

LITERATURE STUDY: COMPARISON OF QUALITY OF LIFE OF OSTEOARTHRITIS PATIENTS BEFORE AND AFTER TOTAL KNEEE REPLACEMENT OPERATION

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ABSTRACT

Introduction: Osteoarthritis (OA) of the knee is a chronic disease caused by the degeneration of the knee joint, which causes inflammation that triggers excessive pain and interferes with daily activities. According to the World Health Organization (WHO), osteoarthritis is one of the main factors that lead to a decrease in the function of a person's quality of life in the world. The choice of therapy for patients with severe osteoarthritis can be given total knee replacement surgery to treat patient complaints, especially in the aspect of excessive pain. Assessing and knowing disorders of the knee joint and the quality of life of patients with osteoarthritis before and after total knee replacement surgery can be assessed by scoring knee injury and osteoarthritis outcome scores.

Purpose: To compare patients' quality of life before and after total knee replacement surgery.

Method: This study uses a literature study method, journals obtained from searches using certain keywords within the last ten years.

Result: The literature study found that eight journals had similarities with the research topic on the research objectives and ten journals had similarities with the research topic using a questionnaire research instrument. The study results in ten kinds of literature follow the hypothesis on the research topic, which shows a comparison of the quality of life in osteoarthritis patients before and after total knee replacement surgery.

Conclusion: There is a comparison of the quality of life of osteoarthritis patients before and after total knee replacement surgery. There is also a study of clinical and functional outcomes of total knee replacement.

Keyword: Quality of Life of Osteoarthritis Patients, Quality of Life Before and After Surgery, Total Knee Replacement

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INTRODUCTION

Osteoarthritis (OA) of the knee is a chronic disease caused by the degeneration of the knee joint, which causes inflammation, triggers excessive pain, and interferes with daily activities¹. Osteoarthritis is the cause of disability, around 3% in the world of all ages. Patients with osteoarthritis in the UK are mostly found at 55 years and over and can also be seen by radiological examination². In Indonesia, at the age of 60 years, about 1 to 2 million are diagnosed with osteoarthritis³.

According to the World Health Organization (WHO), osteoarthritis is one of the main factors that lead to a decrease in the function of a person's quality of life. From year to year, cases of osteoarthritis have increased due to the increasing population of the elderly. Risk factors for osteoarthritis are age, obesity, genetics, and occupation.

Indications for patients with osteoarthritis are excessive pain during activities and improvement with rest. Pain arises due to a deformity resulting in joint motion limitations so that it can interfere with daily activities¹. Psychological status can trigger anxiety and stress, which is one of the causes of major problems in the daily life of people with osteoarthritis, so daily activities can be hampered that affect the quality of life.

Total Knee Replacement (TKR) is an inflamed knee joint procedure aimed at replacing the abnormal joint and replacing it with a new metal joint. In this procedure, it is hoped that it can treat osteoarthritis sufferers because of damage to the knee joint that treats patients due to damage to the joint surface caused by severe osteoarthritis⁴.

Knee Injury and Osteoarthritis Outcome Score is a questionnaire intended to assess the quality of life of people with osteoarthritis and determine if there are disorders in the knee joint. In the questionnaire, a score is used to assess the condition of the knee in carrying out daily

activities. The score includes aspects of pain, symptoms, ability to carry out daily activities, ability in functional activities during sports and recreation, and quality of life of patients before and after TKR⁵.

However, several studies have shown that patients with osteoarthritis still experience persistent pain complaints and limited joint motion. About 10 to 34% of people with osteoarthritis feel dissatisfied after undergoing total knee replacement surgery.

METHOD

This research uses a literature study method. Journals were obtained from various sources, namely Plos ONE, PubMed, Google Scholar, and Student Online Journals. Search journals using the keywords "quality of life of osteoarthritis patients", "quality of life before and after surgery", "total knee replacement", Researchers selected ten journals according to the research that had been submitted and the existing requirements. This literature collection took place from October – December 2021.

RESULTS

Ten research journals have been reviewed. There are similarities and differences between each piece of literature. In the literature that has been reviewed, eight works of literature have the same research objectives, namely assessing and evaluating the comparison of the quality of life of knee osteoarthritis patients before and after undergoing total knee replacement surgery.

The next equation related to the findings in each literature, seen from the results of the study in 10 works of literature, stated that there was a comparison of the quality of life of osteoarthritis patients before and after total knee replacement surgery, reduced complaints of excessive pain, stiffness and improved knee joint function in patients with severe knee OA. Thereby affecting the improvement of one's quality of life.

For research methods, works of literature 1, 3, 4, 5, 8, 9, and 10 have in common, namely using the Cohort Prospective Study research method. In literature 2 the research method uses a descriptive cross-sectional study approach. In literature 6 and 7, the research method uses an analytical design with a cross-sectional study approach.

For data analysis techniques, literature 1 and 10 have similarities, using bivariate analysis and the Chi-Square test. Literature 3, 5, and 9 use univariate analysis techniques and paired t-tests. Literature 6 and 8 use the Chi-Square test.

For research instruments all literature has similarities in research instruments, namely using a questionnaire.

Table 1. Literature Mapping Matrix

| Author's name | Article title | Year |
|--|--|------|
| Rat, Anne Christine. Gullemin, F.Osnowycz, G. Dellagoutte, JP.Cuny, C. Mainard, D.Baumann, C. | <i>Total hip or knee replacement for osteoarthritis: Mid- and long-term quality of life</i> | 2010 |
| Fachri, Muhammad Tekwan, G | KualitasHidup dan GangguanDerajatFungsionalLututPasien Osteoarthritis Total Knee Arthroplasty di RSUD Abdul Wahab SjahranieSamarinda | 2020 |
| Nunez, M.Nunez, E. Luis del Val, J.Ortega, R. Segur, J. M.Hernandez, M. Victoria. Lozano, L. Sastre, S. Macule, F. | <i>Health-related quality of life in patients with osteoarthritis after total knee replacement: Factors influencing outcomes at 36 months of follow-up</i> | 2007 |
| Shihora, Umang. Modi, Bimal | <i>Clinical and functional outcome of total knee replacement in</i> | 2017 |

| | | |
|---|---|------|
| | <i>patients with osteoarthritis</i> | |
| Ko, Yu. Narayanasamy, Suganthi Wee, Hwee Lin. Lo, Ngai Nung Yeo, Seng Jin. Yang, Kuang Ying Yeo, William. Chong, Hwei Chi Thumboo, J. Kawano, MM. | <i>Health-related quality of life after total knee replacement or unicompartmental knee arthroplasty in an urban Asian population</i> | 2011 |
| Araújo, Ivan L. Castro, MC Matos, MA. Adawiyah, AR | <i>Assessment of quality of life in patients with knee osteoarthritis</i> | |
| Suratmi, Tri. W. Rahardjo, Tri Budi | Kapasitas Fungsional Dan Kualitas Hidup Lansia Wanita Dengan Osteoarthritis Lutut | 2020 |
| Xie, Feng. Lo, Ngai Nung Pullenayegum, Eleanor M. Tarride, Jean Eric. O'Reilly, Daria J. Goeree, Ron. Lee, Hin Peng | <i>Evaluation of health outcomes in osteoarthritis patients after total knee replacement: A two-year follow-up</i> | 2010 |
| Núñez, Mo. Lozano, Luis Núñez, Esther. Segur, Josep M. Sastre, Sergi. Maculé, Francisco Ortega, Raquel. Suso, Santiago | <i>Total knee replacement and health-related quality of life: Factors influencing long-term outcomes</i> | 2009 |
| Escobar, A.. Quintana, J. M. Bilbao, A.Aróstegui, I. Lafuente, I.Vidaurreta, I. | <i>Responsiveness and clinically important differences for the WOMAC and SF-36 after total knee replacement</i> | 2007 |

DISCUSSION

It is known from the results of studies in 10 literature that there is a comparison of the quality of life of osteoarthritis patients before and after total knee replacement surgery, reduced complaints of excessive pain and stiffness, and improvement of knee joint function in patients with severe knee OA, thus affecting the improvement of one's quality of life.

Quality of life greatly affects knee osteoarthritis patients because there is an involvement between pain and stiffness in the knee joint, which impacts declining social aspects. It affects a person's quality of life⁶.

There is a significant involvement between excessive pain, knee stiffness, and disease duration on the knee's physical function, which can be measured using WOMAC. The perceived complaints, such as excessive pain during activity and improvement with rest and knee joint stiffness, are important factors because they affect daily physical activities.

This total knee replacement surgical procedure is one of the most effective therapeutic options for patients with severe osteoarthritis. There was an increase in knee function and a significant decrease in complaints of excessive pain after undergoing total knee replacement surgery. But there is no satisfactory change in the psychological status, namely mental and social aspects. Therefore social support is needed to reduce complaints of pain and physical disability and can anticipate the occurrence of depression in patients with osteoarthritis so that a person's quality of life can improve in the long term⁷.

The main factors that can trigger physical disability in patients with knee osteoarthritis are excessive weight or obesity. Therefore weight loss efforts are needed, and physical activity after gratitude to her family and friends who have always provided support so that the research article was completed.

undergoing surgery, such as light but regular and consistent exercise, physical therapy, pharmacology, and non-pharmacological and obedient for a return visit to the doctor to determine the condition of the knee⁶.

CONCLUSIONS

The results of a literature review in ten research journals regarding the comparison of the quality of life of knee osteoarthritis patients before and after total knee replacement surgery concluded that there was a comparison of the quality of life in osteoarthritis patients after undergoing total knee replacement surgery, reduced complaints of excessive pain, stiffness and improved knee joint function. In patients with severe knee OA, it improves a person's quality of life.

However, although TKR is reported to be very effective in reducing complaints of patients with severe knee osteoarthritis, 14% of patients with knee osteoarthritis state dissatisfaction after undergoing TKR surgery, especially patients who still feel knee stiffness and limited joint space.

The results of this study can be intended to increase discourse, especially in the field of orthopedics and medical rehabilitation regarding knee osteoarthritis because it can affect a person's quality of life, and for research results can be used as a reference and expand knowledge and information to writers, health institutions and the public.

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