## Original article

# Mental health status and quality of life of the elderly in rural Saraburi

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***Background:*** Mental health problems are frequently underdiagnosed in older populations. Mental health problems and poor quality of life (QoL) can lead to adverse health outcomes and economical loss. Awareness of the problems can lead to finding their causes and proper managements.

***Objective:*** To evaluate the mental health status and QoL of the older population in a community in Saraburi Province, Thailand.

***Methods:*** Secondary data from a cross-sectional survey with simple random sampling to evaluate mental health status and QoL of the elderly were used. The survey was done by interviewing participants aged 55 years and above by 183 4th-year medical students of the Faculty of Medicine, Chulalongkorn University. The mental health status and QoL were assessed by the Depression Anxiety and Stress Scales (DASS-21) and the Older People's Quality of Life (OPQOL-brief) questionnaires. Data were analyzed using descriptive and Kruskal Wallis test statistics.

***Results:*** Of the 238 participants who completed the questionnaires, 74 (31.1%) had at least one negative emotional state from stress, depression or anxiety. The average QoL score from the OPQOL-brief was 52.04 (SD 8.81) out of 65. The average global QoL was 3.63 (SD 0.91) out of 5. The QoL was significantly different among various levels of stress, depression or anxiety *(P* < 0.001).

***Conclusion:*** The study revealed the prevalence of mental health problems which was as high as 31%. These mental problems could lead to major physical problems and economical loss; thus, the management such as holistic health care should be promoted. The overall QoL in this study population was in the mid- to high- range. The severity of mental problems of the subjects was negatively correlated to the QoL.

***Keywords:*** Mental health, quality of life, elderly.

Life expectancy has been increasing worldwide, leading to a rise in aging populations. Thailand is also experiencing rapid population aging in which it has been forecast to be one of the complete-aged society in the near future.[1] Realizing the importance of the elderly in society, we analyzed data from a survey in a rural area of Saraburi Province, central part of Thailand, aiming to study the general health status of the elderly. This report focuses on the mental health status and quality of life (QoL) of the older people in

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this community where the elderly proportion is as high as 12.9%.

Mental health is a state of well-being, realizing his or her own potential, coping with the normal stresses of life, working productively and making a contribution to community.[2] The World Health Organization (WHO) has emphasized that there is no health without mental health [3] and that mental health is one of the criteria determining public health.

Older people are susceptible to mental health problems more than other age groups since the elderly have to adapt to many aspects of change. Physically, aging brings degenerative changes and diseases. Psychologically, aging is associated with losses, i.e., deaths of friends, spouse and relatives or the loss of work from retirement or being unable to work due the decline in physical functions. Besides, some older

people even face negligence from their descendants. Thus, older people need major adaptation in which if they fail to do so could bring mental problems such as depression, anxiety, stress, insomnia etc. If these mental problems persist they could lead to other diseases and physical problems such as hypertension, heart disease, stroke and/or Alzheimer's disease.

QoL is an individual's perception of their position in life in the context of the culture and value systems by which they live and in relation to their goals, standards and concerns. It can be affected by physical health, psychological health, beliefs, social relationships and their environment. [4] QoL was also shown to be related to adverse health outcomes such as death and nursing home placement in older people. [5]

Since psychiatric problems are underdiagnosed in many places, [6, 7] and that poor QoL could lead to adverse health outcomes, this study would present the survey of the mental health status and QoL of the elderly in a community in Saraburi Province, Thailand. If the mental health problems are overlooked or the poor- QoL problems have not been addressed, they can lead to adverse health outcomes affecting society and economics. Therefore, this survey would lead to awareness of the mental health and QoL status as well as the prevalence of mental health problems which can bring about the cause and solution finding henceforward, along with preventing diseases that could arise from the effect of mental problems and/or poor- QoL.

**Materials and methods**

We analyzed the data of a cross-sectional survey on June 6, 2018 with simple random sampling. One hundred and eighty-three 4th -year medical students of the Faculty of Medicine, Chulalongkorn University surveyed health status in elderly of a community in Saraburi Province of Thailand by interviewing residents in the community who were 55 years or more and agreed to participate in this study.

*Mental Health Status*

The mental health status was evaluated by the Depression Anxiety and Stress Scales (DASS-21) questionnaire, created by Lovibond SH. *et al.* [8] and translated to Thai by Sukanlaya Sawang from the National Centre in HIV Epidemiology and Clinical Research (NCHECR). The DASS-21 questionnaire had 21 questions that evaluate depression, anxiety and stress (seven items for each category) based on a 4-point rating scale of 0 to 3.[9] DASS-21 has been used in many countries and its reliability and validity have been confirmed. [10] Cronbach's alpha coefficients of depression, anxiety and stress for Thailand are 0.82, 0.78 and 0.69, [9] respectively. To categorize the severity of the 3-negative emotions: depression, anxiety and stress; the sum of the scores for seven items in each category were used. The sum of the scores were multiplied by 2, then the severity was categorized according to the range of the score in Table 1.

*Quality of Life*

In the QoL status part, the Older People's Quality of Life (OPQOL-brief) questionnaire was used. The questionnaire has 13 items plus a preliminary single item on global QoL. Details of each question are: Q1) I enjoy my life overall, Q2) I look forward to things, Q3) I am healthy enough to get out and about, Q4) My family, friends or neighbours would help me if needed, Q5) I am healthy enough to have my independence, Q6) I can please myself with what I do, Q7) I feel safe where I live, Q8) I get pleasure from my home, Q9) I take life as it comes and make the best of things, Q10) I feel lucky compared to most people, Q11) I have enough money to pay for household bills, Q12) I have social or leisure activities/hobbies that I enjoy doing, Q13) I try to stay involved with things.

**Table 1.** DASS Scoring: Categorization of severity of the 3 negative emotions by the range of sum-score from 7 items in each category.

| Severity | Stress scores | Depression scores | Anxiety scores |
|---|---|---|---|
| Normal | 0 - 10 | 0 - 9 | 0 - 6 |
| Mild | 11 - 18 | 10 - 12 | 7 - 9 |
| Moderate | 19 - 26 | 13 - 20 | 10 - 14 |
| Severe | 27 - 34 | 21 - 27 | 15 - 19 |
| Extremely severe | 35 - 42 | 28 - 42 | 20 - 42 |

Each item has five-point rating scale from 1 to 5. For the Global QoL: 1 = Very bad, 2 = Bad, 3 = Satisfactory, 4 = Good, 5 = Very good. For the 13 items: 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree. Thus, the total score from 13 items would have a range from 13 - 65 scores, with the higher score indicate the better QoL. [11] The Thai version of OPQOL-brief has Cronbach's alpha coefficient 0.94 and had been tested for 2-week test-retest reliability with no different results [12]; therefore, it is a reliable tool to evaluate QoL of older people in the community.

### Data collection

We obtained data of the survey that had been done on June 6, 2018 mentioned earlier. All questionnaires were done through Google Form, in the format of interviews by the medical students.

### Data analyses

Baseline characteristics, the DASS-21 scores and the OPQOL-brief scores were analyzed by descriptive statistics. The association between mental health status and QoL was analyzed by Kruskal-Wallis test statistics. If there was significant association between each mental health status and QoL, pairwise comparison with a Sidak-corrected $P$ - value was performed to find the significant pairs of different levels of mental health status and QoL. All data were analyzed using STATA 15.1/IC (StataCorp) software package.

### Ethics

The study has been reviewed and approved by Institutional Review Board (IRB), Faculty of Medicine, Chulalongkorn University.

### Results

From the survey of 240 participants in the community, 238 completed the mental health status and QoL questionnaires. The baseline characteristics of all participants are shown in Table 2.

### Mental Health Status

Of 238 responded participants, 74 (31.1%) people had at least one negative emotional state from stress, depression or anxiety. Three (1.3%) people had both stress and depression, 1 (0.4%) person had both stress and anxiety, and 15 (6.3%) people had both depression and anxiety. Additionally, 21 (8.8%) participants had all of the 3 problems: stress, depression and anxiety. Details are shown in Figure 1.

**Table 2.** Baseline characteristics of the participants (n = 240).

|  | n (%) |
|---|---|
| Female gender | 172 (71.7%) |
| Age - mean (SD): (years) | 70.5 (8.1) |
|    - Range (years) | 55 - 91 |
| Income - median (IQR)(THB) | 2,700 (800 - 7,750) |
|    - Range (THB) | 0 – 72,000 |
| Education |  |
|    Less than 6 years | 59 (25.1%) |
|    Primary school/6 years | 162 (68.9%) |
|    High school/12 years | 11 (4.7%) |
|    Bachelor's degree or equivalent | 3 (1.3%) |

Of 238 participants, 26 participants (10.9%) had stress problems in which 9 (3.8%) of them had severe or extremely severe stress. Forty-eight participants (20.2%) had depression problems in which 14 (5.9%) of them had severe or extremely severe depression. Sixty-one participants (25.6%) had anxiety in which 14 (5.9%) of them had severe or extremely severe anxiety. Details are shown in Table 3.

### Quality of Life

From the results of the OPQOL-brief questionnaire, the average score from the sum of 13 items was 52.04 (SD 8.81) out of 65. The preliminary single item on global QoL had a mean of 3.63 (SD 0.91) out of 5 scores. The stack bar charts of the global QoL and the average scores of each of the 13 items are shown in Figure 2.

### Association between mental health status and QoL

The QoL measured from the sum of the OPQOL-brief scores was significantly different among different levels of negative emotional states. $P$-values for the association between QoL and stress, QoL and depression, QoL and anxiety were < 0.001, < 0.001 and 0.001, respectively. The median and IQR of the sum OPQOL-brief scores for each level of stress, depression and anxiety are shown in Figure 3.

Sidak-corrected pairwise comparison was done to see which pairs were significantly associated. As for QoL and stress, the normal-group compared with the moderate-stress group and the normal-group compared with the severe-stress group had significantly different QoL with the Sidak-corrected $P = 0.01$ and $P = 0.02$, respectively. As for QoL and depression, the normal-group compared with every level of depression had significantly different QoL,

with the Sidak-corrected $P = 0.02, 0.03, 0.01$ and $< 0.001$ for normal-group compared with mild, moderate, severe and extremely severe depression, respectively. As for QoL and anxiety, only the normal-group compared with extremely severe anxiety had significantly different QoL, with the Sidak-corrected $P = 0.01$.
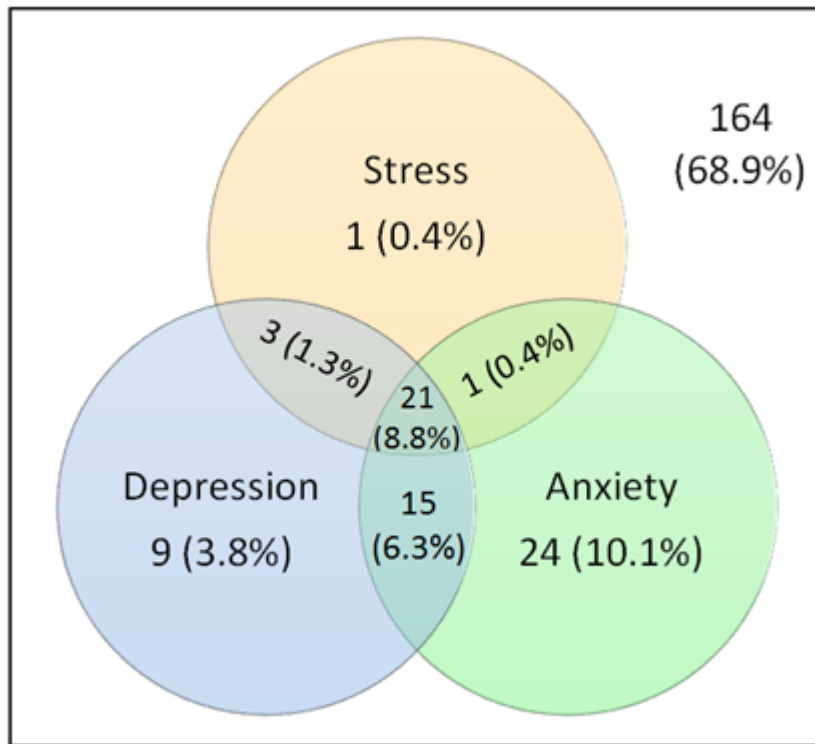


**Figure 1.** Number of participants having stress, depression or anxiety.

**Table 3.** Number of participants having stress, depression or anxiety categorized by severity.

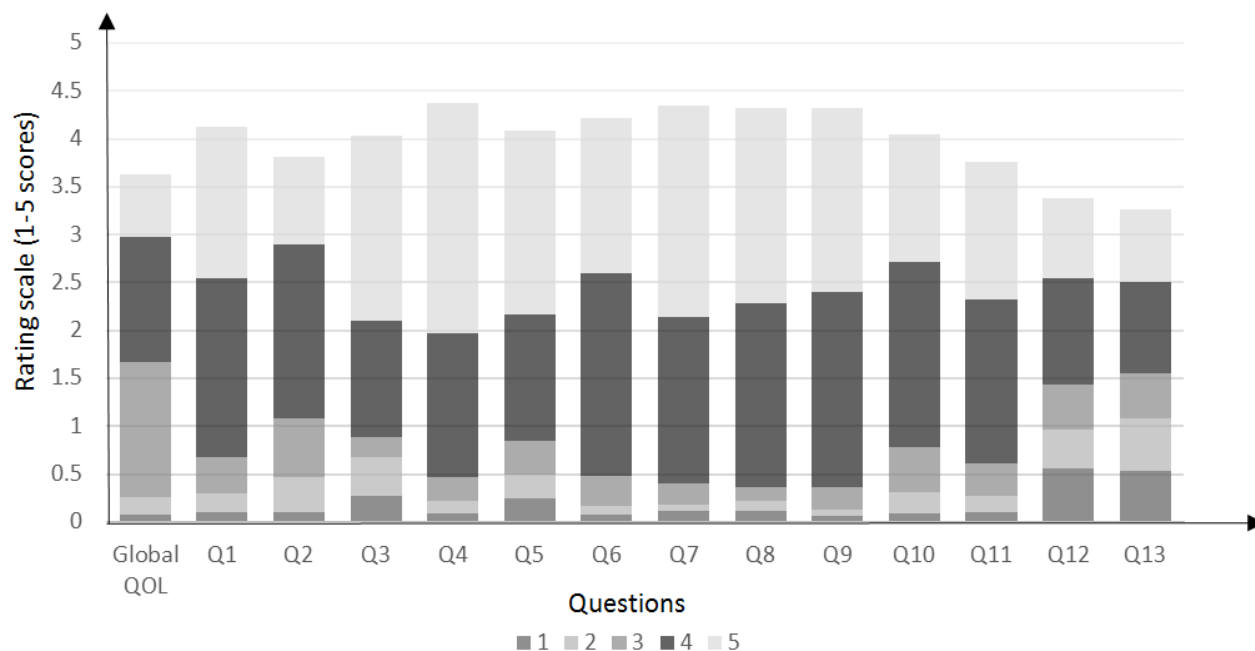| Severity | Stress n (%) | Depression n (%) | Anxiety n (%) |
|---|---|---|---|
| Normal | 212 (89.1%) | 190 (79.8%) | 177 (74.4%) |
| Mild | 10 (4.2%) | 16 (6.7%) | 35 (14.7%) |
| Moderate | 7 (2.9%) | 18 (7.6%) | 12 (5.0%) |
| Severe | 7 (2.9%) | 5 (2.1%) | 6 (2.5%) |
| Extremely severe | 2 (0.8%) | 9 (3.8%) | 8 (3.4%) |

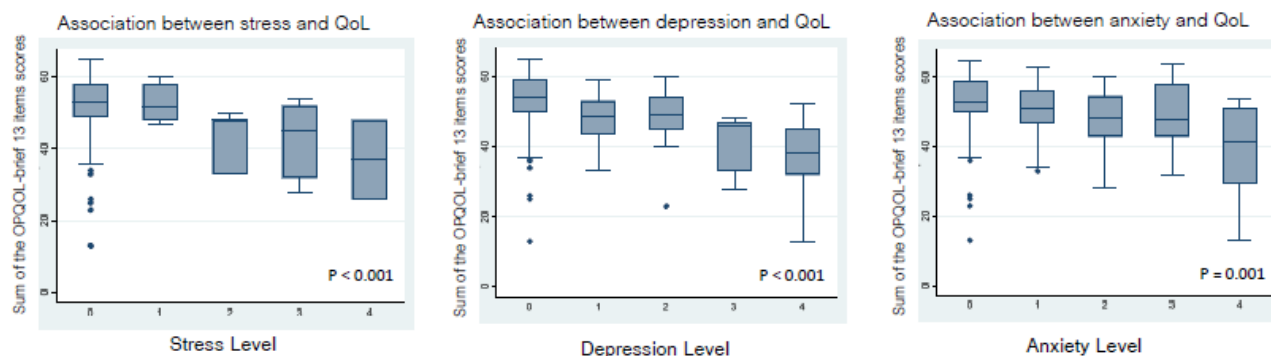**Figure 2.** OPQOL-brief: average scores for each question.



**Figure 3.** Association between mental health status and QoL, where the severity of emotional states: 0 = normal; 1 = mild; 2 = moderate; 3 = severe; 4 = extremely severe

## Discussion

The survey result had shown that the prevalence of mental health problems in the participating elderly was as high as 31%. Anxiety had the highest prevalence of 25.6% among the 3 negative emotional states (stress, depression and anxiety). The data had revealed the under-recognized problems of mental health in the elderly which could lead to physical diseases and economical loss. Healthcare professions should promote the holistic healthcare approach, i.e., caring for all physical, psychological, social and spiritual needs when taking care of the elderly so that we can better prevent and achieve early detection of the mental problems.

Our result was slightly different compared to the previous data of other studies; however, one reason can be from the different diagnostic tools. Kosulwit L. [13] studied the prevalence of psychological problems in an elderly club in Bangkok and found that 12.9% of the elderly had poor mental health; 5.7% had depression and 15.2% had stress. Cho MJ, et al. [14] studied the prevalence of the major mental disorders in the Korean elderly and found that the prevalence of major depressive disorder was 4.2% - 9.1%, while clinically significant depressive symptom was between 9.1% and 33.0%.

The overall QoL status from the OPQOL-brief questionnaire in the participating elderly was in the

mid- to high- range, the average global QoL score was 3.63 out of 5 and the average sum of the 13 items was 52.04 out of 65. The two lowest items were: "I have social or leisure activities/hobbies that I enjoy doing" and "I try to stay involved with things" which had scores lower than 3.5. This might suggest better plans to promote social activities aiming for old aged people so that they have social participation to stay involved. Many studies had found social engagement associated with health. For example, Kanamori S. *et al.* [15] showed that functional disability might be better prevented when participating in a sports organization more than regular exercise alone.

Our study also found that mental health problems was associated with QoL, i.e., the more severe of the mental health problems, the lower QoL. This result emphasized the importance of holistic approach for the elderly. Although we had limitations in the cross-sectional study design that could not differentiate the cause and effect; integrating care for both physical, mental and social would improve the overall QoL in the elderly.

Despite the fact that the essential development of the DASS was carried out with non-clinical samples and it is suitable for screening normal adolescents and adults [16]; the study in elderly patients with persistent pain had shown that the DASS-21 is a reliable and valid measure of depression, anxiety and stress in the elderly although with some age differences in the normative values. [17] Gloster A. *et al.* also showed that the DASS-21 demonstrated positive psychometric properties in an aged population. It has overall good-to-excellent internal consistency and consistent with younger participants. [18] The method of interviewing participants by the medical students in this study, on one hand had advantage on extended explanation to the participants who had no knowledge of the questions. On the other hand, the interview might induce some bias to the result. However, all medical students who conducted the survey had training a day before the survey in order to better their understanding of the questionnaires and minimizing the bias.

The survey was done in a community that had a general condition of a rural area in the Saraburi Province of Thailand. Therefore, the result should be able to represent the elderly's mental health status and quality of life of the general population in rural areas of Saraburi Province.

## Conclusion

The study has shown overlooked mental problems in the elderly; the prevalence of which was as high as 31%. Since mental health problems could lead to major physical problems and economical loss nationally; their management such as promoting social activities should be encouraged. Although we found that mental problems were also negatively correlated with the QoL; the overall QoL in this study population was in mid - to high - range.

## Acknowledgements

## Conflict of interest

None of the authors has any potential conflict of interest to disclose.

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