# IMPROVING HEALTH-RELATED QUALITY OF LIFE AMONG RURAL OLDER PEOPLE: A COMMUNITY PARTICIPATION APPROACH

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**ABSTRACT:** Health promotion has been recognized as a strategy that aids older people in living longer lives, decreasing dependency on others and improving their quality of life. To improve their sustainable development and better quality of life, the community and older people need to discover and explore an appropriate model for health promotion. The aim of this study was to develop a community participation intervention to improve health-related quality of life issues among older people. This study was conducted in one Sub-district of Khon Kaen Province, Thailand. The older people sample group was 522. A participatory approach was adopted and a combination of quantitative and qualitative methods was used through a developed intervention program which discovered three activities: the sport flexibility exercise program, health education and older people meeting forum. This study used Health Related Quality of Life (HRQOL) Thai version measurement (Cronbach's alpha of 0.92) for evaluating the outcome. Outcome data was collected by well trained interviewers. The data abstraction and interview forms were checked and double entered into the EPI INFO 6 before the data was transferred into SPSS for analysis. The response rate was 91.41 percent. The sample group consisted of more females than males. The mean age of sample was 69.17±7.13 year old. Most sample older people had finished primary school (89.7%) Half of the respondents were married, and 40% were widows. This study found that post intervention average HRQOL's score was statistically significant higher than pre intervention at the level 0f .001. The findings of the study show that substantial improvement of quality of life can be derived by the community.

**Keywords:** Quality of Life, older people, Thailand

## INTRODUCTION

The population of older people is now becoming the dominant population segment in the world. The proportion of people aged 60 years and over is growing faster than any other age group. The United Nations (UN) [1] stated that the growth rate of those 60 or older would reach 2.8 percent annually in 2025 to 2030. In the more developed regions, almost one-fifth of the population was aged 60 or older in the year 2000; by 2050, this proportion is expected to reach one-third. In the less developed regions, only 8 percent of the population is currently over the age of 60; however, by 2050, older persons will make up nearly 20 percent of the population [1].

In the case of Thailand, the relatively higher rate of an increase in the older people population is a consequence of a decline in fertility and improvement in longevity. The total fertility rate (average number of children per women) dropped from 6.4 during 1950 to 1955 to 1.7 in 2005, and is projected to decline marginally to 1.5 during the next 20 years [2]. Life expectancy at birth (average number of years a newborn is expected to live) increased from 52 years during 1950 to 1955 to nearly 71 years in 2000 to 2005. It is projected to increase to 76.8 years further in 2025 to 2030 and 79.1 years by 2050. In addition, due to the improvement of medical and public health technology, the proportion of older persons in the total population will increase to 14.0 per cent in 2015, to 19.8 per cent in 2025 and to nearly 30 per cent by 2050 [2].

While the number of the older people increases, the passage of time results in physiological and psychological changes. Non-communicable diseases and disability have had a striking effect on the Thai older people demographic. Thai older people, particularly those in the old-old age group (80 and over year old), may suffer considerably due to the physical effects of aging as well as due to a decline

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in health. Chronic illnesses such as stroke, heart diseases, osteoarthritis, accidents, blindness, deafness and hypertension are fast becoming the leading causes of death and disability among Thai senior citizens [3]. Chronic diseases disproportionately affect older adults and are associated with disability, diminished quality of life and increased costs of health care and long-term care [4].

The World Health Organization (WHO) defines Quality of life as 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 is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment [5]. However, the quality of life in early old age appears to be influenced primarily by current contextual factors, such as material circumstances and serious health problems, with the influence of the life cycle limited mostly to its shaping of an individual's circumstances in later life. The implication for policy is that disadvantages during childhood and adulthood do not preclude good quality of life in early old age [6]. Thus, to improve the quality of life among older people, understanding the demographics of the community and the health issues of its members' is fundamental to the process of health promotion program planning. The Ottawa Charter defines health promotion as the process of enabling people to increase their control over their health and to improve it. Five key strategies for health promotion are: (a) building public health, (b) creating supportive environments, (c) strengthening community action, (d) developing personal skills, and (e) reorienting health services [7]. Strong community involvement is an important pre-requisite for the success of health promotion.

The community participation approach to community development has been gaining popularity for over 30 years and is now entrenched in the mainstream development discourse [8]. This study used a participatory approach so that the opinions and perspectives of older people, older people caregivers and community leaders would contribute to improve the quality of life among older people. The aim of this study was to develop a community participation intervention to improve health-related quality of life issues among the older people.

## MATERIALS AND METHODS

### Study approach

A participatory approached was adopted and a combination of quantitative and qualitative methods were used throughout. The quantitative methods started in July 2009 for determine the elderly HRQOL situation after that qualitative method was deployed for community process for 12 months (August 2009-July 2010). Then, the quantitative methods were used to for outcome assessment in September 2010. The study area was KooKum Sub-district, Samsung District, which is one of 26 districts of Khon Kaen Province, located in the northeastern part of Thailand, where the older population has been increase to reach aging society (12.2%) [9] for three years ago and no any intervention project for HRQOL improvement.

### Participant

Older people refers to people who were 60 years of age and over in eight communities (571 older peoples). The exclusion criteria were the older people with an acute or current medical or psychiatric problem that might interfere with the memory or impair their judgment, as well as those older people who were not willing to participate in the study. Thus, the sample older people were 522.

The process of this study included; a) community need assessment, b) community participation intervention development, c) intervention implementation and d) outcome evaluation.

*a) Community needs assessment*

This process was conducted by the research team using qualitative methods which allowed the research team to find out the community context and perspectives by in-depth interviews and focus group discussions (FGDs). The researchers took on the roles of participants and observers, and formed relationships with key community informants and leaders.

In-depth interviews were used to identify the participants' thoughts, feelings, and behavior about their quality of life and on ways to improve that among the older people. Prior to starting an in-depth interview procedure, the in-depth interview guideline was tested for an appropriate question and how much more information was needed. Thus, one rural community of Khon Kaen Province was selected for the pilot study; due to aging population in Khon Kaen province had been increased for the top three ranking of Thailand in 2001 (excluded Bangkok metropolitan) [10]. Problems relating to appropriateness, clarity, or ambiguity in the use of in-depth interview guideline as well as other related respondents and the study environment were

discussed and the guideline questions were improved. In-depth interviews used purposive sampling and were conducted with 32 key persons as older people, caregivers and community leaders by researchers in the participant's own home, or in a place where the participant was comfortable talking to the researcher and the two researcher's assistants. Participants were asked for permission to take note. Each interview lasted between 30 to 60 minutes. Interviews often took place during two or more visits due to the limited time available to the participants and the complex issues that were addressed.

The focus group discussion (FGD) step aims to listen to the community's concerns, which consisted of informal public meetings in which stakeholders were identified as: community health staff, sub-district administrative organization staff, older people, representatives of older people's, caregivers, older people club leader, and community leaders. The FGDs consisted of 8 focus group discussions with 8-9 persons per group at a community hall or a community leader's house with 60 minutes spent at each meeting. The researcher and the team act as facilitators of the group and provide consultations for FGDs guideline and the discussion management review, and if necessary, adapt these aspects of the strategic plan. The issues were: perspective in older people problems or issues, barriers or resistance to addressing the older people quality of life problems, resources for change, and potential solutions.

The in-depth interview and the FGDs were fully transcribed. Based on the objective and conceptual framework, the researcher and the two research assistants undertook preliminary content analysis of the transcripts to construct the topics and the subtopics, which were then compared and reconciled. The indicators were developed into appropriate headings of the major themes, such as personal data information, quality of life, meaning and perception, and improving health-related quality of life among older people. For each topic and subtopic mentioned, the response of each piece of information were recorded from the cut and pasted material assembled from transcriptions, the interviewer's notes, comments and observations. The data sheets from the individual interviews were then combined in the overall analysis.

**Finding from community needs assessment**

The qualitative data reveals the perspective of the older people and their stakeholders into 2 parts; the quality of life meaning and the way improving the quality of life among the older people.

**Understanding quality of life meaning**

The quality of life in regards to older people well-being along 4 dimensions: health, economic, social, and psychological. Most of the older people focus on their health, but believe that the older one becomes, the more reduced is their quality of life. The participants said:

> *"My quality of life? I don't know what that exactly is. If I had no diseases or illnesses, but enough money, my family would come together and I would be happy". Male older people, aged 79 years (01)*

> *"For me, the quality of life is my ability to work, to go outside, to have enough money, to have friends, to join community activities and to have no illnesses. However, as I grow older, I am unable to do more activities." Female older people, aged 60 years (04)*

**Applied knowledge to improving the health dimension of the quality of life among the older people**

The major theme of experiences improving the health dimension of the quality of life among the older people emerged: health promotion activity among the community-dwelling older people was exercise, in which the exercise was brief, easy to perform at home, flexible, and did not require exercise equipment or costumes. The participants' response as below:

> **The older people's perspectives:**
>
> *"I exercised early in the mornings every day (5 am) at home, using flexibility exercise; such as upper arms exercise, leg muscle exercise waiting for the monks to come and receive alms. I feel happy and reinvigorated." Female older people, aged 77 years (18)*

> *"I get up early, so I exercise every day at home. I feel lively while performing my daily activities. I exercise only my arms, neck and shoulders. I can only remember two to three basic exercises." Male older people, aged 81 years (21)*

> ***Caregiver perspectives:***
>
> *"I think health promotion, especially exercise, would be best for the older people. My mom wakes up early to exercise- she was*

*healthy and was able to carry out her daily activities well." Widow's son, aged 48 years (22)*

*"My mom's health would improve if she had no illness, and exercise is the answer. For the older people, the appropriate health promoting activity that the older people can do by themselves is flexibility exercises." Daughter, aged 40 years (24)*

**Community leader perspectives:**

*"I think that health promotion, especially exercise, is something that is very cheap but very effective for the older people to improve their quality of life. The older people can easily perform these exercises at home or some place in the community. Anyway, our community needs the appropriate flexibility exercises for it." Community leader, aged 55 years (16)*

*"The older people tend not to like going outside their residences. To help them to improve their quality of life, I will set up a group of older people to perform exercises and also a community forum for sharing the health promotion experience as well as exchanging their knowledge, skills and friendly support." Community leader, aged 55 years (16)*

In conclusion, qualitative data reveals characteristics and the habits and lifestyles of older people, which should be recognized as a major concern of intervention. The characteristics of intervention should be easy to perform and the older people should do it by themselves. After that, the research team corporate with older people club leaders, community leaders, public health officers and sub district administration organization staffs – develop the intervention for their older peoples. Before the intervention was implemented, the community forum had been arranged aimed to enhance community participation for ideas sharing regarding the appropriate intervention for older people.

*b) Community participation intervention development*

The half day community workshop at the sub district was set up by the research team regards to feed back research results to 41 participant; community health staffs, sub-district administrative organization staffs, older people, older people club leader, caregivers and community leaders. The workshop discovered the activities for improving their older people quality of life in three activities; the sport flexibility exercise program, health education and older people meeting forum which run by older people, caregivers, older people club leader, community leaders. They were supported by community health staffs, sub-district administrative organization staffs and researcher in terms of older people care and health promotion knowledge.

*c) Intervention implementation*

The first intervention included 10 basic flexibility exercises designed by older persons. There was a warm-up exercise, a neck exercise, an upper arms exercise, a leg muscle exercise, an administrative body exercise, a shoulder exercise, arm and wrist exercises, waist exercises, a back muscle exercise and a cool-down exercise. However, to prevent the risk of injury, this exercise program was first approved by physiotherapist experts. Eight communities implemented the program at a convenient place for the older people to come and exercise for 15-20 minutes a day. Some of the older people exercised alone at home, and some group exercises were done at the village hall. It was important to note that the intervention was brief, easy to perform at home, flexible, not requiring any exercise equipment or costume, and a poster of the exercising positions was available.

The second intervention was health education designed by community health staffs via home visit 2 times a month using two-way communication and leaflets made by caregivers and community health staffs. The contents of the leaflets included cautions about the exercises and photographs of 10 basic flexibility exercises to help the older people remember the exercises as some of them may have been suffering from short-term memory loss.

The last intervention was the community forum initiated by the older people club leader. The aim of the forum was to give older people an opportunity to share their exercise activities and health promotion experiences. Older people would come to join the forum at the temple after finishing religious ceremonies every third week of the month run by the older people club. The process was share the story telling of older people experiences in health promotion for one or two story where spend 15-20 minutes each. The researchers would observe the forum at each community intervention, so that the intervention could be followed up within 6 months.

The intervention was carried out during January-June 2010. After intervention, a 3-month latency period-September 2010 was considered prior to the

post-intervention data collection. This was done to secure the stability of the intervention activities.

*d) Outcome evaluation*

Research instrument

This study used Short form36 (SF36) to measure HRQOL [11]. The SF-36 is a multi-purpose tool and a generic measure of health status as opposed to one that targets a specific age, disease or treatment group. Accordingly, the SF36 has proven useful in comparing general and specific populations, estimating the relative burden of different diseases, differentiating the health benefits produced by a wide range of different treatments and screening individual patients[12]. In Thailand, the SF36 was translated into Thai [13, 14] then it was back translated and was later submitted to five experts for the examination of the content validity. The SF36 was used to measure the quality of life of 100 psychiatric patients. The trial version result had Cronbach's alpha of 0.92.

The SF36 is a 36-item instrument, asking the respondents to evaluate their ability within the past month of giving the instrument. The domains and items are: (1) General health perception, 5 items; (2) Physical functioning, 10 items; (3) Role limitations due to physical problems, 4 items; (4) Bodily pain, 2 items; (5) Social functioning, 2 items; (6) Mental health, 5 items; (7) Role limitations due to emotion problems, 3 items; and (8) Vitality [12-14]. For data interpretation, the score of each domain ranges from 0–100. A high score reflects good HRQOL and a low score reflects poorer HRQOL.

**Data collection and quality control**

Prior to start data collection, this study was reviewed and approved by the Ethics Committee for Research on Human Subjects, Khon Kaen University, Thailand.

The quantitative data were collected via an interview, for which interviewers were trained to administer the questionnaire in a standardized fashion. One group of the interviewers' team was used to interview pre and post intervention. In addition, the data abstraction and interview forms were checked for completeness, then double entered and validated in the EPI INFO 6 before the data was transferred into SPSS software program, version 17 Khon Kaen University licensed.

**Data analysis**

Content analysis was used to analyze qualitative data while descriptive statistics were used to analyze the quantitative data such as frequency, percentage, mean, SD, median, Inter Quartile Range (IQR) and inferential statistics used Pair t-test.

**Table 1** Demographic data of the samples

| Indicators | N | % |
|---|---|---|
| **Sex** | | |
| Male | 222 | 40.2 |
| Female | 330 | 59.8 |
| **Age group** | | |
| 60-69 | 319 | 57.8 |
| 70-79 | 172 | 30.9 |
| >80 | 61 | 11.1 |
| Mean age in years (SD) | 69.17 | SD7.39 |
| **Education** | | |
| No school | 37 | 6.7 |
| Primary school | 495 | 89.7 |
| Secondary school and higher | 20 | 3.6 |
| **Marital status** | | |
| Single | 14 | 2.5 |
| Married | 317 | 57.4 |
| Widowed | 221 | 40.0 |
| **Income** | | |
| No income | 53 | 9.6 |
| Income | 499 | 90.4 |
| Monthly income (Baht) median | 1,750.13 | IQR212.10 |
| **Working status** | | |
| Not working | 288 | 52.2 |
| Working | 264 | 47.8 |
| **Chronic diseases** | | |
| Yes | 236 | 42.8 |
| No | 316 | 57.2 |

## RESULTS

**Demographic data of older people sample**

During the study period, 522 older peoples agreed to participate, thus the response rate was 91.41 percent. The sample older peoples consisted of more females than males (59.8% and 40.2%). The mean age of sample older people was 69.17±7.13 year old. Most sample older peoples had finished primary school (89.7%). In addition, half of the respondents were married, 40% were widows. In terms of working status, this study found 52.2% of sample still worked and their occupations fell mostly into the categories of agricultural laborers, vendors and handicraft workers. Nearly 90% of the sample received monthly income from their cousins, relations, the government or others, with the approximate monthly income median at 1,750.3 Baht (IQR 212.10). This study found that 42.8% of the sample had had chronic disease. Details are shown in Table 1.

**HRQOL outcome**

This study found the post intervention for total score of HRQOL was higher than the pre intervention for

**Table 2** Mean score at post intervention between study participants

| Health-related quality of life dimension | Pre intervention | | Post intervention | | *p-value* |
|---|---|---|---|---|---|
| | mean | SD | mean | SD | |
| Physical function | 73.84 | 9.05 | 84.49 | 8.36 | <0.001 |
| Role limitations due to physical problems | 31.84 | 5.75 | 37.59 | 4.10 | <0.030 |
| Bodily pain | 59.20 | 7.36 | 75.36 | 6.21 | <0.001 |
| General health | 59.08 | 8.45 | 63.62 | 7.02 | <0.001 |
| Vitality | 53.62 | 9.25 | 76.17 | 9.82 | <0.001 |
| Social functioning | 59.56 | 7.63 | 82.89 | 9.33 | <0.001 |
| Role limitations due to emotional problems | 53.80 | 6.72 | 57.32 | 5.55 | 0.161 |
| Mental health | 78.13 | 12.62 | 83.82 | 12.33 | <0.001 |
| Total HRQOL | 59.35 | 9.79 | 69.41 | 11.13 | <0.001 |

total score of HRQOL by statically significant ($p<0.001$), as the mean score of post intervention was 69.41 (SD 11.13) and pre intervention was 59.35(SD 11.13). This study also found the post intervention score of physical function domain, Role limitations due to physical problems domain, Bodily pain domain, General health domain, Vitality domain , Social functioning domain, and Mental health domain were higher than the pre intervention score by statically significant ($p<0.001$). Details are shown in Table 2.

## DISCUSSION

The demographic data of the sample older peoples were similar to the pattern of the Thai ageing population's characteristics and to a previous study in Khon Kaen Province [15], However, the mean age of the older people sample was a higher number than that of three years ago[15].In addition, all of the sample older people were poor compared to a previous study done in Khon Kaen province [15].

This study also found no statistical difference between gender, chronic disease and HRQOL- pre and post intervention score. However, previous studies reveal older females reported significantly poorer HRQOL than older male [16-18] is to older female was mainly due to a higher prevalence of disability and chronic conditions [16]. However, this study found 40% of samples were afflicted by chronic diseases with no complications. In addition, there was no dramatic change in the health of the sample older people during 6 the month's intervention program. Also, this study sample recruited healthy older female and male with an average age as a young old (60-69) and excluded older people with an acute or current medical or psychiatric problem. Thus, there were no statistical difference between gender and chronic diseases in pre and post intervention HRQOL score.

### HRQOL among older people

The mean score of HRQOL was 50+, which can be interpreted as a moderate to high level except for the domain of role limitation due to physical problems, which were less than 50.

This study also found the highest scores of the HRQOL domain in post intervention were physical function, mental health, and bodily pain respectively. Other study show similar results, Lima MG et al. [18] studied in older people Brazilian, also found the high score in social and physical function domain. Even through this study did not found statistical different between chronic diseases and HRQOL score, the lowest score was role limitation due to physical problems, emotional problems and general health. Due to life course influences on health in old age, particularly those in old age may suffer considerably due to the physical, mental health change [19]. Also, Blane D et al. [6] postulated quality of life in old age can be influenced by the older person's health condition.

When compared to the HRQOL of older people living in the rural community and homes for older people in a district of India by Varma, Kusuma and Babu [20], they were found that an overall mean score of HRQOL was less than in Thailand. Most of the community-dwelling older people in India were dependent on work for the scheduled caste population who belong to the lower socio-economic section of society, thus the role of socio-economic conditions determines the quality of life in older people. Poor older people could not retire from work due to their economic status, which affected their quality of life [20]. On the other hand, In case Thailand, those older people who are still working are more likely to have more social interaction and more perceived social support that was directly related to higher levels of life satisfaction and quality of life [21].

### Improving HRQOL among rural older people

This study found that the mean score of pre- and post-intervention dramatically increased. When compared to post-intervention, this study found

statistical significance overall in HRQOL mean score between the pre and post-intervention groups. The community participation results the intervention for health promotion to the older people in three areas; exercise, health education and older people meeting forum.

Exercise improves the older people health related quality of life, confirm by Lee et al. [22] had also revealed that health promotion programs that focus on regular diet, exercise, and regular physical check-ups should be developed to improve independence of everyday life and quality of life among the low-income older people. In addition, Lobo et al. [23] had found that intense physical activity seems to be better than no activity for HRQOL, but moderate physical activity confers greater benefits for the perception of physical functions and body pain among institutionalized older people persons. Park [24] revealed that the experimental group showed a higher score for health promoting lifestyles, flexibility, grip strength and back lift strength related to quality of life.

Health education results in higher health related quality of life, Similar to Rana [25] had found the older people participants' HRQOL scores increased overall and were significant in the compliant group compared to the non-compliant and control groups by the health education intervention. In the same way, de Melo, et al. [26] state that education in health as a life quality promoter in order to reach actions and behavior conditions for the Brazilian older people community health. In addition, significant improvements were observed in general health and vitality subscales of the Short-Form 36 in the educational program group among the Japanese people over 65 years [27].

Due to the intervention package, especially the community forum which aims to increase the older people activities and social interaction, therefore to increase the opportunity for the older people to perform social activities without interference due to physical or emotional problems [20]. Thus, social activities play an important role in social integration among the older people. Social integration is the extent to which an individual participates in a broad range of social relationships [28, 29]. Liang, Gu and Krause [30] described social integration as the connections that individuals maintain with others and are often measured by enumerating the number of social relationships (e.g. marital status, employment, number of children) possessed and the amount of social contacts (e.g. organizational participation, visitations with children) made by an individual. It is assumed that support is being provided. Integrated individuals are subject to social controls that may influence the enactment of health behaviors and to prevent risky behaviors. Social network members may also act as sources of information regarding appropriate health promotion techniques or medical care [28]. Thus, more integration would benefit the social support perceived.

Therefore, older people meeting forum made the older people more perceived and received social support which affect to their HRQOL. There have been several studies confirming the results, such as Kim[31],who found that the older people who exchanged support frequently, both providing and receiving support, showed the highest QOL in most situations. Similarly, Kim [32] reveals that the older people group who exchanged support frequently with their spouses, children and friends showed a higher QOL score than any other group. In addition, these results are consistent with Keokum [21]who found that those older people who had social support had a high QOL; social support for the older people showed a significantly moderate positive correlation with quality of life ($p<0.01$ $r=0.493$), but some older people who had not received social support had low overall quality of life.

There were several factors affects HRQOL among the older people and no single intervention affect to the older people's HRQOL. Even though, this study proves intervention effect to the older people HRQOL. However, this study did not identify which intervention that most affect to the older people HRQOL due to a limitation study. Participation was, however developed depend on the community context and life style makes it considerably to applied to others similar community. In addition, further study needed to be exploring the sustainability of the community participation and the intervention program.

## CONCLUSION

The findings of the study show that substantial improvement of quality of life can be derived by the community. The activity should be in line with the community context and life style. This study also found that the favorite health promotion activity among community-dwelling older people was exercise, in which the exercise should be brief, easy to perform at home, flexible, not requiring exercise equipment or costume and the flexibility exercise, health education and community forum activities affect the quality of life as regards the health dimension among the older people.

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