

# Factors influencing the quality of life among Indonesian elderly

## A nursing home-based cross-sectional survey

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### Abstract

**Purpose** – In spite of being a significant public health concern, quality of life (QoL) amongst elderly in nursing home (NH) settings is rarely analyzed. The purpose of this paper is to examine the level of QoL and factors influencing QoL amongst elderly NH residents in Indonesia.

**Design/methodology/approach** – A survey was conducted amongst 181 elderly at three NHs in three districts in Yogyakarta province, Indonesia. Purposive sampling was used for the study site and sample collection. Face-to-face interviews were performed using the WHO Quality of Life BREF Indonesian version questionnaire to assess elderly QoL. Multivariate linear regression was performed to determine the factors influencing the QoL amongst elderly NH residents.

**Findings** – The response rate was 66.3 percent. A total of 64.1 percent of elderly had a fair level of QoL, whereas 16.6 percent still had a poor level of QoL. A total of 86.7 percent of elderly lived in an NH due to compulsion, and more than half (53.6 percent) perceived inadequacy of care. The QoL was significantly low amongst those who live in NHs due to compulsion, no social support resources, not receiving any kind of support, having three chronic diseases and perceived inadequacy of care ( $p < 0.05$ ). Multivariate analysis revealed that perceived adequacy of care reasons for living in NH was associated with QoL ( $p < 0.001$ ).

**Originality/value** – Perceived adequacy of care and reason for living in an NH were highlighted as predictors of QoL amongst elderly NH residents. Improving adequate healthcare services and developing treatment strategies to enforce the adaptation process is required in order to maintain the QoL in elderly NH residents.

**Keywords** Quality of life, Nursing home, Indonesia, Elderly

**Paper type** Research paper

### Introduction

The proportion of elderly aged 60 years or above is the fastest growing population globally[1]. Additionally, the increment of life expectancy and decline of birth rates have concurrently resulted in a drastic increase of the ageing population in Indonesia[2]. The ageing population in Indonesia was 8.6 percent of the total population in 2015, this number is predicted to increase to 14.1 percent in 2030 and will be almost triple in 2050[3]. This particular condition places Indonesia as the eight largest elderly population globally and ranks the country third among 25 Asia-Pacific countries[3, 4].

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In the past few decades, a comprehensive view of healthcare could be derived from the quality of life (QoL) measurement[5]. The WHO defined QoL 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, which consists of physical health, psychological, social relationships and environment domain[6]. It is a broad concept that encompasses physical health, psychological state, independence level, social relationships, personal beliefs and relationship to salient features of the environment[7]. The concept of aging affects the changes and losses of socioeconomic, environmental, educational and nutritional status[8]. The elderly are often affected by conditions closely linked to the normal ageing process and age-related changes, which require general reconsideration of needs, opportunities and available places of residence[9].

Previous studies found that ageing was significantly associated with a number of negative outcomes, such as poor mental health, physical co-morbidities, poor coping abilities, impaired functioning and cognitive performance and bereavement[10, 11], which in turn leads to lower QoL. All these risk factors greatly affect the level of independence and autonomy of elderly which influences the decision to institutionalize them.

Institutionalization is often a result of functional decline in older adults and is generally regarded as an outcome that signals failure of care systems to support elders effectively in the community[12, 13]. The elderly were usually reluctant to move into a nursing home (NH) as they worried about feeling lonely and marginalized following this move[14–16]. They generally feared poor residential care quality, a change in family support and QoL[17]. QoL amongst elderly has become a cause for concern because it reflects the health status and well-being of this vulnerable population. Yogyakarta province has the largest elderly population in Indonesia with the highest life expectancy rate[18, 19], but also has the highest of the old dependency ratios compared to the national standard[20]. However, there is lack of concern regarding QoL and its associated factors among elderly NH residents in Yogyakarta, Indonesia. Hence, assessing the QoL and understanding the factors influencing the QoL amongst the elderly in NH settings would be beneficial as baseline information in making the future policy strategies relating to the QoL amongst elderly in NHs. This study aimed to assess the level of QoL and factors influencing the QoL among elderly NH residents in Yogyakarta province, Indonesia.

## Methodology

A survey was conducted amongst the elderly aged 60 years or above at three NHs in three districts in Yogyakarta province, Indonesia. A total of 273 elderly NH residents were asked to participate in this study. A total of 218 residents were eligible to be respondents based on the following inclusion criteria: residents had or had no chronic diseases and had been living in an NH for at least one month. Residents who were diagnosed by a physician as having severe cognitive impairment or dementia were not able to communicate their opinions meaningfully, were experiencing psychotic disorders, experiencing alcohol/drug misuse, were under anti-depressants medication treatment and/or unwilling to participate were excluded from the sample selection process. The number of excluded respondents based on the above criteria was 37 elderly NH residents. Therefore, the final number of eligible respondents in this study was 181 elderly NH residents. All eligible respondents were recruited purposively, informed verbally and submitted written consent forms.

Ethical approval for this study was obtained from the Medical and Health Research Ethics Committee, Faculty of Medicine, Universitas Gadjah Mada, Indonesia (Ref. KE/FK/0131/EC/2017).

This study was conducted from February to March 2017. Face-to-face interviews were performed for approximately 30–45 min for each respondent during the data collection process. Medical records and information from healthcare workers or NH staff were obtained to cross-check the data relating to chronic diseases, cognitive impairment or dementia status.

There were two parts to the questionnaire in order to assess the socio-demographic characteristics and QoL amongst respondents. Part 1: socio-demographics of respondents consisted of gender, age, marital status, education level, length of stay in NH, social support resource, type of support, chronic diseases, reason for living in NH and perceived adequacy of care. Part 2: the QoL in elderly NH residents was assessed using the WHO Quality of Life BREF (WHOQOL-BREF) Indonesian version which consisted of 26 items, divided into four domains: physical health, psychological, social relationships and environment. The raw score in each domain was converted to a transformed score with the range of transformed scores being from 0 to 100[6]. The mean score of items within each domain was used to calculate the domain score. Domain scores are scaled in a positive direction; a higher score denoted a higher QoL. Scores were then categorized into three levels of QoL in each domain such as poor: < mean-SD levels; fair: mean-SD to mean+SD; and good: > mean+SD[21]. Overall, the QoL level and category was derived from the mean of those four domain accumulation scores.

#### *Statistical analysis*

Descriptive statistics were used to describe the socio-demographic characteristics and QoL (scores and levels) of the respondents. An independent *t*-test was used to analyze the difference between means of QoL for each socio-demographic variable. Multivariate linear regression was performed to determine the predictors of QoL in elderly NH residents. Statistical significance was set at *p*-value < 0.05.

#### **Results**

From the total 273 elderly residents in three NHs in three districts, 181 elderly NH residents were finally recruited as the eligible respondents, and completed the interview for this study, giving a response rate of 66.3 percent. According to socio-demographic characteristics, nearly two-third of respondents (65.7 percent) were female, with 71.8 percent of residents aged < 80 years and already resident in an NH for less than four years (56.9 percent). A vast majority (87.8 percent) had no partner (single/widowed/divorced) and 83.4 percent of respondents had no or low educational backgrounds. The majority of respondents (72.9 percent) had less than three chronic diseases; most of the elderly (59.7 percent) still received support from their family and/or others, while the majority (65.7 percent) received psychological and/or financial support. A total of 86.7 percent of respondents reported that they lived in an NH due to compulsion (poverty, living alone at home, no one to take care of respondents at home and/or homelessness) and more than half (53.6 percent) reported a perceived inadequacy of care (Table I).

The overall QoL mean score of respondents was 47.72 with an SD of 6.61. The majority (64.1 percent) had a fair level of QoL. However, 16.6 percent of elderly NH residents still had poor levels of QoL. The psychological domain mean score was the lowest score compared to physical, social relationship and environment domain of QoL mean scores. In contrast, the social relationship domain mean score was highest compared to the other three domains of QoL (Table II).

Following univariate analysis, QoL was significantly low among those who live in NHs due to compulsion (95% confidence interval (CI) -9.12 to -3.71), with no social support resources (95% CI -5.24 to -1.41), not receiving any kind of support (95% CI -5.34 to -1.36), having  $\geq 3$  chronic diseases (95% CI -4.74 to -0.43) and perceived inadequacy of care (95% CI -5.89 to -2.18) (*p* < 0.05) (Table II).

Multivariate analysis revealed that perceived adequacy of care (95% CI 1.49 to 5.05) and the reason for living in NH were significantly associated with QoL (95% CI 2.68 to 7.93) (*p* < 0.001) (Table III).

#### **Discussion**

A total of 181 elderly NH residents completed the WHOQOL-BREF Indonesian version questionnaire in our study. A similar WHOQOL-BREF questionnaire to assess the QoL

| Socio-demographic factors         | n (%)      | Mean ± SD    | p-value    | 95% CI |       |
|-----------------------------------|------------|--------------|------------|--------|-------|
|                                   |            |              |            | Lower  | Upper |
| <i>Age (years)</i>                |            |              | 0.814      | -1.90  | 2.42  |
| ≥80                               | 51 (28.2)  | 47.90 ± 6.48 |            |        |       |
| < 80                              | 130 (71.8) | 47.64 ± 6.68 |            |        |       |
| <i>Gender</i>                     |            |              | 0.914      | -2.16  | 1.94  |
| Female                            | 119 (65.7) | 47.69 ± 6.85 |            |        |       |
| Male                              | 62 (34.3)  | 47.79 ± 6.16 |            |        |       |
| <i>Marital status</i>             |            |              | 0.542      | -2.05  | 3.89  |
| No partner                        | 159 (87.8) | 47.83 ± 6.62 |            |        |       |
| With partner                      | 22 (12.2)  | 46.91 ± 6.59 |            |        |       |
| <i>Education level</i>            |            |              | 0.255      | -4.11  | 1.09  |
| No or low education               | 151 (83.4) | 47.47 ± 6.55 |            |        |       |
| Higher education                  | 30 (16.6)  | 48.98 ± 6.84 |            |        |       |
| <i>Length of stay (years)</i>     |            |              | 0.842      | -1.76  | 2.16  |
| ≥4                                | 78 (43.1)  | 47.83 ± 6.62 |            |        |       |
| < 4                               | 103 (56.9) | 47.63 ± 6.63 |            |        |       |
| <i>Social support resource</i>    |            |              | 0.001*     | -5.24  | -1.41 |
| None                              | 73 (40.3)  | 45.73 ± 6.37 |            |        |       |
| From family or others             | 108 (59.7) | 49.06 ± 6.45 |            |        |       |
| <i>Type of support</i>            |            |              | 0.001*     | -5.34  | -1.36 |
| No support                        | 62 (34.3)  | 45.51 ± 6.54 |            |        |       |
| Psychological or financial        | 119 (65.7) | 48.87 ± 6.37 |            |        |       |
| <i>Chronic diseases</i>           |            |              | 0.019**    | -4.74  | -0.43 |
| ≥3                                | 49 (27.1)  | 45.83 ± 6.01 |            |        |       |
| < 3                               | 132 (72.9) | 48.42 ± 6.70 |            |        |       |
| <i>Reason for living in NH</i>    |            |              | < 0.001*** | -9.12  | -3.71 |
| Compulsion                        | 157 (86.7) | 46.87 ± 6.15 |            |        |       |
| Own willingness                   | 24 (13.3)  | 53.28 ± 6.93 |            |        |       |
| <i>Perceived adequacy of care</i> |            |              | < 0.001*** | -5.89  | -2.18 |
| No                                | 97 (53.6)  | 45.84 ± 6.63 |            |        |       |
| Yes                               | 84 (46.4)  | 49.88 ± 5.91 |            |        |       |

**Notes:** n = 181. \*, \*\*, \*\*\*Significant at  $p < 0.01$ ,  $p < 0.05$  and  $p < 0.001$ , respectively

**Table I.**  
The difference  
between QoL  
mean scores by  
independent *t*-test

| Domains             | Mean ± SD    | Median | QoL levels | n   | %    |
|---------------------|--------------|--------|------------|-----|------|
| Physical            | 47.56 ± 7.49 | 44.0   | Poor       | 33  | 18.2 |
|                     |              |        | Fair       | 98  | 54.2 |
|                     |              |        | Good       | 50  | 27.6 |
| Psychological       | 43.49 ± 8.58 | 44.0   | Poor       | 30  | 16.6 |
|                     |              |        | Fair       | 127 | 70.2 |
|                     |              |        | Good       | 24  | 13.2 |
| Social relationship | 51.43 ± 9.73 | 50.0   | Poor       | 13  | 7.1  |
|                     |              |        | Fair       | 142 | 78.5 |
|                     |              |        | Good       | 26  | 14.4 |
| Environment         | 48.31 ± 8.79 | 50.0   | Poor       | 43  | 23.8 |
|                     |              |        | Fair       | 122 | 67.4 |
|                     |              |        | Good       | 16  | 8.8  |
| Overall QoL         | 47.72 ± 6.61 | 47.0   | Poor       | 30  | 16.6 |
|                     |              |        | Fair       | 116 | 64.1 |
|                     |              |        | Good       | 35  | 19.3 |

**Note:** n = 181

**Table II.**  
Assessment of  
quality of life in  
elderly nursing  
home residents

amongst the urban elderly community in India revealed a higher QoL mean SD score when compared to our study finding[22]. A much higher (58.77) overall QoL mean score was found in another study which was conducted in the NH study setting[9]. The different findings of mean scores in QoL might be due to the difference of observed associated factors which influence QoL in different settings. The different instrument tools used to assess the QoL could also be responsible for this variation in results.

In terms of the QoL domains, our study found that physical and psychological domains were the lowest two mean scores compared to social relationship and environment domain mean scores (Table I). These findings are similar to a study in Macao that revealed that older adults had significantly poorer scores on physical and psychological domains of QoL compared to the normative data from the Hong Kong Chinese population[23]. These lower mean scores on physical and psychological domains might be related to the socio-characteristics of respondents. The majority of elderly NH residents were female with no partner. Gender and marital status seemed to affect perceived psychological well-being amongst the geriatric population. Han *et al.*[24] found that there are gender differences in the correlation between QoL and marriage. Married men had a higher QoL compared to single men. On the contrary, single women had a higher QoL than married, separated or divorced women. Another factor which might influence those findings is related to the educational background of respondents. The elderly in our study had no or low educational backgrounds. This factor could probably influence their perceived mental health well-being. It was observed that a lower educational background was a predictor for a poor psychological QoL amongst the elderly, both in the community and in the NH study settings[25].

In the univariate analysis, we found that QoL was significantly low among those who experienced  $\geq 3$  chronic diseases. It seems that the elderly who presented with chronic diseases tend to have a lower QoL. This finding is in line with a study in Turkey suggesting that the presence of a chronic disease declined the QoL amongst the geriatric population[26]. Lower QoL was also a significant factor among those who had no social support resources and had not received any kind of support. Unsar *et al.*[27] emphasized the importance of family support or living with spouse. Moving in to an NH could become a stressful situation for the elderly. It might be due to the change of environmental conditions and adaptation processes, including having to live apart from their family or spouse. Although social support may not eliminate the stressful situation, it would make the elderly more optimistic. Therefore, social support is an important resource for better health-related QoL among elderly NH residents[28]. Social support helps the elderly to overcome difficult situations, create new solutions and reduce their despair[29, 30].

QoL was also found to be significantly low among those who live in an NH due to compulsion in the univariate analysis. The majority of our respondents lived in an NH due to compulsion due to reasons such as poverty, living alone at home, no one to take care of

**Table III.**  
Multivariate linear  
regression analysis of  
QoL score

| Predictive factors         | B     | $\beta$ | t     | p-value  | 95% CI |       |
|----------------------------|-------|---------|-------|----------|--------|-------|
|                            |       |         |       |          | Lower  | Upper |
| Education level            | 0.190 | 0.011   | 0.156 | 0.876    | -2.22  | 2.59  |
| Social support resource    | 0.066 | 0.005   | 0.031 | 0.975    | -4.09  | 4.22  |
| Type of support            | 2.034 | 0.147   | 0.975 | 0.331    | -2.08  | 6.15  |
| Chronic diseases           | 1.574 | 0.106   | 1.396 | 0.165    | -0.65  | 3.79  |
| Reason for living in NH    | 5.305 | 0.273   | 3.994 | < 0.001* | 2.68   | 7.93  |
| Perceived adequacy of care | 3.274 | 0.248   | 3.636 | < 0.001* | 1.49   | 5.05  |

Notes: n = 181. R<sup>2</sup> = 0.471; adjusted R<sup>2</sup> = 0.195; SE = 5.927. \*Significant at p < 0.001

them and homelessness and living as a beggar, resulting in the municipal public order agency (*Satuan polisi pamong praja*) picking them up from the street. All those situations classified this group of elderly into “neglected” or “almost neglected” in the households[20]. The national census stated that about 12 percent of the elderly in Yogyakarta were living alone. This percentage was ranked third compared to all provinces in Indonesia[20]. These forced conditions might affect their psychological domain of QoL, and influence the whole QoL. This assumption is relevant when we look at the psychological domain mean score of QoL in this study finding which was lowest when compared to physical, social relationship and the environment domain of QoL (Table I).

Perceived adequacy of care was also revealed as the associated factor for QoL among elderly NH residents in the multivariate analysis. More than half the respondents perceived inadequacy of care from NH staff who should be responsible for taking care of the elderly. In a geriatric population, most diseases are chronic. A lower QoL was also significantly associated with those who have  $\geq 3$  chronic diseases in our study finding. Apart from medical treatments, psychological and social support might definitely be required through a wide range of services, home care or long-term care in certain units[28]. Once the elderly are admitted to hospitals or NHs, their interactions with family or surrounding people are severely limited[31]. This sudden change of environmental situations might lead to stressful conditions for the elderly. Therefore, when the elderly were not be able to take care of themselves, both healthcare professions and social workers were needed to assist them in activities which cannot be performed, to provide health education and emotional support as well[32]. Providing adequate care should be given equal importance to providing adequate social support toward elderly NH residents. Both professionals in healthcare and social workers should recognize that social support is associated with health-related QoL and pay attention to the importance of social support for the residents in daily practice[27].

## Conclusion

The majority of elderly NH residents in Yogyakarta province, Indonesia, had a fair level of QoL. Furthermore, perceived adequacy of care and reason for living in an NH were highlighted as predictors of QoL amongst those elderly NH residents. Hence, improving adequate healthcare services and developing treatment strategies by the professionals in healthcare and social workers is required in order to support the QoL maintenance in elderly NH residents.

## Strength and limitation

The strength of our study is the widely validated and reliable WHOQOL-BREF questionnaire used to assess the QoL in various study settings. The limitation of this study is that the sampling technique was purposive since we only selected government NHs for the study sites. Therefore, the findings may not be generalized to the private NHs due to the genuine background, facilities and service availability differences among elderly NH residents. Regardless, this study finding could be beneficial as baseline information in making the future policy strategies relating to the QoL amongst elderly in NHs, particularly in underlining the important roles of social workers and health-related professions on QoL in elderly NH residents.

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