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Quality of Life of Older Adults with Physical and Mobility Disabilities during the COVID-19 Pandemic: A Cross-Sectional Study in Thailand

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Abstract: Suffering during events such as the COVID-19 pandemic threatens the quality of life (QoL) of older adults with physical and mobility disabilities. This study aims to determine the QoL of older Thai adults with such disabilities during the COVID-19 pandemic and its predictor. A cross-sectional study was conducted among 360 older adults with physical and mobility disabilities. Data were collected by structured interview questionnaires. Data analyses comprised Pearson's correlation coefficient and multiple regression analysis. The mean age of the participants was 73.52 years; a total of 58.6% of them were female and 97.8% had completed only primary education. More than half of them had a moderate QoL (63.3%). Self-esteem, age, and perception of the benefits of disability were found to be associated with the participants' QoL ($p < 0.05$) and capable of predicting it with 54.7% accuracy. As self-esteem and the perception of the benefits of disability were found to be indicators of the QoL of older adults with physical and mobility disabilities, the healthcare providers of such older adults should organize activities that could enhance their self-esteem and the perception of the benefits of disability to improve their QoL, particularly during the COVID-19 pandemic.

Keywords: quality of life; older adults; physical mobility; physical disability; COVID-19

1. Introduction

Quality of life (QoL) is a necessity for older adults, especially those with disabilities. This is because having a disability may decrease one's access to health services compared to the general public and may lead to mental health, economic, and social problems, all of which lower one's QoL [1]. In 2022, Thailand is expected to become a "complete aged society" [2]. By 2031, Thailand will have reached a super-aged society, with people aged 60 and older making up 28% of the total population. Data from the National Statistical Office [3] revealed that older adults with disabilities account for 20.6% of the country's elderly people. Thai people with physical and mobility disabilities had a higher proportion, especially in those aged 15–59 (40.41%) and aged $\geq$ 60 (55.89%) of the total population with physical and mobility disabilities [4]. Older adults with physical and mobility disabilities have limitations in taking care of their own health. There are obstacles to their daily activities, including their health care and access to government services. Some people with disabilities obtain assistance from the state for their needs, but such assistance has been limited to date, particularly during the COVID-19 pandemic [5].

The first case of COVID-19 (Coronavirus disease 2019) in Thailand was found in January 2020, and the disease spread since then [6]. People from all age groups developed severe pneumonia, and many died [7]. Due to the outbreak of the pandemic, all the people

(including the older adults, who were afraid of acquiring the disease) refrained from performing certain important daily routines [8,9]. Among others, they postponed their scheduled visits to the doctor, which affected the economy and society. It also affected people's health, which could lead to a reduced QoL. It is thus important to determine the QoL, especially of older adults with physical and mobility disabilities during the COVID-19 pandemic and the factors affecting it.

A recent study on the QoL of people with disabilities in various countries revealed that the QoL of these populations was a significant reduction during the COVID-19 outbreak [10–12]. Older adults had a lower QoL score than the other aged groups, which is negatively affected during the social distancing of the crisis [13]. A study in Poland also found that the older adults with physical disabilities in the study had a 62.3% overall QoL and that educational factors, having a chronic disease, and participation in social activities were associated with their QoL [14]. In addition, with regard to the factors influencing the QoL of older adults with disabilities, it was found that social integration and productivity had significantly moderate positive correlations with QoL, but not with perceived accessibility [15]. However, recent research indicates that activity participation decreased during the COVID-19 outbreak [16,17]. It has been discovered that a reduction in movement and activities, as well as social interaction, is associated with physical and mental health problems, such as physical activity, insomnia, and health-related quality of life [11].

Most older adults with physical and mobility disabilities are not able to access welfare benefits mainly due to their lack of awareness of such benefits and of their right to these and the lack of personnel, facilities, and equipment that could assist them in their rehabilitation [5]. They also have limited access to information and participation in social activities, including those that may contribute to their rehabilitation and may improve their QoL. However, self-esteem is considered a personal resource. Those with high self-esteem were better able to recover from the crisis' circumstances; an association between mental health and QoL in older people during the COVID-19 pandemic was also found [18].

In order to maintain physical health and psychological during home isolation and lockdown during the pandemic, it is essential to improve QoL, particularly in older adults with disabilities. To the best of our knowledge, no other research studies have determined the relationships between self-esteem, social support, access to health services, perception of the benefits of disability, and QoL as well as the factors predicting their QoL in the community during COVID-19 in Thailand. The collected data could serve as the bases for the development of guidelines for improving the QoL of older adults with physical and mobility disabilities.

2. Materials and Methods

2.1. Research Design

A cross-sectional correlational research design was used to attain the objective of this study, and data from the "Factors Influencing the Quality of Life of Elderly with a Physical and Mobility Disability in Nakhonsawan Province" project were used. Data were collected through structured interviews with the use of interview questionnaires in the rural areas of Nakhonsawan Province in northern Thailand. The data were obtained during the COVID-19 pandemic, from 1 August to 31 October 2020.

2.2. Setting and Participants

Thailand has determined an older adult is an individual who is aged 60 or above [2]. The study subjects were older adults with physical and mobility disabilities residing in four districts in the Nakhonsawan Province, Thailand: Banphot Phisai, Phayuha Khiri, Phaisalee, and Lat Yao. We recruited the participants using a simple random sampling technique and were selected using multi-stage sampling. Included in the study were 60-year-old or older males and females with physical and mobility disabilities who resided in Nakhonsawan Province during the COVID-19 pandemic, were able to communicate in

Thai, and were voluntarily participating in the research project. We calculated the sample size based on Daniel's [19] formula: Z2 pq/e^2, with a 95% confidence level (Z = 1.96), a 0.47 [20] (SD2 = 0.22) standard deviation (SD) of older adults' QoL from a prior study, and $\pm$ 5% precision (e = 0.05). We considered a 10% participant dropout rate to avoid missing data or losing incomplete data. A total of 360 older adults with physical and mobility disabilities were thus enrolled in the study.

2.3. Measures

Data collection instruments included a six-section standard questionnaire: a demographic questionnaire for older adults with physical and mobility disabilities and a questionnaire each for access to health services, self-esteem, perception of the benefits of disability, social support, and QoL. The questionnaire's content validity was reviewed by three experts, and a pilot study involving 30 older adults with physical and mobility disabilities similar to those in the study population was used to assess the questionnaire's reliability. Permission to use these instruments was obtained from their owners.

Access to Health Service Scale (AHSS). The 16-item AHSS was developed by the researchers in Thai on the basis of a literature review and was used to determine the study participants' access to health services. AHSS has five-answer options scored 1–5 points. The overall scores range from 16 to 80, and the higher the score the higher the access to health services. The internal consistency of AHSS was high in this study (Cronbach's alpha coefficient = 0.95) [21].

Self-Esteem Scale (SES). The 24-item SES concerning self-esteem was developed by the researchers in Thai based on the concept of Coppersmith [22]. The answers to such items are scored on the basis of a 5-point Likert-type scale ranging from "0 = never" to "4 = nearly always". The mean SES scores are classified as "score < 59 = low", "score 60–79 = moderate", or "total score > 80 = high." The higher the score, the higher the level of self-esteem. The internal consistency of SES was high in this study (Cronbach's alpha coefficient = 0.96) [21].

Perception of Benefits of Disability Scale (PBDS). The 16-item PBDS was developed by the researchers in Thai on the basis of a literature review and was used in this study to assess the participants' perception of the benefits of disability. Each item has two answer options given scores of 0 and 1 point, respectively. The PBDS scores are classified as "score < 59 = low", "score 60–79 = moderate", or "total score > 80 = high", and the higher the score, the higher the level of perception of benefits of disability. The internal consistency of the PBDS was good in this study (Cronbach's alpha coefficient = 0.73) [21].

Social Support Scale (SSS). The 25-item SSS on social support was developed by the researchers in Thai based on the concept proposed by Cobb [23] and House [24]; it was evaluated through responses that were concerning the issues of financial, emotional, appraisal, participation, and information support. The mean SSS scores are classified as "score < 59 = low", "score 60–79 = moderate", or "total score > 80 = high", and the higher the score, the higher the level of social support. The internal consistency of SSS was high in this study (Cronbach's alpha coefficient = 0.95) [21].

Quality of Life (QoL). The World Health Organization QoL instrument developed by Paskulin and Molzahn [25] and translated into Thai by Taboonpong et al. [26] was used in this study to assess the QoL of the participants. It has 25 items under three domains: the physical, psychosocial, and spiritual domains. The answers are scored on the basis of a 5-point Likert-type scale ranging from 0 (not at all) to 5 (extremely). The scores for each domain range from 25 to 125 points. Total scores lower than 59 points were regarded as indicating a low QoL; 60–79 points, moderate QoL; and total scores higher than 80, high QoL. The internal consistency of the PBDS was high in this study (Cronbach's alpha coefficient = 0.93) [21].

Sociodemographic Data. The general data of older adults with physical and mobility disabilities were collected by self-report in a questionnaire and included age, sex, marital status, education, income, and duration of disability.

2.4. Data Analysis

All the collected data were analyzed using Statistical Package for the Social Sciences version 18. The data are presented in this paper as frequency, percentage, mean, and SD. Pearson's correlation coefficient and the chi-squared test were used to determine the associations of the participants' characteristics, access to health services, self-esteem, social support, and perception of benefits with the participants' QoL. Stepwise multiple regression analysis was also used to examine the predictive factors of the participants' QoL. The significance level was set at $p < 0.05$.

3. Results

Characteristics of the sample

Of the older Thai adults with physical and mobility disabilities who participated in this study, 58.6% were female and 41.4% were male. The mean age was 73.52 years; 97.8% completed only primary education, while 2.2% completed high school; 54.4% were married, 36.7% were widowed/divorced, and 8.9% were single; the average duration of the disability was 15.33 years; and most of the respondents had an average monthly income of THB 2,486. More than half of the respondents (58.1%) had a high level of access to health services, while 41.9% had a moderate access level. For the level of self-esteem, 26.7% had a high level, 49.2% had a moderate level, and 24.2% had a low level. As for the level of social support, 35.6% of the respondents had a high level, while 46.7% had a moderate level. More than half of the respondents (60.8%) fully perceive the benefits of disability, 21.9% moderately perceive them, and 17.2% had a low perception of them.

Quality of life

With regard to the participants' QoL, 63.3% had a moderate level, while 31.4% had a high level. Considering each domain, it was found that 70.0% of the participants had a moderate physical QoL, 64.4% had a moderate psychosocial QoL, and 62.2% had a moderate spiritual QoL, as shown in Table 1.

Table 1. Quality-of-life levels of the study participants overall and by dimension.

| Quality of Life | Level of Quality of Life | | | | | |
| | Low | | Moderate | | Good | |
	n	%	n	%	n	%
Physical domain	45	12.5	252	70.0	63	17.5
Psychosocial domain	15	4.2	232	64.4	142	31.4
Spiritual domain	18	5.0	224	62.2	118	32.8
Overall quality of life	19	5.3	228	63.3	113	31.4

Factors related to the study participants' quality of life

The analysis of the Pearson's correlation coefficients of the independent variables and the participants' QoL levels revealed that access to health services (r = 0.257), self-esteem (r = 0.725), and social support (r = 0.598) were significantly positively correlated with the participants' QoL at $p < 0.05$, as shown in Table 2.

Table 2. Correlation coefficients of different factors and the study participants' quality of life.

| Factors | Quality of Life | |
	Coefficient Correlation (r)	*p*-Value
Age	0.021	0.686
Income	0.206	0.618
Duration of disability	0.100	0.846
Access to health services	0.257	<0.001
Self-esteem	0.725	<0.001
Social support	0.598	<0.001
Perception of the benefits of disability	0.084	0.113

Factors predicting the study participants' quality of life

We examined the factors that could predict the participants' QoL by using stepwise multiple regression analysis. The following three predictors were found, listed in descending order on the basis of their beta values: self-esteem, age, and perception of the benefits of disability (beta = 0.762, 0.109, and −0.093, respectively). These factors can work together to predict the participants' QoL with 54.7% accuracy, as shown in Table 3.

Table 3. Variables affecting participants' quality of life and its predictors.

Predicting Factors	B	Beta	t	*p*-Value
Self-esteem	0.660	0.762	20.586	<0.001
Age	0.215	0.108	3.005	0.003
Perception of the benefits of disability	−0.431	−0.093	−2.511	0.012

Constant = 26.196; R^2 = 0.547; adj R^2 = 0.543.

4. Discussion

In this study, age, self-esteem, and perception of the benefits of disability were found to have significant associations with QoL in the older adults with physical and mobility disabilities who were residing in Thailand. It was found that 63.3% of the study participants had a moderate QoL and only 31.4% had a high QoL during the study period coinciding with the COVID-19 pandemic. This may be because their physical and mobility disabilities affected their daily life and self-care. As mentioned earlier, the older adults in this study were 73.52 years old on average and had an average monthly income of THB 2,486. Most completed only primary education (97.8%) and had chronic diseases that made them more dependent on others than they otherwise would be (70.0%). This could have had physical, psychological, social, or economic impacts on the participants, especially during the current COVID-19 pandemic, when there are pandemic restrictions in place and when the participants have decreased communication with their peers, including an inability to or fear of going out to access food security for older adults' well-being. Self-care for disease prevention has a higher cost, which can lead to a lower QoL for older adults with physical and mobility disabilities. In addition, 70.0% of the participants in this study had a moderate physical QoL especially because they could not travel by themselves to receive treatment or to buy and continue taking their medicines. This might also have cost more than ever before, and the participants might also have had limitations in working and carrying out normal daily activities. Our results are consistent with those of previous studies, where most of the older adults had a moderate QoL [27,28]. In another study, there was a slightly higher proportion of older adults with disabilities than general older adults who had a moderate QoL [14].

There were three factors that were found to be associated with and capable of predicting the QoL of the older adults with physical and mobility disabilities who participated in this study. These were self-esteem, age, and perception of the benefits of disability. These factors were able to predict the QoL of the participants with a 54.7% accuracy. Self-esteem was the strongest predictor. It seems that such older individuals with physical and mobility disabilities appreciated their own worth and potential, conducted themselves appropriately, and had positive interpersonal relationships and confidence to live in society [29,30]. It was found that 26.7% and 49.2% of the study participants, respectively, had moderate and high levels of self-esteem. Those with high self-esteem were motivated to take care of themselves, which led to a better QoL [31]. This finding (that self-esteem influenced and predicted the QoL of the older adults with physical and mobility disabilities who participated in the study) is consistent with those of previous studies [32,33].

Another factor that was found to influence the QoL of the participants in this study was age. Most of the participants in this study who were 60–69 years old were able to perform daily activities, take care of their health, exercise, participate in social activities, and travel to see a doctor near their home despite their disabilities. These may lead to a good QoL. This finding (that age was associated with the QoL of the older adults with

physical and mobility disabilities who participated in the study) is consistent with those of previous studies [34,35]. Younger individuals are more likely to work or care for themselves than those in their senior years. For example, sensory impairment is more likely to be perceived as a natural part of aging, and as such, it may have a negative long-term effect on the QoL of older individuals [36]. A previous study conducted in Iran revealed that age related to cognitive decline, lower levels of functioning in real life, and older adults' QoL [37]. In addition, impairments in older adults with disabilities have previously been associated with reduced social isolation, social interaction, and loneliness [11,38].

The perception of the benefits of disability was also found in this study to be capable of predicting the QoL of older adults with physical and mobility disabilities. Most of the older adults with physical and mobility disabilities in this study (60.8%) fully or largely perceived the benefits of disability. This may be because they had registered for health insurance benefits, especially receiving health counselling from a public health facility near their home (94.1%), and receiving a disability allowance from a local administrative organization (93.1%). They thus had high expectations, but they were disappointed by the response of the relevant government agency during the COVID-19 pandemic, which they perceived to be lacking, thus leading to their perception that they had a lower QoL. It was found in this study that about half of the participants wanted the state to provide them with support for their occupations and damaged equipment for the disabled. Similarly, prior studies have found that older adults' perception of the benefits of disability is important for them to access healthcare services, disease prevention materials, and health information during the COVID-19 pandemic [16,39], which might affect their health literacy [17,40] and QoL [29]. However, we conducted this study during the COVID-19 pandemic, which could have had an impact on the participants' access to health care and health insurance rights, lowering their QoL [41]. Therefore, the perception of the benefits of disability was negatively associated with QoL.

Access to health services and social support were found not to be related to the QoL of the older adults with physical and mobility disabilities who participated in this study. These findings contrast with those of previous experimental studies [31,42]. This may be because even during the current COVID-19 pandemic, older adults still have access to health services. The results of this study showed that most of the participants had high access to health services (58.1%), especially with regard to health facilities near their homes, and always received health information. However, only 35.6% and 46.7% of the participants, respectively, were found to be receiving high and moderate social support, especially support from their family and from other people close to them [43,44]. Therefore, these factors were found not to affect the QoL of the participants. Thus, the efforts to improve the QoL of older adults with physical and mobility disabilities should focus on self-esteem and the perception of the benefits of disability, both of which have a major impact on the QoL of such older adults, especially during the COVID-19 pandemic.

One strength of this study was that it involved older adults, most of whom are greatly affected by the current pandemic. To the best of the researchers' knowledge, this study is the first to focus on the influence of socioeconomic level, access to health services, self-esteem, social support, and perception of the benefits of disability on the QoL of older adults with physical and mobility disabilities during the current COVID-19 pandemic in Thailand. These findings may serve as bases for efforts to improve the QoL of the target study population. Our findings provide data that could help healthcare providers to develop care strategies for the target study population that could improve their QoL. Additionally, a simple random sampling procedure was used to recruit the participants, which helped to reduce selection bias in this study.

This study, however, also had several limitations. First, we conducted a cross-sectional study, so it is impossible to draw causal inferences. In future research studies, a prospective cohort study is thus needed to determine the direction and cause of each factor affecting older adults' QoL. Second, we determined the factors associated with the QoL of older adults with physical and mobility disabilities residing in some rural areas in Thailand;

the study's findings may not be applicable to other older adult populations. Third, other important factors, including health literacy, social isolation, psychological distress, and environmental and cultural factors, were not included in this study; future studies should include these and other variables.

5. Conclusions

The older Thai adults with physical and mobility disabilities in this study had moderate levels of QoL overall in the physical, mental, and spiritual domains. Self-esteem, age, and the perception of the benefits of disability were also found to be associated with their QoL. Significant associations suggest that interdisciplinary teams, researchers, and policymakers should consider self-esteem and the perception of the benefits of disability when developing programs for improving health outcomes and QoL, particularly of older adults with physical and mobility disabilities. These programs are essential considering that Thailand already has an aging society and especially during the current COVID-19 pandemic.

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