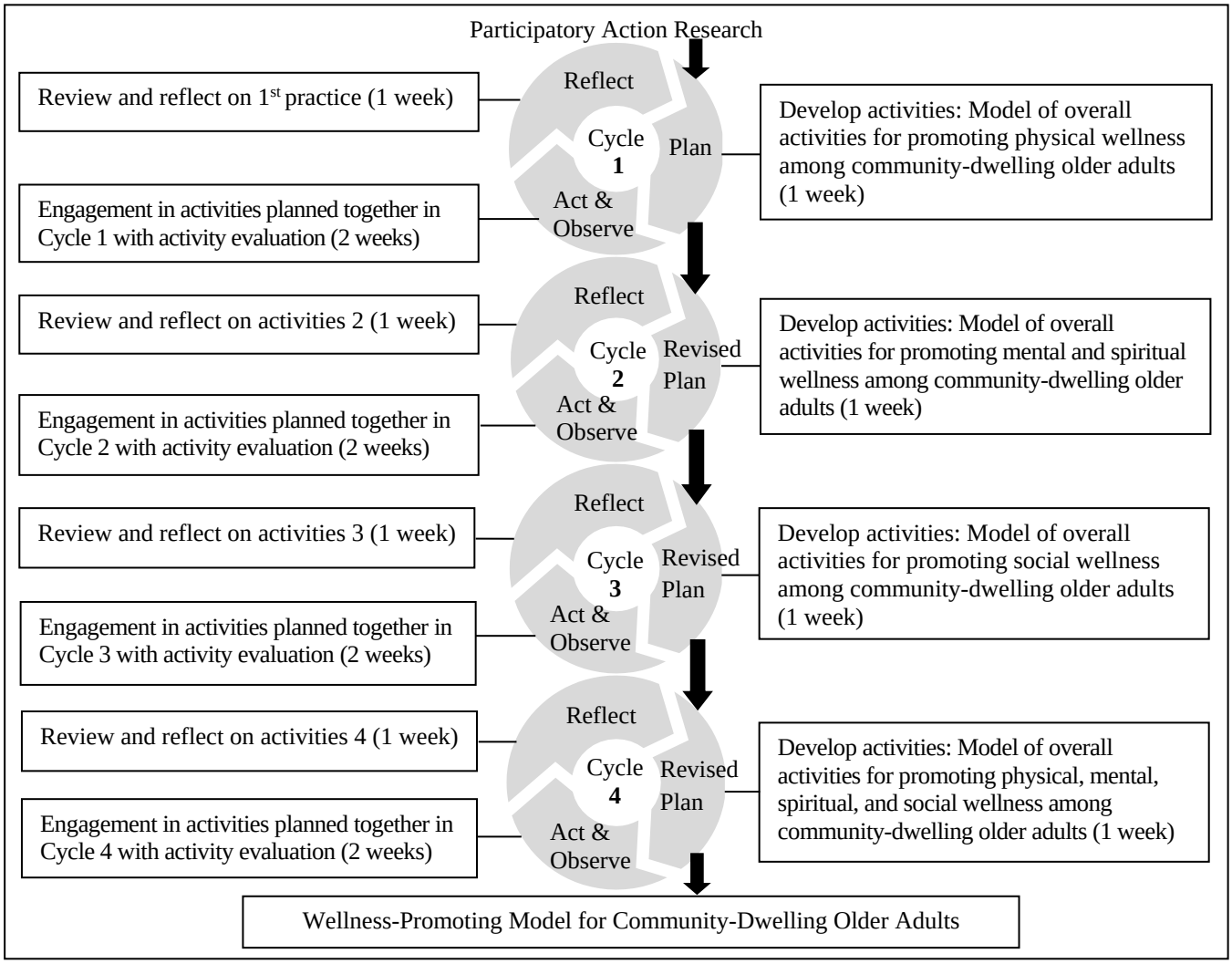
Table 1
Sample Quotations from Participants for Each Factor

Factors	Sample Quotes
Physical	"After waking up, I need to exercise every morning. I go for walks and swing my arms. There is a gym at the canal behind the community where I can go. I exercise every day for 30 minutes." (OA10)
Psychological	"For the elderly, having good mental health requires interactions with other people. A person with good mental health will also not be stressed. People with poor mental health are more likely to be pessimistic." (OA08)
Social	"I'm a member of a senior citizen's club, a member of everything. It's good to be able to participate in activities like that, to learn how other people do things and what they've done." (OA04)
Family	"People in the house can talk to one another well, talk about everything, have no problems or quarrels; and when children have problems, they can come to consult us. We listen to everything. There's never been a problem in the house." (OA02)
Age-eriendly environment	"The environment around the house is safe, but I used to fall in the house because I accidentally stepped on the floor when the floor was wet." (OA09)
Life Goals	"It's good to have a purpose in life, so we know what to do, not to be lonely and stressed. We live the way we want; it makes us happy." (OA25)
Spiritual	"What keeps me grounded in my heart now is the Buddhist teachings." (OA06)

In phase II, the researchers proceeded to develop a wellness-promoting model for community-dwelling older adults through the cycle of PAR according to Kemmis and Mc Taggart's concept (Kemmis & Mc Taggart, 1988). PAR is a spiral of self-reflection, starting from planning, action, observing, and reflecting, and then using the data to create a revised plan to lead to action, observation, and reflection of the performance results until the desired objectives are achieved. The research in this phase was conducted once a week for a total of 16 weeks (activities for the four cycles of PAR were conducted). The researcher conducted this phase from October 2022 to January 2023, as shown in Figure 1. Before participating in the activities of phase II of the research project, the researchers described the activities and the duration of the activities, in addition to inquiring about the willingness of the older adults who wished to participate in the activities (the same group of older adults whose data were collected in phase I). According to the findings, 16 older adults wished to participate in phase II. The process of conducting the activities divided the older adults into two groups of eight older adults each. The activities for group 1 were conducted in the morning between 10:00 am – 12:00 pm, and the activities for group 2 were conducted in the afternoon between 01:00 – 03:00 pm. Analyzing data from two groups of activities is a method that helps confirm the information discovered and enables use of the information to improve the action plans and better achieve the desired goals.

Figure 1

Participatory Action Research Process for Developing a Wellness-Promoting Model for Community-Dwelling Older Adults



The process of developing the wellness-promoting model for community-dwelling older adults through the cycles of PAR in phase II involved four cycles of activities as follows:

Cycle 1 focused on promoting the physical activities of the older adults to promote physical insight and physical perceptions. This cycle involved conducting all activities for 4 weeks during October 2022 with the older adults coming to participate in activities 1 day per week. The duration of each activity was 90–120 minutes and the details are as follows.

Week 1: The older adults collaborated to plan and determine guidelines for carrying out activities. Weeks 2 and 3: the older adults practiced 3 activities designed together, namely, activity 1: physical activity for good health; activity 2: good teeth equal happiness; and activity 3: safe drug use in older adults. During practice, the study issues were observed and recorded together. After the activities ended in week 4, the older adults reflected together on the results in three aspects: 1) What did you learn? 2) How did you feel? and 3) If you wanted to do it better, what could you do?

The reflection results showed that the older adults learned about the methods and benefits of exercises that suited them physically and their daily routines, the context of their living environments, choosing to consume suitable foods, proper oral and dental care, recognizing the importance of attending doctors' appointments, using medication appropriately, and perceived self-competence, which enabled the

older adults to maintain their daily activities independently and encouraged them to perform physical activities to better care for their own wellness. After the older adults realized what they could do, they were motivated. The factors for success that promoted older adults to have physical self-care behaviors included recognizing the advantages of practicing and the disadvantages of not practicing and receiving encouragement and support from peers in their community and family members. The data obtained from the reflections could lead to improvement and action plans that are appropriate for the contexts and lifestyles of the older adults in cycle 2. Several participants realized that they had concerns about activities to promote their mental and spiritual wellness in cycle 2 as follows. According to one participant said, "The mind is very important. If it is damaged, it is bad and I won't want to do anything. The body can be strong, but the mind must be good, too." (P05)

Cycle 2 focused on promoting the mental and spiritual wellness of the older adults. This cycle included the performance of all activities for 4 weeks during November 2022 with the older coming to participate in activities 1 day per week. The duration of each activity was 90–120 minutes and the details are as follows.

Week 5: The older adults jointly offered suggestions and exchanged experiences on how to continue their behavior after participating in the activities for four weeks regarding successful physical activities with the group. Based on the discussion, the key points on how to encourage the older adults to continue practicing physical activity included recognizing the benefits of doing regular physical activity independently. The factors supporting the success of the practice were friends, family members, and membership in the elderly community's LINE application group. After that, the older adults jointly reviewed and presented issues to plan and defined activities in cycle 2. At weeks 6 and 7, the older adults performed four activities designed together, namely, activity 1: online lecture on “mindfulness in daily living”; activity 2: good thoughts for a positive life; activity 3: breathe right for a long life; and activity 4: diligent management to prevent dementia.

After the end of the activities at week 8, the older adults reflected together on the results of performing the activities throughout the eight weeks. This reflection revealed that the older adults learned the methods and activities for promoting mindfulness (mindful/ emotional/ spiritual growth). As a result, the older adults had beautiful, strong minds, autonomy, and self-empowerment allowing them to live in the present and overcome obstacles on their own. From the activities in this cycle, it was found that the success factors encouraging older adults to develop behaviors promoting mental wellness included the recognition and prioritization of good mental wellness in older adults. The older adults regularly evaluated themselves, especially their daily emotions, and tried to write down things that made them happy. If they were in a good mood, they would not be stressed. The older adults learned together to use technology such as social media applications of LINE, YouTube and Facebook to search for ways to promote good mental wellness and selected suitable methods for themselves to practice. Family was also an important factor because it was a source of encouragement for the older adults to feel at ease and not lonely. Social factors, such as activities with neighbors/ community members/ health personnel, also encouraged the older adults to have cheerful minds. Age-friendly environmental factors around their homes and community also made the older adults feel confident, safe and happy in living. The data obtained from the reflections of the older adults could lead to improvement and action plans in cycle 3. Most older adults wanted to participate in social activities where they socialized with the same age group in their community. One participant said, "Participating in activities with others makes me feel happier and not lonely. I would like to do activities I like with my friends of the same age, such as doing crafts." (P09)

Cycle 3 focused on promoting social wellness. This cycle involved activities for 4 weeks during December 2022, with the older adults coming to participate in activities 1 day per week. The duration of each activity was 90–120 minutes and the details are as follows.

Week 9: The older adults jointly suggested and exchanged experiences in taking care of personal health on an ongoing basis after eight weeks of participation in the activities. According to the findings, most of the older adults were able to continuously apply the knowledge gained from participating in group activities in their daily lives. The older adult group of the community and family members played a key role in supporting and encouraging the activities of the older adults. The older adults who encountered obstacles in performing activities received suggestions from group members on using the practice of goal-setting activities together and taking personal notes to be used as reminders with self-assessment in health care behaviors, as well as information to jointly plan with the older adult group. The older adults continued to work with the researcher and public health officials to find appropriate management guidelines and methods for individual older adults. Next, they jointly reviewed and presented issues to plan and define activities in cycle 3. At weeks 10 and 11, the older adults performed three activities designed together, namely, activity 1: making herbal compresses; activity 2: making mask straps, “DIY BY AGING”; and activity 3: making dish soap. These activities noticeably promoted the older adults in having meaningful and regular interactions with others.

After the end of the activities at week 12, the older adults reflected together on the results of the activities. It was found that the older adults could use their knowledge to apply to hobbies, use acquired products in their families and with other people and capitalize on their knowledge to create jobs and income. The group process also helped the older adults learn to work together as a team, share with one another, accept and listen to others’ opinions, and train them to be good leaders and followers. These things demonstrated that, in addition to the older adults developing themselves through good changes, they could also share and help others to improve and change for the better (Ours to Others: O2O). From the implementation of activities in this cycle, it was found that the thew factors for success that promoted participation in the social activities of older adults involved a variety of factors apart from the older adults themselves, including the enrichment of community networks such as family members, friends, healthcare personnel, public health volunteers, and older adult club presidents. Family members were an important part of encouraging and supporting various activities, as well as providing financial support to the older adults. Friends encouraged the older adults to participate and have continuity in their participation. Healthcare personnel, health volunteers, and older adult club presidents were great sources of support in terms of resources for performing the health activities of the community-dwelling older adults. These were positive factors for the development of wellness-promoting work for community-dwelling older adults to be effective and achieve sustainable results. The data obtained from the reflections of thew older adults led to improvement and action plans in cycle 4. One participant said:

> It's nice to be able to do activities with friends my age. You don't have to be distracted alone; you can get knowledge and apply it in your daily life. I feel like coming every week to get together and do activities. (P08)

Cycle 4 reviewed the participation in holistic activities for promoting physical, mental, social and spiritual wellness of older adults. This cycle involved performing activities for 4 weeks during January 2023 with the older coming to participate in activities 1 day per week. The duration of each activity was 90–120 minutes and the details are as follows.

Week 13: The older adults jointly reviewed their behavior and the results of participating in the 3 cycles of activities. Weeks 14 and 15: The older adults applied the processes learned from participating in all 3 cycles of activities to develop their own potential along with continuous self-observation; Week 16 after the end of the 4 cycles of activities, the older adults reflected together on the results of the activities over the course of the 16 weeks.

The overall results of the reflections of the older adults from participating in the activities based on the cycles of PAR showed that they were satisfied with the models they developed. The older adults

reflected on the health outcomes and changes that occurred after participating in the activities and found that: 1) They understood and accepted the natural physical changes in their lives, recognized their own potential, were satisfied and content with their personal, family and social lives, perceived their own value, and were proud of themselves; 2) They searched, initiated, and developed various physical and mental self-care behaviors and could create and determine behavioral options that were appropriate to their lifestyles such as personally suitable exercise styles for individuals, choosing the right foods for older adults, and making hobbies according to aptitude and preference. These things result in a strong body without complications from congenital diseases, perceiving self-potential, and a sense of empowered; 3) The older adults could design life goals, had positive mindsets about various life situations, were able to overcome obstacles in life on their own, had charitable mindsets, maintained positive thoughts, did good deeds, and volunteered; 4) They were able to help and share within their capabilities to benefit the community, had a goal to live happily, were self-reliant without burdening others, had independence, and had improved well-being.

The results of the research study aimed at creating a wellness-promoting model for community-dwelling older adults as Figure 2. The researcher was synthesized according to systems theory of von Bertalanffy (1968) and self-determination theory (SDT) of Deci and Ryan (1985), which hold that every system has three important components: 1) Inputs (aims, resources, problems); 2) Processes (steps to activities or actions); and 3) Outputs (results or outputs of a system approach). The details were as follows:

In the implementation of this research, it was found that the inputs of a wellness-promoting model for community-dwelling older adults consisted of four factors. The first factor was the personal factors which composed of physical, mental, spiritual, and purposeful life dimension of older adults are factors affecting health behaviors and can lead to the wellness of older adults. The second factor was family factors which composed of family functioning, relationships, social support, health beliefs, and health behaviors are all family factors affecting the health behaviors contributing to the wellness of older adults. The third factor was social factors which composed of social activities, social support, such as family and friends of the same age, neighbors, health workers, community public health volunteers, community contexts, community health service systems, community participation, promoting knowledge transfer in various fields and participation in interest-based learning of older adults. Encouraging the older adults to learn throughout their lives refers to lifelong learning in knowledge and skills that older adults need to know, should know, and want to know, such as learning to use communication technology (social media) through a smart phone, computer, and Internet access. Social media networks such as Facebook, LINE and Twitter can help older adults keep pace with the modern world (smart older adults), socialize and be closer to their children and friends. In addition to empowering the older adults and increasing job opportunities, this technology was something that can help the older adults feel self-worth and give them a sense of social acceptance, all of which were factors that contribute to healthy aging. The last factor was environmental factors which composed of age-friendly home and community environments with safe and secure housing in a community that was safe and conducive to various forms of wellness activities such as a safe pedestrian system, good weather, no thieves in the community, sufficient electricity, a public courtyard in the community, etc.

In the processes of change health behaviors among older adults derived from participatory research spiral which created to explain the mechanism of change in the developmental process of continuous dynamic growth of older adults until set goals were reached. The cycle of change health behaviors among older adults composed of three steps. It begun with step 1 to promote the self-competence cycle; step 2: the self-empowering cycle; and step 3: the growth cycle. The details were as follows:

The first step, the self-competence cycle, was developed through the promotion of physical activities. The result was that the older adults understood and accessed their abilities. Examples of activities to promote physical fitness include promoting physical activity in older adults to promote

muscle mass strength, blood circulation, and heart function, promoting food choices as appropriate for age and conditions, promoting reasonable drug use and regular doctor appointments, proper oral and dental care, etc. This cycle started with finding a problem and learning how to properly perform self-care in harmony with daily life with the goal of achieving physical fitness.

Step 2, the self-empowering cycle, began when the older adults recognized and perceived their own potential, were encouraged to see value in themselves, were able to maintain individual daily routines, created and chose health activities that suited their lifestyles and led them to achieve their goals, and designed their daily activities to promote well-being and prevent physical and psychological health problems. These things resulted in the older adults gaining self-empowered aging, psychological fitness, and spiritual fitness. In other words, the older adults would have a strong mentality and mindfulness, recognize and accept the present reality, and be content with life. Although some of the older adults had chronic non-communicable diseases (NCDs), they were able to learn to change and take care of their own health properly. When the older adults could perform physical and mental duties on their own, they felt psychologically improved. This would then lead to changes through self-development and social interaction.

The last step, the growth cycle, aimed to promote the social fitness of the older adults by encouraging them to have positive interactions with others in a purposeful and continuous manner, such as volunteering to contribute to the community or society, exchanging and sharing knowledge, and participating in singing or dancing activities to relieve stress, etc. These activities reflected the development, change, independence and self-reliance of the older adults.

Output was the final component of the system. It was the result of the process of implementing factors to achieve specified target effectiveness, and the results will be in the same environment. The outputs of the wellness-promoting model for community-dwelling older adults were aging independently with four main components: 1) physical fitness: The older adults had a healthy state of health, even with chronic diseases, and were able to take care and control the complications of disease with no or minor disabilities, autonomy in activities of daily living, exercise, diet, or rational use of substances and drugs that are effective, and the ability to maintain a normal life in society; 2) psychological fitness: The older adults were able to integrate and improve cognitive, emotional, and behavioral practices effectively and continuously, living happily and satisfactorily in their personal lives; 3) spiritual fitness: The older adults had complete understanding and clarity of all things with awareness of what they were doing or facing each day with mindfulness, beliefs, and recognition of self-worth as they lived meaningful and purposeful lives, maintained a positive outlook on life, engaged in positive thinking, and were able to overcome obstacles in life on their own; and 4) social fitness: The older adults had positive relationships with their families, friends, or others in the community or society in a meaningful and continuous manner to create self-worth for the older adults and make the older adults happier.

Discussion and Conclusion

Discussion of the Main Results

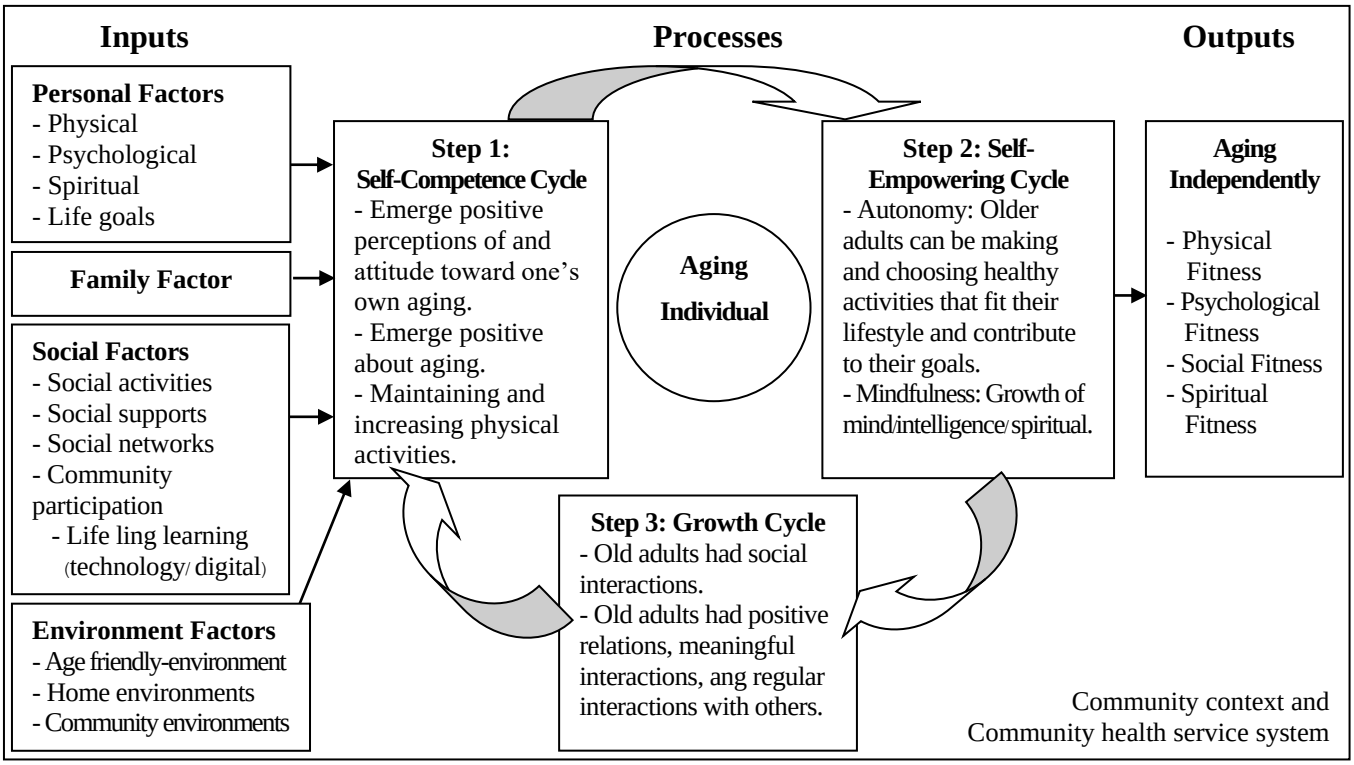
When the data from this research study was synthesized, it was found that the input factors related to wellness promotion behaviors for community-dwelling older adults were composed of four main factors. The first category of factors was the personal factors of the older adults. This group originated from the older adults themselves and included traits such as ability due to physical conditions (the ability to chew food, visual acuity, hearing, daily routines, independent mobility), and state of mind (feelings of worth, feelings of happiness in life, etc.), as well as personal health behaviors, all of which differed in the older adults. A study by Chimphet et al. (2022) found personal factors to contribute to the health behavior of Thai older adults. The second factor was the family factors. Based on the findings, support from families to older Thai parents was able to support the older adults in 4 ways: 1) financial support; 2) emotional support; 3) instrumental support; and 4) companionship (Komjakraphan et al., 2009). Having

relationships with other people in society gives other adults the opportunity to receive benefits and benefit others with a feeling that others still have their older adults. Booranaklas (2017) examined the correlations between self-care behaviors and family relationships with the happiness of community-dwelling older adults. The findings revealed that self-care behaviors and family relationships were also positively correlated with the happiness of older adults. The third factor was the social factors. Sithikan et al. (2018) suggested that social networking among older adults was correlated with the health-promoting behaviors of older adults. It was also found that the nature of interpersonal social relations and interactions among members of the social networks of the older adults were correlated with various forms of social interconnectedness, such as family, friends, relatives, etc., with exchanges of health information leading to awareness and knowledge about taking care of their own health. Therefore, encouraging social participation among older adults is important to the development of wellness and has a positive impact on quality of life in this group (Ye & Zhang, 2019; Rojpaisarnkit & Kreingkaisakda, 2017; Cachadinha et al., 2012). The last factor was the environmental factors. Chonirat et al. (2020) studied the factors predicting healthy aging among older adults. According to the findings, an age-friendly environment could predict healthy aging with statistical significance. A safe and positive residential environment reduces the risk of falls and accidents among older adults, while environments free of air and water pollution as well as toxic substances help promote the physical and mental health of older adults (Chimphet et al., 2022). On the other hand, an unfavorable environment might hinder the proper behavior of older adults. This could be explained according to Pender's health promotion model (2006) in relation to situational influences that describe when a person was aware of a situation or context that can facilitate or hinder the practice of health-promoting behavior in which people choose activities that feel consistent with their lifestyles and surroundings (Pender et al., 2006). According to the study by Bunthan and Kompayak (2020) found that the context and topography of the community and weather conditions affected the regular exercise behavior of older adults in the community.

The processes in the wellness-promoting model for community-dwelling older adults through the synthesis of activities based upon the participatory research spiral, as shown in Figure 2.

Figure 2

Wellness-Promoting Model for Community-Dwelling Older Adults



The mechanism for change in the developmental process of older adults was dynamic, starting with step 1 a focus on promoting the physical activity of older adults. This resulted in the older adults gaining an understanding of their own health status while having positive perceptions and attitudes toward aging. The positive perceptions and attitudes toward individual aging that emerged were positive beliefs about aging in which the older adults perceived and recognized their potential. Self-perceived competence in aging allowed the older adults to maintain their own daily activities and encouraged them to engage in more physical activities to take care of their own health. This was in line with the self-determination theory (SDT) of Deci and Ryan (1985), which refers to an individual's ability to choose independently and manage their own lives. Self-determination helps a person perceive himself or herself as having the ability to choose and control his or her own life. The theory focuses on building internal motivation in the following three aspects: 1) the need for competence, whereby individuals need to be proficient and learn different skills; 2) the need for relationships, whereby the person must feel part of a group and have bonds with other persons; and 3) the need for autonomy, whereby the person must have a sense of control over their behavior and set their own goals. The concept of SDT believed that a person's development and growth were possible if the person was encouraged to fully develop himself or herself. When older adults were aware of their health needs, they could assess their potential, seek alternatives, and make their own decisions about how to take care of their health and manage to control them. Finally, older people will perceive self-competence. Older adults felt capable and in control and believed that they would be successful in changing health behaviors in the future. Dattilo et al. (2018) revealed that SDT was a basis for understanding community-dwelling older adults' experiences, including those associated with leisure, and is useful for designing interventions to address challenges to such experiences. SDT, therefore, can be used as a basis for developing various programs. The review found that an exercise program for community-dwelling South Korean older adults developed by SDT helped facilitate motivation and promote physical fitness and quality of life in the sample group (Lee et al., 2016).

Next, the second step created the self-empowering of older adults. This step focused on promoting their mental and spiritual wellness. Mental and spiritual growth could make older adults feel happy and satisfied in life with strength of mind, optimism, acceptance of the truths of life, hopes and goals in life, a positive outlook on various situations, happy living and successful victory over the obstacles encountered. Therefore, the promotion of mental and spiritual wellness among older adults was one of the most important dimensions of promoting holistic health care and has positive effects on physical, mental, spiritual, and social health in line with the concept of empowerment theory. Older adults in the present study were empowered within themselves, self-empowered aging was able to create and select health activities as appropriate for lifestyles, self-skills, knowledge, experience, and interests, which ultimately led to the achievement of set goals. When the older adults perceived that they could do something, it created motivation. Psychologically, it was believed that the emergence of human behavior requires an incentive as the trigger for a need and different behaviors to be formed to meet and end that need. Mental, emotional, and spiritual growth resulted in the older adults being happy in the present, able to live in the present, and able to overcome obstacles on their own. All of the above factors improved the health and wellness of the older adults (Poomsanguan, 2014). These results were consistent with the finding of Prasomsuk et al. (2020) that empowering the potential to develop the competencies of older adults affects their ability to control and deal with problems, find solutions to problems, decide on appropriate solutions, and have better healthcare behaviors.

The last step encouraged the growth of the older adults by allowing them to participate in social activities, encouraging the older adults to maintain meaningful and consistent relationships with others. The effects of older adults having meaningful and regular interactions with others were in line with the Activity Theory of Aging, which describes the social status of older adults and creates positive relationships between activity practices and life satisfaction among older adults (Diggs, 2008). Older adults who were constantly active have active personalities, and life satisfaction. They were also more adaptable than older adults without activity and have a positive image. Older adults were happier when

they have roles or social activities that were appropriate for their ages and backgrounds, hobbies based on preferences and interests, community volunteering, participation in groups, associations, and clubs in the community, etc. Continuity Theory explains that older adults continue to want to play a role in society through other changing statuses, which will help maintain and fulfill important values to maintain self-confidence and wellness in life. Therefore, social participation behaviors were guidelines for promoting the physical, mental, social, and spiritual health of older adults. These behaviors were positively related to life satisfaction among older adults (Aunkamol, 2019).

Based on the above, it was clear that older people who feel confident in their own competencies feel empowered and engage in meaningful and regular interactions with others. This causes improvement and promotes independent aging. The outputs of the wellness-promoting model for community-dwelling older adults were aging independently with four main components: 1) physical fitness; 2) psychological fitness; 3) spiritual fitness, and 4) social fitness. Strout et al. (2018) reviewed qualitative content with various dimensions related to the wellness of older adults and found that older adults pay more attention to the physical, social, and emotional aspects, which are paramount to promoting sustained independence and maintaining health. This can be seen in research that has applied various concepts to develop models for health promotion among community-dwelling older adults in Thailand. Consideration of differences in community contexts was an important aspect of model development. According to the results of the study by Punyasit et al. (2020), the model created had a positive effect on competencies in health and social participation among older adults, thereby leading healthy and secure lives.

Finally, the wellness-promoting model for community-dwelling older adults was created to account for lifestyle among older adults, community context, and the community health service system, leading to good and sustainable effectiveness. In Thailand, this model can be used to scale up the results by adapting to the context and must be continuously implemented with the addition of comprehensive monitoring and evaluation as well as connecting the older adults with other partners such as health networks and government agencies such as sub-district municipalities to provide the senior citizen club with access to information and other sources of support, including budgets, science, and training processes on knowledge and skills necessary for sustainable health promotion. In addition, the process in the model encourages older adults to change their health behaviors from perceived self-competence to autonomy, being able to determine and decide on appropriate health behaviors on their own. Therefore, various interventions and programs should be developed in a way that addresses participants' expectations and self-determination (Haynes et al., 2021; Slemp et al., 2021). This result was consistent with a previous study in Thailand finding that developing models for older adults through the participation process helped improve health and quality of life (Vudhironarit et al., 2023).

Limitation

One limitation of this study was that it was conducted in the central part of Thailand with Thai older people only. Therefore, the results may not be generalizable to other situations, including places with different languages, cultures and beliefs.

Implications for Behavioral Science

The results of this research have theoretical and practical implications for healthcare teams as a projection of the interdisciplinary relationship between health behaviors and behavioral science in describing participation in the development of the wellness-promoting models among older adults in Samut Prakan, Thailand. Healthcare personnel such as community nurses, community developers, and social workers can apply the wellness-promoting model and participatory processes learned from this research to use or conduct wellness promotion research in other areas to contribute to the good quality of life among older adults. In future research, the model should be extended to other groups of older adults such as those who lack access to wellness due to economic and social issues such as older workforce, poverty, or isolation, to further find wellness development approaches in line with the living conditions of these groups.

Conclusion

This study used a PAR process to develop the wellness-promoting model for community-dwelling older adults. The PAR process was used to provide empirical knowledge regarding the experience of promoting the wellness of older adults. As a result of this process, the older adult participants became more knowledgeable, understood, and engaged in the right self-care. This model consists of four input factors: 1) personal factors of older adults, 2) family factors, 3) social factors, and 4) environmental factors. All of these factors affect the developmental process of dynamic changes that make older adults realize and perceive self-competence, feel self-empowered, and experience growth through carrying out activities to promote physical, mental, spiritual, and social health according to the PAR cycle. This led to the outcome of aging independently. The wellness-promoting model was created to reflect the lifestyles, needs, and resources of community-dwelling older adults regarding wellness promotion, including relevant issues for key stakeholders in the community. The resulting model was suitable for the older adults' lifestyles, cultures, and community context in Thailand, which led to the implementation of the model for continuous and sustainable effectiveness.

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