



## The First Three Months Of Quality Of Life Of Older Person With Hip Fracture

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### Abstrak

*Patah tulang pinggul meningkat seiring dengan fenomena proses penuaan, dan merupakan salah satu masalah kesehatan yang mempengaruhi kualitas hidup lansia, termasuk aktifitas pemenuhan kebutuhan dasar sehari-hari. Penelitian ini bertujuan untuk mengevaluasi kualitas hidup lansia yang menjalani operasi hip yaitu pada 1 dan 3 bulan setelah keluar dari rumah sakit. Prospektif studi dengan 66 lansia yang telah menjalani operasi tulang sendi panggul. Penilaian kualitas dilakukan dengan tatap muka dan wawancara dengan menggunakan instruments SF-36. Secara umum, terdapat perbedaan kualitas hidup yang signifikan pada lansia yang telah menjalani operasi sendi panggul pada bulan ke-1 dan ke-3 ( $p=0,001$ ). Dimensi fungsi Peran lansia karena masalah emosional ( $M\pm SD; 55,0\pm 38,6$ ) dan Fungsi peran lansia karena masalah kesehatan fisik ( $M\pm SD; 44,3\pm 38,7$ ) memiliki perbedaan tertinggi dibandingkan pada dimensi yang fungsi yang lain pada instrument SF-36. Namun, tidak terdapat perbedaan yang signifikan pada dimensi energi ( $p=0,624$ ). Diperlukan asuhan keperawatan yang komprehensif untuk mempertahankan dan meningkatkan semua dimensi kualitas hidup untuk lansia yang menjalani operasi sendi panggul. Studi longitudinal dengan kompleksitas variable dan jumlah sampel yang lebih besar sangat direkomendasikan untuk penelitian selanjutnya.*

**Kata kunci :** *Kualitas Hidup, Orang Tua, Patah Tulang Pinggul*

### Abstract

*Hip fracture increased due to the aging phenomenon. Hip fracture injuries are identified as one of the most serious healthcare problems affecting the elderly, including instrument and physical function and quality of life problem. This study aimed to evaluate the quality of life between 1st and 3rd months older person with hip fracture who had received surgical treatment. A prospective study design with 66 older people who have hip surgical treatment. Face-to-face Quality of life assessment used SF36 instrument was conducted. In general, a significant difference between 1st and 3rd months post-hospital discharge was found ( $p=0.001$ ). In addition, the role of disability due to emotional problems and role disability due to physical health problems has the highest in differences than another dimension ( $M\pm SD; 55.0\pm 38.6$  and  $M\pm SD; 44.3\pm 38.7$ ; respectively), However, there is no significant difference in fatigue subscale ( $p=0.624$ ) between 1st and 3rd months post-hospital discharge. In general, there was an increase in the quality of life between 1st and 3rd months among hip elderly patients without the concomitant disease. Comprehensive nursing care is needed to maintain and improve all dimensions of the quality of life for the elderly with hip surgery. Longitudinal studies with a complexity of variables and a larger number of samples are highly recommended for future study.*

**Keywords:** *Quality Of Life, Older Person, Hip Fracture*

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## INTRODUCTION

Hip Fracture is a major public health challenge mainly due to the aging population (1). The total number of hip fracture predicted to increase dramatically by 2050, with approximately 50% of hip fracture will occur in the Asian region (2, 3). A study reported Singapore, Taiwan, Japan, Malaysia, China, and the Middle East are the Asian countries with a high incidence of hip fracture (3, 4).

Indonesia's population is projected to grow by 20% over the next four decades with the average life expectancy of the population increasing from 70.1 years to 72.2 years in the period 2030-2035, and will reach the age of 80 by 2050 (5). The Indonesian Ministry of Health noted that 43,000 hip fractures occurred in 2010 (6). The International Osteoporosis Foundation (IOF) reported the number of hip fracture rates in Indonesia 119/100,000 people per year, Malaysia 90/100,000 people per year and Philippines 93/100,000 people per year (6), indicate Indonesia hip fracture incidence in Southeast Asia region is high.

Hip fracture is identified as one of the health problems that most seriously affects elderly life (7). The effect of hip fracture is loss of function, including loss of physical and instrumental functions (8). Elderly patients who experience hip fracture cannot recover to pre-fracture functional status (ability to do ADL and IADL) (8-10). Other studies show that clinically hip fractures affect physical well-being both function and quality of life (QoL) (11, 12).

The first three months are a critical time to regain functional and long-term independence in hip patients (13, 14). Studies showed that there was an increase in quality of life in the 3<sup>rd</sup> month and continued in the 6<sup>th</sup> month in the elderly who had undergone hip surgery (15). Indonesia is different from western countries in terms of health care systems and culture (such as the implementation of worship) and infrastructure

(such as housing conditions and public facilities; transportation) which generally requires a maximum range of joint motion, including hip joints. This has become something very crucial to evaluate the quality of life of the elderly who have undergone hip surgery in Indonesia.

Quality of life (QoL) is a subjective evaluation of health and the domain of life from a patient's perspective, which can provide a subjective picture of hip fracture or the effects of treatment (such as surgery) and treatment, including in the elderly (15). Understanding the quality of life recovery patterns that cover the physical and physiological dimensions after hip fracture is important to provide a basis for designing a treatment information program, predicting the prognosis appropriately, and developing a nursing care approach; such as determining the time (period) of the results of rational nursing care. The study aimed to evaluate the changes in the dimensions of QoL in the 3<sup>rd</sup> month period after undergoing hip surgery.

## MATERIALS AND METHODS

This study employed a quantitative prospective study design approach. The accidental sampling technique was carried out in the period May 2017–June 2018 in Orthopedic Hospital of Prof. Soeharso, Surakarta. The inclusion criteria were; Age  $\geq$  50 years, has undergone hip surgery, and without cognitive impairment and dementia. Meanwhile, hip fractures with multiple trauma, stroke, heart disease, kidney failure, cancer, and Spinal cord injury were excluded. The ethics of this research have been obtained from the Ethics Committee of Universitas 'Aisyiyah Yogyakarta (No: 01/KEP/UNISA/X/2016) and the ethics committee of the Orthopedic Hospital of Prof. Soeharso, Surakarta, (No: TU.02.02/II.3.1/0568/2017). Quality of life (QoL) measurements were carried out by two nurses (Inter-rater reliability correlation coefficient: 0.897) by face-to-face interviews with patients when the patient checked up in the hospital; i.e.

in the first and third months after the patient underwent hip surgery. In this study, 66 respondents were participated and complete the research questionnaire up to the third month period after a hip surgery. SF-36 was used as an instrument for evaluating the quality of life of the elderly with hip fracture (16). SF-36 consists of 36 questions representing 8 dimensions; physical function (10), physical role (4), pain (2), general health (5), social function (2), energy/ fatigue (4), role emotion (3), and mental health (5), in addition 1 the SF-36 question is a question of health change in the past year (17). The Indonesian version of SF-36 is valid and reliable for measuring QoL(18, 19). Calculation of instrument SF36 score was done with a range of 0-100, the higher the score shows the better the quality of life (20). *Paired sample t-test* was used to evaluate or compare the quality of life (QoL) in the range of the first month and the third month in the elderly who had undergone hip surgery.

## RESULTS AND DISCUSSION

### Characteristics of respondents

There were 66 respondents who met the criteria and participated in this study, with an average age of 66.18 years and dominated by female respondents as many as 39 (50.1%), elementary school education level as many as 42 (63.6%) and there were 41 (62.1%) respondents who underwent a type of arthroplasty surgery (Table. 1)

**Table 1. Respondent's Characteristics**

Characteristic	n (66)
Sex	
Male	21 (31.8%)
Female	45 (68.2%)
Age (mean±SD)	66.18±8.47
Surgical type	
Internal fixation	25 (37.9%)
Arthro plasty	41 (62.1%)
Education	
No formal education	8 (12.1%)
Primary School	42 (63.6%)
High School	12 (18.2%)
High Education	4 (6.1%)

### Quality of life in the 3<sup>rd</sup> months post-hip fracture surgery

The results of the statistical *paired sample t-test* for SF36 in the first and third months (Table 2), generally showed that there was an increase in QoL in the third month after undergoing hip surgery ( $p= 0.001$ ). However, SF36 in the energy/ fatigue subscale statistically showed no significant difference ( $p= 0.624$ ) between first and third month periods of post-hip surgery (Table.2)

**Table 2. SF-36 subscale**

Variable	Mean different	SD	Sig
SF36	26.05	10.52	0.001
<b>SF36 Subscale</b>			
General Health	15.2	12.8	0.001
PhysicalFunction	36.9	13.6	0.001
Social Function	31.8	15.6	0.001
Physical Role	44.3	38.7	0.001
Emotional role	55.0	38.6	0.001
Fatigue	0.8	13.7	0.624
Pain	24.5	16.1	0.001
Mental health	6.8	13.4	0.001

*Test result of paired sample t-test*

The average age of respondents in this study was 66 years with a proportion of 68.2% women. Several studies have shown that over 50 years old is one of the risk factors that can increase the prevalence of hip fracture (3, 21). Older persons becoming decrease in bone strength (osteoporosis) which increases fracture risk factors (22, 23). This study sample was found 68.3%, indicate the female having a high risk for osteoporosis and hip fracture. Supported by previous that osteoporosis occurs four times more in women than in men (24, 25).

In this study, there were 41 (62.1 %) respondents who underwent arthroplasty. Previous studies showed that the type of arthroplasty surgery was generally better than the internal type of fixation, associated with postoperative complications. Reported that complications (such as infections) of around 30% and 33% pre-surgery on the type of hip internal fixation surgery, which in turn affected the patient's blood quality(26). Other studies show that the quality of life in hip femoral fracture types with internal fixation surgery types is lower than arthroplasty(27). This study did not specifically compare the types of internal

fixation and arthroplasty operations, but with a percentage of about 62.1% of respondents who underwent type arthroplasty surgery and were supported based on several previous studies in general, it was possible to influence the improvement in quality of life in the third month of elderly who had hip surgery in this research.

Subjective evaluation related to quality of life measured using SF36 showed that in general there was an increase in quality of life in the first month and the third month after the patient had surgery ( $p= 0.001$ ). This is supported by a previous study which showed that all SF36 domains increased significantly in the third month in elderly patients without comorbidities (such as diabetes mellitus, cognitive/dementia disorders) who had undergone hip surgery and would increase in the following months (15). The emotional role dimensions ( $M\pm SD$ ;  $55.0 \pm 38.6$ ) and physical role ( $M\pm SD$ ;  $44.3 \pm 38.7$ ) had the highest mean differences between the other dimensions in the first and third months after surgery. This shows that patients who underwent hip fracture in the third month had been able to play their daily tasks or activities despite the limitations in the physical condition of post-hip surgery and not having problems caused by emotional disturbances compared to the first month. However, interestingly in this study, it was found that there were no significant differences in energy/fatigue dimensions ( $p= 0.624$ ) in the first and third months of the hip surgery post. The energy/fatigue dimensions of the SF36 instrument were dimensions focused on feelings of enthusiasm, feelings about the power owned, and feelings of boredom and fatigue that were subjectively perceived by the respondent. Hence, it implies that respondents who had hip surgery owned a level of fatigue that tended to be the same in the first and third month periods. Several factors affect the level of health, including age, and physical condition. Age was relevant with fatigue levels, in which the higher (older) the age, the greater the risk for experiencing fatigue (28). Besides, changes in physical conditions such as post-hip surgery in the elderly caused the increase of energy needs in conducting exercises and efforts to fulfill tasks or activities/roles such as physical function.

## CONCLUSIONS AND RECOMMENDATION

This study had several limitations such as sample size, individual environmental factors (such as environmental conditions/home facilities, support family systems) that were not assessed, and those affected the level of adaptation and quality of life of patients. However, from the results of statistical tests, it can be concluded that there was an increase in the quality of life (QoL) of the elderly in the third month after undergoing hip surgery measured using SF36. Hence, the third-month post-hip surgery became a rational time to set a target for improving the quality of life in the elderly who had undergone hip surgery without any comorbidities. It is recommended that there should be longitudinal studies with variable complexity and larger samples to be able to see the quality of life trends (QoL) in elderly patients who have undergone comprehensive hip surgery.

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