

A Qualitative Study: What Did Say the Patients with Total Knee Arthroplasty About Their Lived Experiences

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Abstract

BACKGROUND/AIMS: Patients may experience problems before and after total knee arthroplasty. To provide adequate support, it is necessary to understand a patient's experiences. In order to understand the experiences of total knee arthroplasty patients in the preoperative and postoperative periods.

MATERIALS AND METHODS: A descriptive qualitative approach, one of the purposeful sampling methods criterion sampling method and semi-structured interview form was used in this study. In-depth interviews were conducted with 17 patients who met the sampling criteria. Data analysis was performed using descriptive analysis method.

RESULTS: Three categories and nine themes were determined. Categories were "reasons affecting the decision to undergo the surgery", "effect of surgery decision on the individual", "effects of surgery on individuals". Themes were "effects of osteoarthritis on quality of life (knee pain and its effects)", "ineffective conservative treatment modalities", "feelings about surgery (fear, sorrow, despair, and worry)", "lack of information about the surgery", "postoperative pain", "difficulties in walking and in performing exercises and physical activities due to postoperative pain", "fear of falling in postoperative period", "satisfaction with surgical outcomes", "lack of information of the postoperative process".

CONCLUSION: The most obvious patient problems in the preoperative and postoperative periods were knee pain and its effects, and patients experienced fear of falling in the postoperative period. The pain and mostly the information they obtained from their environment helped patients decide whether to undergo surgery, but were less informed about issues in the postoperative period.

Keywords: Nursing, qualitative study, total knee arthroplasty patient's experiences

INTRODUCTION

Recently, total knee arthroplasty (TKA) is commonly performed on patients with osteoarthritis that is refractory to conservative treatment (pharmacological, non-pharmacological, and intra-articular injection treatments) to relieve knee pain, restore joint movements, and increase self-care agency and quality of life.^{1,2} Besides the surgical benefits to patients, TKA also involves risks such as serious surgical trauma, long healing process, venous thromboembolism, pulmonary embolism, surgical site

infections, patellofemoral problems, aseptic loosening, and periprosthetic fractures.³

Patients undergoing TKA surgery experience various problems before and after surgery. The preoperative problems experienced by patients who underwent TKA include knee pain due to osteoarthritis, difficulty in walking, limitations in daily life activities, reduction in quality of life, obligation to quit job, and anxiety and fear regarding the surgery and anesthetic

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procedures, waiting period for the surgery, and uncertainties about the postoperative period.^{2,4-6} Also patients have problems with postoperative pain, return to normal physical activity, recovery management, rehabilitative practices, wound care, and medication following TKA.⁶

Recently, patients are discharged early after surgery due to the insufficient number of beds in hospitals, the cost of prolonged stays and the increased risk of infection. This is a difficult process for patients and their families who complete most of the recovery period at home. In conducted studies recently qualitative study methods have been used in order to reveal the thoughts and experiences of patients about surgery. Studies have been conducted on certain subjects related to the surgical process (eg: preoperative experiences, postoperative experiences, surgical results, decision-making for surgery, spinal anesthesia experience, etc.) Understanding the pre-operative and post-operative experiences as a whole in order to ensure that patients are prepared for the operation process and to plan their nursing care has formed the basis of this research. A qualitative research method was chosen for the patients to express their experiences more easily and to obtain in-depth data.

The purpose of this study is to understand the preoperative and postoperative experiences of patients who underwent TKA.

MATERIALS AND METHODS

Study Design

The descriptive qualitative research design was used in this study to understand the preoperative and postoperative experiences of patients who underwent TKA.

Sampling

One of the purposeful sampling methods criterion sampling method was used and the criterion sampling criteria were as follows: Patients who undergo TKA due to osteoarthritis, who had TKA surgery for the first time and who have passed at least one month after the operation. In the beginning, the number of samples was not determined and interviews were stopped when they reached the saturation point. The criteria for inclusion in the sampling were: permission to participate in the study voluntarily; being at least 18 years old; orientation of person, place and time; no psychiatric illness; no known history of cancer; no hearing or speech impairment, illiteracy; speaking and understanding Turkish. The sampling exclusion criteria were diagnosis of delirium in the postoperative period and incidence of complications (surgical site infection, deep vein thrombosis etc.). Data were collected from 17 patients who underwent TKA at the Orthopedics and Traumatology Clinic of hospital of a university. The average age of the participants was 65.58 ± 7.85 years. Most of them were women (88.2%, $n=15$), housewives (93.3%, $n=14$), married (82.3%, $n=14$), and primary school graduates with social security (100%, $n=17$).

Ethical Consideration

Patients visiting the polyclinics for medical checkup after operation were informed of the purpose of the study and given details of relevant study methods and procedures including information on how to use the tape record. Volunteer patients provided written informed consent by completing the written consent form. The study protocol was approved by Dokuz Eylül University's Ethics Committee for Non-Invasive Research (institutional review board number: 3015-GOA). Also, an institutional permit was obtained from the hospital where the study was conducted.

Data Collection

This qualitative study was conducted with patients who agreed to take part in the study at the Orthopedics and Traumatology Clinic of a University Hospital from February 1, 2017 to September 30, 2017. The in-depth interview method was used in the study and a tape recorder (Philips SA2RGA02RN/02) was used in the interviews with patients in a suitable environment (a bright, silent, illuminated, and sufficiently ventilated room in the Orthopedics and Traumatology Service). The interviews were conducted by the researcher who took the doctoral lesson and course in theory and practice about qualitative research methods. The interviews were performed using semi-structured interview forms. The study question was decided on the basis of the purpose of the study, relevant literature, and pilot interviews conducted prior to the study. The appropriateness of the questions was evaluated by three experts (those who teach and have experience in qualitative research methods). Three main questions and sub-questions about the process were asked in the interviews. The 3 main questions the patients were asked in the interviews were: "What did you experience before the TKA?" "What did you experience after the TKA?" and "What would you like to know to solve the problems you experienced?".

Before the study, a pilot interview was conducted with a patient to test the clarity of the questions and the relevance of the research, and the researcher gave a preview of the interview process. The pilot interview lasted 35 minutes and the data obtained from this interview were not included in the analysis. The duration of interviews in the research was approximately 30 minutes although it varied according to patient statements. Interviews continued until it was apparent that there was repetition of key concepts and no new information was heard.

Statistical Analysis

Patient sociodemographic data were evaluated using the descriptive statistics method.⁷ However, tape-recorded interviews were evaluated using the descriptive analysis method. Data analysis has been made by a second researcher for research validation. All of themes and codes discussed by researchers, and the members of research team as a whole agreed upon

descriptions themes. The analysis phase includes the following steps; 1) Recorded interviews were downloaded to the computer in their original format and features such as gestures and voice tone changes of the participants, if any, were noted down next to the text, 2) Data were written down without using patient names and each interviewed individual was numbered and coded, 3) Themes to be organized and presented were determined based on the study questions, the conceptual framework of the study, and the interviews, 4) The data were read and edited and findings were defined according to the determined category and themes, 5) The defined findings were then interpreted and reported.⁷

In reporting the data, examples were given from expressions of interviewed patients to show how the themes were obtained. In giving these examples, the patient expressions were presented as accurately as possible without additional comments. The emotional responses of the interviewed patients were expressed as “smiling” or “crying”. In reporting the data, patients’ statements, age, sex and the time after the surgery have been stated.

RESULTS

Results were presented as three categories and nine themes (Table 1).

Category	Theme
Reasons affecting the decision to undergo the surgery	Effects of osteoarthritis on Quality of Life (knee pain and its effects) Ineffective conservative treatment modalities
Effect of surgery decision on the individual	Feelings about surgery (fear, sorrow, despair, and worry) Lack of information about the surgery
Effects of surgery on individuals	Postoperative pain Difficulties in walking and in performing exercises and physical activities due to postoperative pain Fear of falling in postoperative period Satisfaction with surgical outcomes Lack of information of the postoperative process

Category 1: Reasons Affecting the Decision to Undergo the Surgery

Theme 1: Effects of osteoarthritis on Quality of Life (Knee pain and its effects)

It was observed that the negative effects of knee pain on the daily lives of patients reduced their quality of life and necessitated surgery. The patients stated that the severe knee pain made it

difficult for them to move their legs or walk, and their daily life activities were limited and their sleep patterns were disturbed.

“I could not do any housework. I had troubles while cooking and performing ablution” (66 years old, female, postoperative 1 month).

“At night, there was a lot of pain. I was awakened from sleep” (71 years old, female, postoperative 3 months).

Theme 2: Ineffective Conservative Treatment Modalities

It was observed that when most of the patients visited specialists for problems like knee pain, movement restriction, and difficulty in walking caused by osteoarthritis, they initially tried conservative treatment (pharmacological, non-pharmacological, and intra-articular injection treatments) and decided on surgery as a last resort when conservative treatment proved ineffective. Patients also reported that they got the information from other patients that had previously undergone this surgery.

“Before the surgery, I always had knee pain. I could handle it by taking pills and applying ointment. I could not bear the pain anymore and decided to undergo the surgery.” (74 years old, female, postoperative 5 five weeks).

“I had pain in my knee, I came to the doctor, he said surgery. Then there was not much pain, the doctor gave pills and cream, I was relieving with them. After two or three months, my pain increased, it started hitting my foot and hip. I was exercising (showing flexion - extension movements). But even though I did, it didn’t help anymore. I decided to have surgery as a last resort” (55 years old, male, postoperative 5 weeks).

“I asked the people who had this surgery how to get rid of my pain. They said that the surgery would relieve my pain. We came here on their advice” (66 years old, male, postoperative 4 weeks).

Category 2: Effect of Surgery Decision on the Individual

Theme 3: Feelings About Surgery (Fear, sorrow, despair, and worry)

Patients reported that they had feelings of fear, sorrow, despair, and worry regarding the surgical process when they first learned of the surgical indications. They stated that these feelings were in regard to anesthesia, being awake during the surgery, having no previous experience of such an operation, and the information received from patients who had previously undergone this surgery.

“My feelings at the moment... I wondered if I could not go ahead with the surgery and I feared I may awaken from the anesthesia during the surgery.” (72 years old, female, postoperative 1 year).

"I felt sorry for that. I had no choice. I had to undergo the surgery because I could not walk." (66 years old, female, postoperative 1 month).

"Of course, I wondered how the surgery would go and what could happen." (76 years old, female, postoperative 5 weeks).

Theme 4: Lack of Information About the Surgery

During the interviews, some patients expressed that they did not receive comprehensive training about the preoperative period and that the patients learned about the surgery mostly from individuals who had previously undergone the surgery.

"I was trying to get information from people around me. After I was hospitalized, I asked patients who had undergone the surgery." (72 years old, female, postoperative 1 year).

Category 3: Effects of Surgery on Individuals

Theme 5: Postoperative Pain

All the patients reported severe pain in the early postoperative period. Many patients said that they did not think before the surgery that they would have such severe postoperative pain. They said they would not have undergone the surgery had they known before-hand that they would experience such pain and that they regretted going through with the surgery for this reason. They stated that postoperative pain was more difficult for them than surgery.

"I regretted going through with the surgery because I could not bear the pain on the day of surgery. I felt it would be better to have my leg cut off completely. I sometimes told myself I should not have undergone the surgery" (62 years old, female, postoperative 2 months).

Some patients reported that TKA was a serious operation and that the severe postoperative pain was quite normal and a part of the process.

"I could not bend my knee and I felt pain. However, I did not regret undergoing the surgery. The pain is normal. It is part of the operation." (65 years old, female, postoperative 4 weeks).

Theme 6: Difficulties in Walking and in Performing Exercises and Physical Activities due to Postoperative Pain

Patients reported that they experienced limitations in movement and had difficulties with first mobilization and with performing exercises and did not want to exercise because of the pain.

"On the first day, I could not move until morning due to the pain. It was very severe." (55 years old, male, postoperative 5 weeks).

"I had difficulty walking for the first time after the surgery and with performing the exercises." (74 years old, female, postoperative 5 weeks).

Theme 7: Fear of Falling in the Postoperative Period

The patients in our study said they were careful not to fall and worried about living with knee prosthesis after discharge. They experienced fear of falling because the specialist stressed it during discharge and the patients therefore thought that, if they fell, the prosthesis would be damaged and they may have to be operated on again.

"I was careful not to fall. I feared falling." (74 years old, female, postoperative 5 weeks).

Theme 8: Satisfaction with Surgical Outcomes

Patients reported that they were satisfied with the surgical outcomes as they walked easier with the new knee joint, went up and down flights of stairs more easily, slept more comfortably, and performed their daily activities independently.

"I could not do anything before the surgery. Now, I can clean my home, wash the dishes, cook, and can even go to the field to work. I feel happy. (Smiling)." (54 years old, female, postoperative 11 weeks).

"Now I have no pain. I can walk without a walking stick (Smiling)." (74 years old, female, postoperative 5 weeks).

Theme 9: Lack of Information of the Postoperative Process

In the interviews, some patients stated that they did not receive a comprehensive discharge training and that they lacked information on many issues. They lacked information on what changes in the surgical site would warrant a visit to the doctor, how often they need to perform exercises, and what things to consider regarding the knee prosthesis. Some patients expressed that they were not well informed, their knowledge was insufficient and they wanted to get more information.

"I wanted to be trained in areas such as self-care and medication. I tried to keep what the doctor told me in mind, but I am an elderly woman." (72 years old female, postoperative 1 year).

"I do not know the circumstances under which I should visit the doctor." (66 years old, female, postoperative 4 weeks).

DISCUSSION

The study participants reported how the osteoarthritic knee pain affected them and their quality of life, how they reached a decision to undergo surgery, their experience during the surgical procedure, and the situations in which they experienced difficulties.

Category 1: Reasons Affecting the Decision to Undergo the Surgery

The study participants said that the most important problem they faced in the preoperative period was knee pain and its

associated difficulties. They said that they had difficulty moving and walking, could not perform their daily life activities, and were often awakened at night by the knee pain. In most recently published literature, it was stressed that the most important problems before TKA were pain and the limitations in the lives of patients.^{5,8,9} In the study by Leov et al.⁵, patients defined their preoperative pain as constant and disturbing and reported that the pain limited their daily life activities and negatively affected them emotionally. In another study, the women who underwent TKA reported that pain hindered their daily life and made it more tiring. They had to call in sick due to the difficulty in walking and were therefore negatively affected economically.⁴ In many studies on the relationship between osteoarthritis and sleep quality, osteoarthritis patients stated that their sleep quality and sleep duration decreased, that the osteoarthritic pain disrupted their sleep, and that they had difficulty sleeping for which they had to take medications.^{10,11} The patients in our study said they first tried conservative treatment (pharmacological, non-pharmacological, and intra-articular injection treatments) when they visited the doctor because of these problems. However, they decided on surgery as a last resort when they had no relief from conservative treatment.

Category 2: Effect of Surgery Decision on the Individual

As it was the first time the patients in our study were undergoing surgery, it was very difficult for many of them to decide on surgery because they experienced fear, sorrow, despair, and worry. Patients said they feared going under general anesthesia and not coming out from under it. They wondered about the surgical procedure but also felt obliged to undergo surgery because they could not cope with the pain. In a study that analyzed the preoperative and postoperative TKA experiences of patients, the participants said they decided to undergo surgery when they experienced serious limitations in their daily lives due to the pain and had to take painkillers everyday.⁸ The feelings about the surgery in patients who underwent TKA were often related to anesthesia, anxiety over possibly awakening during surgery, fear of undergoing surgery, disappointing surgical outcomes, possibility of disability, development of complication, and information received from patients who had previously undergone the surgery.¹²⁻¹⁴ In our study, the patients said that the views of the specialist and people with TKA experience were effective in helping patients decide on surgery. Some patients stated that they did not receive sufficient information in the preoperative period from healthcare professionals regarding the surgery and the postoperative period and this led to more fear, anxiety, and postoperative pain in the patients. Some patients, on the other hand, said they obtained information about the surgery and postoperative process from individuals who had previously undergone the surgery and they feared due to the statements of other people with experience of the surgery. In a qualitative study that analyzed the experiences of individuals

who participated in a preoperative patient training program, the patients said that the training program increased the level of information they had about their situation and the treatment. Consequently, they felt psychologically ready for the operation and the postoperative period. They also demanded written notification because they may forget verbal notification.¹⁵ Studies have shown that preoperative education reduces hospitalization period, anxiety, and postoperative pain level and positively affects surgical outcomes.^{16,17}

Category 3: Effects of Surgery on Individuals

Patients reported that the pain experienced on the day of the surgery was the most difficult part of the postoperative period. They said that the pain was severe, unbearable, and a worse experience than the surgery itself as they experienced movement limitation on the first day because of the pain. Most of the patients said that, due to the pain, their first mobilization was on the first postoperative day. As early mobilization in the postoperative period was hindered, the risk of postoperative complications increased. To reduce postoperative complications, it is therefore important to prepare the patients well for surgery, control their pain, plan administration of painkillers before mobilization, and support them as they carry out their daily activities.^{17,18} While some patients said that they regretted undergoing the surgery on account of the postoperative pain, some others said they considered the pain a part of the process and healthcare personnel worked to help to relieve the pain. It was also reported in published literature that orthopedic procedures cause moderate to severe pain in patients. Patients should therefore not expect to undergo this surgical procedure without experiencing pain.^{19,20} Thus, it is necessary to diagnose the pain, use pharmacological and/or non-pharmacological methods to relieve the pain, appreciate the effects of the pain, and plan the administration of analgesics before patient mobilization.^{19,21,22} In Turkish culture, postoperative pain is considered natural by some people and patients can tolerate this negative experience. In an earlier study, patients described the postoperative pain as severe and difficult to bear and said that the pain especially increased during physiotherapy and the physiotherapy exercises, in terms of pain, were more difficult than the surgery.⁴ In another study on patient experiences after knee arthroplasty, it was shown that postoperative pain was considered normal and was more easily accepted when patients were informed of postoperative pain in the preoperative period. Furthermore, patients said they thought the surgeons were reluctant to talk about the pain in the postoperative period and only focused on the functionality of the knee and on radiological results.¹

Most study participants said they had fear of falling in the postoperative period and were careful not to fall. The physicians told patients not to fall as they think a fall may damage the

knee prosthesis and they may have to operate on the patients again. Fear of falling is commonly experienced in the early postoperative period and may affect the process of adaptation to living with a prosthesis in patients.²³⁻²⁶

In this study, patients reported that they were satisfied with the surgical outcomes because they can walk easily, go up and down flights of stairs, have no pain, and can perform their daily life activities independently with the new knee joint. In many published literatures on this topic, TKA was shown to relieve knee pain, improve mobilization levels in patients, and increase self-care agency and quality of life as well as sleep quality and satisfaction.²⁷⁻²⁹ We found that some patients in our study did not have sufficient information regarding living with prosthesis and did not get comprehensive training on this issue. Some patients said they wanted training on what to pay attention to and when to visit the doctor. Training and support by healthcare personnel are important factors that help patients cope with the postoperative problems of TKA and the support should begin in the preoperative period.^{19,27} Initiating discharge training of patients as soon as decision on surgery is made, providing comprehensive training and counseling on the perioperative process, and providing effective patient participation in this process positively affect surgical outcomes.^{17,27,29,30}

Limitations of the Study

As most of the participants were women, it was agreed that the results of the study did not adequately reflect the experiences of male patients.

CONCLUSION

Patients expressed their preoperative and postoperative experiences clearly. The most significant problems were pain and its effects. In addition, the patients stated that they had a fear of falling in the postoperative period. The knee pain and mostly the information they obtained from their environment (experiences of individuals who attained relief after previously undergoing the surgery as well as their advice regarding the surgery) were effective in helping patients decide on the surgery. Patients lacked information on many issues (total knee replacement surgery, expected postoperative pain, things to consider after surgery, postoperative exercises etc.) of the postoperative period. Patients should therefore be informed both verbally and in writing about the preoperative, intraoperative, and postoperative periods and they should then make a conscious informed decision on the surgery with sufficient knowledge of the risks and benefits of TKA which will help them more easily cope with the problems. This study contributes to literature by comprehensively presenting the preoperative and postoperative experiences of individuals who underwent TKA.

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MAIN POINTS

- Total knee arthroplasty, typically performed to alleviate end-stage knee osteoarthritis, is the most commonly performed elective surgery in the World.
- The contribution of the study to the literature is that the preoperative and postoperative experiences of the individuals who underwent total knee arthroplasty are presented comprehensively.
- The most important problems that the patients expressed before and after surgery were the effects of pain and pain.
- Patients stated that they had problems with their physical exercise (for example, not knowing their exercises, not getting support during exercise, not being able to do it due to pain) and fear of falling in the postoperative period.

ETHICS

Ethics Committee Approval: The study protocol was approved by Dokuz Eylül University Ethics Committee for Non-Invasive Research (institutional review board number: 3015-GOA).

Informed Consent: Written informed consent was obtained from patients.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Concept: Ö.B., Design: Ö.B., Supervision: Ö.B., Resource: Ö.B., Ç.K., Materials: Ö.B., Ç.K., Data Collection and/or Processing: Ö.B., Ç.K., Analysis and/or Interpretation: Ö.B., Ç.K., Literature Search: Ö.B., Ç.K., Writing: Ö.B., Ç.K., Critical Review: Ö.B.

DISCLOSURES

Conflict of Interest: The authors declare no conflict of interest.

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