Statistical Approach of Knowledge Management for Improvement of Hospitalized Management

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Abstract. Elderly quality of life (QoL) is affected by the decline in health status, and vice versa. The purpose of this study was to find out whether there were differences between before and after the provision of Islamic spiritual care services (ISC) to elderly patients. This study was a quasi-experimental research design with pre-test & post-test assessments. A sample of 106 elderly patients at PKU Muhammadiyah Gamping Hospital Yogyakarta with an age range of 60-70 years was consecutively selected by inclusion criteria. The QoL was measured using the validated Indonesian version of OPQOL-Brief questionnaire. Data were analyzed using the Wilcoxon test because of the abnormality distribution. There was an increase of the means of QoL after the ISC provision by the p-value=0.000. It is concluded from this study that elderly’s QoL has significant differences between before and after the ISCS provision. The results of the study indicate that ISC is potential to be developed in order to improve the QoL of elderly patients.

1. Introduction

The increasing number of older people in Indonesia is inevitable due to the extent of life expectancy. It is projected that the number of elderly in Indonesia will continue to increase to 41% in 2100. This demographic shift phenomenon will contribute to the threat of a triple burden besides the high birth rate and disease burden (communicable and non-communicable) that must be considered (Ministry of Health [MoH] Indonesia, 2014).

Based on the Indonesian Law No. 13 of 1998 about Elderly Welfare, elderly is defined as residents aged 60 years and over. The aging process will have an impact on all aspects of life, such as economy, social, and health. Various complaints will be experienced with increasing age due to natural degenerative processes and other underlying diseases (MoH Indonesia, 2014).

QoL is an individual’s perspective of their position in life in the context of the value systems and culture in which they live and related to their hope, aims, standards, and concerns (WHO, 2019). Striving for elderly to enjoy a happy and useful old age is one of the goals of elderly Health Program launched by the government. Promotive, curative and rehabilitative efforts have been carried out in many ways including Posbindu (Integrated Coaching Post) and Puskesmas (Community Health Center) for elderly in Indonesia (MoH Indonesia, 2014). In the curative aspect, elderly who are sick need to be helped by various efforts that can be done to maintain or improve their QoL. This multifaceted effort is needed because the QoL consists of various dimensions.

There are many aspects related to QoL, including spirituality (Chaves & Gil, 2015). Spiritual well-being is an important dimension of QoL and is a core component in some health services, such as cancer and palliative care (Sun et al., 2016). There are a increasing number of researches revealed that higher spirituality has health-related advantages in older people (Vitorino, Low, Amaral, & Vianna, 2016).
The preliminary study at PKU Muhammadiyah Gamping Hospital, Yogyakarta, conducted on May 21, 2017, showed that there has never been any research or evaluation on the Islamic spiritual services for patients, especially elderly patients. Elderly patients are relatively more vulnerable to have physical or psychological problems. As an Islamic values-based hospital, PKU Muhammadiyah Gamping Hospital has the potential resources to develop Islamic spiritual services as a character and excellence. It is essential to examine how to improve the QoL of elderly patients in the hospital.

2. Method
This study was a quasi-experimental study without control and randomization questionnaire subjects. Primary data collection from patients was carried out using the pretest and posttest questionnaire filling. Three spiritual hospital officers performed the intervention according to their work schedule. The services provided are carried out according to the same standard operating procedures (SOP) applied in the hospital. A patient generally receives at least one spiritual service or as needed. Patients were asked to fill out a questionnaire before and after receiving spiritual service by filling it themselves or being read by the research team — both processes for filling out the questionnaire required at least one (1) day. Non-randomly sampling with the consecutive method was conducted in PKU Muhammadiyah Gamping Hospital, Yogyakarta. Based on the Lameshow formula, the sample size needed was 106 respondents. Geriatric in patients with age 60-70 years who had a minimum senior high school education and had fulfilled the questionnaire completely were included in this research. Meanwhile, the exclusion criteria were elderly patients who were experiencing severe mental disorders, severe multimorbidity, and at the terminal stage of life.

The questionnaire used in this study was the OPQOL-Brief questionnaire, a validated instrument for testing the QoL of elderly patients. The questionnaire used in this study was an OPQOL-35 developed by Bowling (2009) in the short version (OPQOL-BRIEF). Eight domains were being measured by the OPQOL-brief: life as a whole, health condition, social relations, environment of residence, psychological and emotional well-being, independence, life control, and freedom, financial conditions, and leisure activities. This scale is Likert form consisted of five response categories; very bad, bad, ordinary, good, and very good in 13 items questions. As for the second item to the last, the response options provided were strongly disagree, disagree, doubt, agree, and strongly agree. The Indonesian version of OPQOL-BRIEF consisting of 13 items was declared as a valid and reliable instrument with a validity index between 0.31 - 0.88 and Cronbach’s Alpha 0.88 (Kamalie, 2016).

The data were collected between December 2018 and January 2019. Additionally, the Kolmogorov-Smirnov test was applied to determine normality of the data. The Wilcoxon test was applied to the pretest and posttest results due to the abnormal distribution.

3. Results
PKU Muhammadiyah Gamping Hospital’s Islamic Spiritual Care (ISC) aims to improve patients spirituality. ISC provided include assessment of the patient condition, giving motivation, spiritual advice, and coaching or helping patients perform various regular worship. This service is given for all hospitalized patients based on the SPO. Besides the data from OPQOL-Brief questionnaire, some demographic and additional data from the subjects were also collected. They are shown in Table 1.

| Category       | Frequency | %   |
|----------------|-----------|-----|
| **Sex:**       |           |     |
| Men            | 60        | 56.6|
| Women          | 46        | 43.4|
| **Education:** |           |     |
| Senior high    | 86        | 81.1|
| school         |           |     |
The normality data of the fulfillment of the questionnaire were tested using the Kolmogorov-Smirnov Test. The data were abnormally distributed because the significance was <0.05 as shown in Table 2.

| Variable | p-Value |
|----------|---------|
| Pre-test | 0.001   |
| Post-test| 0.000   |

The Wilcoxon test was applied to the results of pre and post-test, as shown in Table 3. The significance value (p=0.000) means there was a significant difference in the QoL scores before and after the provisions of ISC.

| Variable | p-Value | Mean | SD | n |
|----------|---------|------|----|---|
| Pre-test | 0.000   | 54.47| 9.156 | 106|
| Post-test|         | 60.95| 7.032 | 106|

To identify whether there were any influences from the confounding variables, the analysis with multiple regression tests was performed for multimorbidities, physical activities, social activities, and patients’ level of pain on the QoL. The results are shown in Table 4. The significance value was >0.005, which means that the confounders did not affect any significant differences in the post-test results.

| Variable | p-Value | Mean | SD | n |
|----------|---------|------|----|---|
| Present  | 0.000   | 54.47| 9.156 | 106|
| Absent   |         | 60.95| 7.032 | 106|
| Severe   |         | 60.95| 7.032 | 106|

Table 2. Normality Test Results

Table 3. Wilcoxon Test Results

Table 4. Results of Multiple Linear Regression Test with Anova Test (Post-test)
Confounding Variable | Significance
--- | ---
Multimorbidities | 0.877
Physical Activities | 0.165
Social Activities | 0.734
Level of | 0.126

4. Discussion
Currently, spirituality is considered to be an essential aspect that influences QoL compared to other aspects (Chaves & Gil, 2015). Patient spirituality becomes a critical aspect of geriatric care as well as in palliative care. The goal of palliative and geriatric care is to anticipate and reduce deterioration and provide support to achieve the best QoL by patients and their families regardless of their illness stage or the other treatment that patient's need (Puchalski et al., 2009).

Religion or spirituality involvement can be a protective aspect in health, health problems prevention, or help in the recovery or adjustment for medical treatment, and become a factor in dealing with chronic or disabling problems. In other conditions, spirituality may play a more amusing role, and conceivable activated to encounter stress or sickness. In older adults, spirituality and religion are correlated with a lower risk of mental problems, eminently depression, and also associated with the better QoL condition. Reasons that might disclose the existence of a positive correlation between QoL and religion are that high level of religiosity patients have optimism, hope, superior self-control capacity, and social support (Lucchetti et al., 2011).

This study revealed that ISC has a relationship with the increasing QoL of geriatric inpatients. This result indicates that the spiritual measures promise the potential for improvement in various aspects that support the healing process of patients as well as the increasing QoL. A study conducted in Semarang, Indonesia, found that ISC also influenced patients' healing motivation in addition to compel the QoL. The higher quality of ISC, the better encouragement for patients healing, and reversed (Maghfiroh, 2014).

Many studies revealed that religion had been commonly discovered to be an essential coping resource for life-threatening patients. Religious coping could be particularly interesting for helpless people, such as old patients who often face defiance while accessing health services. Religious practices such as prayer and meditation can improve the impression of control over aggravating events by helping patients achieve a personal relationship with a higher entity that offers support and strength, respectively. Religious belief systems can help provide a scheme to comprehend the experience of death and dying. It may provide terminal illness patients a sense to accept their illness and manage problems associated with it more effectively (Tarakeshwar et al., 2008). Therefore, the use of spiritual resources should be encouraged among patients, and psycho-spiritual treatment should be the endeavor to target religious efforts in patients undergoing hospitalization (Santos et al., 2017).

These study results indicate that physical activities do not affect the patients QoL. This condition is contrary to the research conducted by Halaweh, Hadeel (2015), which states that there is a strong correlation between the QoL and physical activities of elderly patients. Subjects with low physical activities have a higher chronic disease risk such as diabetes, hypertension, and cardiovascular disease. Moderate physical activities such as light exercise, gardening, and walking, have good advantages, and can be lowering cardiovascular disease risk by 30-50%. Contrary to subjects with low physical activities, groups of subjects with moderate and high physical activities had higher scores of mobility. Subjects with better QoL is a group with higher physical activities (Halaweh et al., 2015).

The regression test listed in the results above was actually done to prove that other variables did not cause significant differences in the final scores from the questionnaire filling out. However, in other studies, it was proven that important aspects such as the level of pain, physical activity, and social involvement in the community affected QoL, including older adults.

A study in Brazil showed that the presence of chronic pain, number of diseases (multimorbidity), pain intensity, female gender and age group above 71 years were negative predictors of QoL in elderly
studied (Ferretti, Castanha, Padoan, Lutinski, & Silva, 2018). Based on the findings that are not much different from this study, a research in Sweden also showed results that the higher the level of pain and age, the lower the quality of life (Bernfort, Rahmqvist, Husberg, & Ake, 2015). On the other hand, the research in Jakarta proved that healthy older people with higher physical activities had better scores of QoL than those who were physically less active (Kusumaratna, 2008). Thus, while the person is healthy, physical activity is an important aspect to promote maintaining QoL continuously. A study in the Republic of Korea also showed that there was a positive correlation between the higher number of social activities and QoL related to health (Park et al., 2015).

WHO states that for elderly who experience a decline in health which is generally caused by chronic diseases, what needs to be done is to slow down the decline in function and ability, and manage the chronic conditions according to their individual needs. To ensure the achievement of healthy aging that aims to achieve functional abilities, one of the efforts taken is to build an integrated long term care system. Included in this effort is paying attention to the needs of the patient's spirituality to achieve a better QoL (WHO, 2015).

The limitation of this study is that the authors did not review the method (personal style) of each officer provided spiritual services. For further research it is necessary to explore the officers' perceptions of providing services, including the obstacles and opportunities for improvement, as well as the perceptions of the patients and families receiving spiritual services.

5. Conclusion

There was a significant difference of the QoL of geriatric hospitalized before and after the provision of ISC services with significance value of 0.000 (<0.05). This implies that Islamic spiritual service is one of the important aspects of QoL that has the potential to be developed, especially in Islamic hospitals as a characteristic and excellence.

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