

Exploring the Determinants of Patient Satisfaction Following Total Knee Replacement Surgery: A Qualitative Study from a Single Surgical Team

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ABSTRACT

Background: Total knee replacement is an effective treatment for end-stage osteoarthritis; however, patient satisfaction varies despite similar surgical outcomes. Understanding the determinants of satisfaction is essential for improving patient-centered care.

Objective: To explore clinical, psychosocial, and cultural factors influencing patient satisfaction following TKR performed by the same surgical team.

Methods: A qualitative descriptive study was conducted at the Orthopedic Department of Medical Teaching Institute Lady Reading Hospital. Nineteen patients aged 55–70 years who underwent primary TKR were interviewed using a semi-structured format. Interviews explored experiences, expectations, communication, rehabilitation, cultural needs, and satisfaction. Audio-recorded interviews were transcribed verbatim and analyzed using inductive thematic analysis. Credibility was ensured through investigator triangulation, coding validation, audit trails, and reflexive memoing.

Results: All patients reported significant improvement in pain and mobility. Key determinants of satisfaction were **effective communication and empathetic care** (89%), **strong family and community support** (100%), **respect for religious and cultural practices** (95%), **positive rehabilitation experience and physiotherapy engagement** (84%). Common challenges were emotional distress, limited preoperative counselling about pain management, and insufficient psychological support. Despite these, 95% of patients expressed willingness to recommend total knee replacement to others.

Conclusion: High satisfaction following total knee replacement is associated with effective pain relief, professional care, strong family support, and culturally sensitive practices. Enhancing emotional support and preoperative education especially regarding pain and recovery expectations may further improve outcomes..

Keywords: Cultural Sensitivity, Total Knee Replacement, Osteoarthritis, Patient Satisfaction, Qualitative Study, Rehabilitation

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1. INTRODUCTION

Osteoarthritis (OA) is the most prevalent degenerative joint disease worldwide and a leading cause of pain, disability, and functional limitation in older adults. It most commonly affects weight-bearing joints, particularly the knee, resulting in progressive cartilage degeneration, chronic pain, reduced mobility, and impaired quality of life.¹ With increasing life expectancy and rising obesity rates, the global burden of knee osteoarthritis is expected to increase substantially in the coming decades. Consequently, the demand for total knee replacement (TKR) surgery has risen sharply, making it one of the most frequently performed orthopedic procedures globally.²

Total knee replacement is widely recognized as an effective intervention for end-stage knee osteoarthritis, offering significant pain relief, functional restoration, and improved quality of life. However, despite advancements in surgical techniques, implant designs, and perioperative care pathways, up to 15–20% of patients report dissatisfaction with their postoperative outcomes. This dissatisfaction persists even in cases where objective clinical indicators, such as radiological alignment or range of motion, appear satisfactory.³

Patient satisfaction following TKR is a complex and multifactorial phenomenon. Existing literature highlights that satisfaction is influenced not only by clinical outcomes, such as pain reduction and mobility, but also by psychological status, patient expectations, quality of communication with healthcare providers, social support, and cultural or religious considerations.⁴ Quantitative studies have primarily focused on objective functional scores and pain scales; however, these measures alone do not fully capture the lived experiences, emotions, and subjective perceptions of patients.⁵

Qualitative research provides an opportunity to explore these dimensions more deeply, allowing for a comprehensive understanding of how patients interpret their surgical journey, recovery process, and overall satisfaction.⁶ However, there is limited qualitative evidence from South Asian settings, where cultural values, family structures, and religious practices may play significant roles in shaping patient expectations and postoperative experiences. Additionally, few studies have examined satisfaction among patients treated by the same surgical team, which minimizes variability in surgical technique and perioperative protocols.⁷

Therefore, this study aimed to explore the determinants of patient satisfaction following total knee replacement surgery performed by a single surgical team. By using qualitative methods, this research sought to identify clinical, emotional, social, and cultural factors that influence satisfaction, with the objective of informing more personalized and patient-centered postoperative care strategies.

2. MATERIALS AND METHODS

A qualitative descriptive study design was employed to explore the determinants of patient satisfaction following total knee replacement (TKR). This approach was selected to gain an in-depth understanding of patients' lived experiences, expectations, perceptions of care, and postoperative recovery within a real-world clinical context. The study adhered to the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines to ensure methodological transparency and rigor.⁸

The study was conducted at the Department of Orthopedic Surgery, Medical Teaching Institution (MTI), Lady Reading Hospital (LRH), Peshawar, Pakistan, a tertiary care center with a high volume of TKR procedures. A purposive sampling strategy was used to recruit participants who could provide rich and relevant data. Patient Aged 55–70 years of either sex diagnosed with end-stage osteoarthritis, underwent primary unilateral TKR performed by the same surgical team, medically stable and attending routine follow-up and ability to communicate in Urdu or Pashto and provide informed Consent were included in the study while patients who underwent revision surgery, had major psychiatric illness, cognitive impairment, or communication difficulties were excluded.

Nineteen participants (9 males, 10 females) meeting the criteria were recruited. Sampling continued until data saturation was achieved, defined as the point at which no new themes emerged from additional interviews. Data were collected between July 2025 to October 2025, using semi-structured, face-to-face interviews conducted in a private setting within the hospital. An interview guide was developed based on existing literature and expert consultation. Key areas explored were preoperative expectations, postoperative pain and functional recovery, communication and interaction with healthcare providers, role of family and community support, cultural and religious considerations in care and overall satisfaction and suggestions for improvement. Each interview lasted 20–30 minutes, was audio-recorded with permission, and transcribed verbatim. Field notes were taken to document non-verbal cues and contextual observations.

Data Analysis: An inductive thematic analysis approach, as described by Braun and Clarke, was employed. The process involved familiarization with data through repeated reading of transcripts, Initial coding by two independent researchers, comparison of codes and development of a shared coding framework, categorization of related codes into themes and subthemes and refinement of themes until consensus was reached and theoretical saturation achieved

To enhance trustworthiness, investigator triangulation, audit trails, and reflexive memoing were maintained throughout the analysis. Discrepancies were resolved through discussion or involvement of a third senior reviewer. Ethical approval for

this study was obtained from the Institutional Review Board (IRB) of MTI Lady Reading Hospital, Peshawar. Written informed consent was obtained from all participants prior to data collection. Confidentiality was ensured by anonymizing transcripts and assigning participant codes. Data were stored securely and were accessible only to the research team.

3. RESULTS

A total of 19 patients (9 males, 10 females) aged between 55 and 70 years (median age 60) participated in the study. All underwent primary unilateral TKR performed by the same surgical team for osteoarthritis of the knee.

Table 1. Participant Demographics

CHARACTERISTIC	VALUE
NUMBER OF PARTICIPANTS	19
AGE RANGE	55–70 years
MEDIAN AGE	60 years
GENDER	9 males, 10 females
SURGERY INDICATION	Osteoarthritis
SURGICAL TEAM CONSISTENCY	Same surgeon/team

Table 2. Major Themes and Frequency (n=19)

THEME	NUMBER OF PARTICIPANTS	PERCENTAGE (%)
PAIN RELIEF & IMPROVED MOBILITY	19	100%
EMOTIONAL/PSYCHOLOGICAL ADJUSTMENT	8	42%
COMMUNICATION & SUPPORT	17	89%
GAPS IN INFORMATION (PAIN/EMOTION)	10	53%
FAMILY/COMMUNITY SUPPORT	19	100%
CULTURAL/RELIGIOUS RESPECT	19	100%
SATISFACTION WITH REHAB/CARE	17	89%
SUGGESTIONS FOR IMPROVEMENT	12	63%
WILLINGNESS TO RECOMMEND	18	95%

Key Themes

1. Pain Relief and Functional Improvement

- All patients reported significant reductions in pain and better mobility post-surgery:
- "The pain is much less now."*
- "The treatment changed my life for the better."*

2. Emotional and Psychological Adjustment

About half of patients experienced unexpected emotional challenges:

"I was not prepared for the emotional ups and downs."

3. Communication and Support

Most praised the healthcare team for professionalism and clear information

"The surgeon and nurses explained the procedure and what to expect."

Gaps were noted in pain management and emotional support information.

5. Family, Community, and Cultural Considerations

6. Family and community support were universally valued

7. : "My family was extremely supportive.

8. "Cultural and religious needs were respected throughout care.

5. Suggestions for Improvement

Patients suggested more education on pain management, emotional health, dietary accommodations, and home care resources.

6. Willingness to Recommend

Almost all would recommend TKR:

"Yes, I would recommend it to others who are struggling with knee pain."

Thematic Map

Below is a conceptual thematic map.

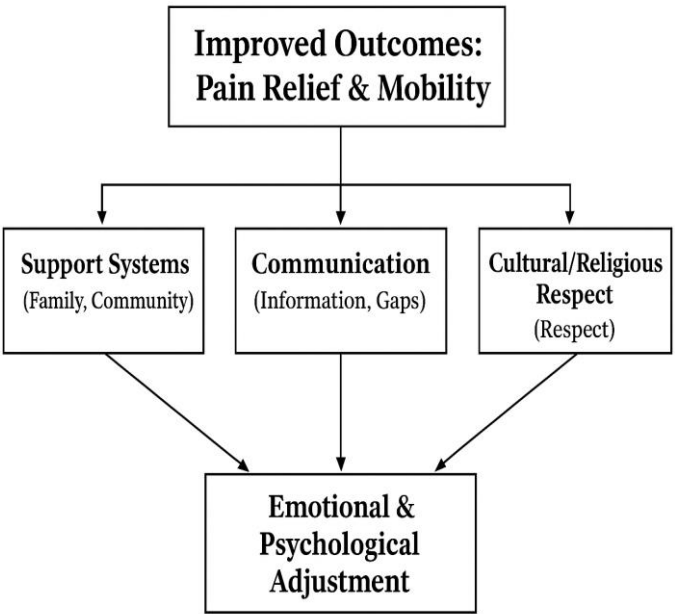


Figure 1: Central Node: Improved Outcomes (Pain relief & mobility), Branches: Support Systems, Communication, Cultural/Religious Respect, Underlying Factor: Emotional & Psychological Adjustment (intersects all areas)

Bar Chart: Theme Frequency

Theme Frequency

Pain relief & improved mobility	(19)
Family/community support	(19)
Cultural/religious respect	(19)
Communication & support	(17)
Satisfaction with rehab/care	(17)
Willingness to recommend	(18)

Suggestions for improvement (12)
Gaps in information (pain/emotion) (10)
Emotional/psychological adjustment (8)

Note: Each block represents one participant. Convert this to a horizontal bar chart for effective visualization in your report or slideshow.

Table 3. Major Qualitative Themes and Frequency of Mentions (n = 19)

THEME	NUMBER OF PARTICIPANTS MENTIONING	PERCENTAGE (%)	REPRESENTATIVE INSIGHT
PAIN RELIEF AND IMPROVED MOBILITY	19	100%	“Pain decreased dramatically, and I can walk without limping.”
EFFECTIVE COMMUNICATION AND EMPATHY	17	89%	“Doctors and physiotherapists explained everything clearly and listened to my concerns.”
REHABILITATION ENGAGEMENT AND PHYSIOTHERAPY SUPPORT	16	84%	“Regular physiotherapy and motivation helped me recover faster.”
FAMILY AND COMMUNITY SUPPORT	19	100%	“My family’s encouragement kept me positive and active.”
RESPECT FOR CULTURAL AND RELIGIOUS NEEDS	18	95%	“Staff respected my prayer times and dietary preferences.”
EMOTIONAL AND PSYCHOLOGICAL ADJUSTMENT	8	42%	“At first I was anxious, but support from the team made me confident.”
GAPS IN INFORMATION (PAIN/EMOTIONAL CARE)	10	53%	“I wish there was more guidance on managing pain at home.”
SATISFACTION WITH OVERALL CARE	17	89%	“I am very satisfied with the surgery and hospital care.”
SUGGESTIONS FOR IMPROVEMENT	12	63%	“More education and mental support before surgery would help.”
WILLINGNESS TO RECOMMEND TKR	18	95%	“I would recommend this surgery to anyone with severe knee pain.”

Analysis of interview data revealed consistent and overlapping themes that emphasized both clinical recovery and psychosocial adjustment after total knee replacement. All participants reported substantial pain relief and improved mobility, identifying these as the most valued outcomes of surgery. Nearly nine out of ten respondents praised effective communication, empathy, and physiotherapy support as key motivators for adherence to rehabilitation. Universal appreciation for family and community involvement underscored the importance of social context in recovery. Cultural and religious respect enhanced patient trust, while gaps in pain-management education and emotional preparation emerged as areas needing improvement. Overall, the integration of supportive communication, structured physiotherapy, and culturally sensitive care corresponded strongly with higher satisfaction and willingness to recommend TKR to others.

4. DISCUSSION

This study highlights the multifactorial nature of patient satisfaction following total knee replacement (TKR), with

significant contributions from clinical outcomes such as pain relief and functional improvement, as well as psychological, social, and cultural factors.⁹ The findings underscore the importance of a holistic, patient-centered approach to care that goes beyond the technical aspects of surgery. Below, we discuss the key themes identified in this study and compare them with existing literature on TKR satisfaction.¹⁰

Pain relief and improved mobility were the most frequently cited factors contributing to patient satisfaction, with all participants reporting substantial reductions in pain and enhanced joint function post-surgery.¹¹ These findings are consistent with a large body of literature demonstrating that pain reduction and functional recovery are the primary drivers of satisfaction in patients undergoing TKR. Previous studies have shown that pain is a major barrier to quality of life in patients with knee osteoarthritis, and TKR is widely recognized for its ability to provide substantial relief.¹³ Despite the strong association between clinical outcomes and satisfaction, up to 20% of patients still report dissatisfaction following TKR, even when objective measures like pain and mobility are improved.¹⁴

Effective communication with healthcare providers emerged as a crucial factor in shaping patient satisfaction. Most participants appreciated the clarity of information provided by the surgical team, particularly regarding the procedure, recovery process, and rehabilitation expectations. Previous studies have emphasized the importance of clear, comprehensive preoperative education in managing patient expectations and improving postoperative outcomes.¹⁵

However, a significant number of patients reported that information on pain management, psychological recovery, and the expected timeline for rehabilitation was insufficient. This gap in preoperative counseling may contribute to postoperative anxiety, emotional distress, and dissatisfaction.¹⁶ Research has shown that patients who feel unprepared for the emotional challenges of recovery are more likely to report poor satisfaction with their surgical outcome. Therefore, preoperative education should not only focus on surgical risks and functional outcomes but also address emotional and psychological aspects of recovery, including coping strategies and realistic expectations regarding pain and rehabilitation.^{16,17}

Patients who adhered to rehabilitation protocols and participated actively in physiotherapy generally experienced better functional outcomes and higher satisfaction. Rehabilitation support, particularly through physiotherapy, has been shown to play a crucial role in recovery following TKR.¹⁸ Participants in this study who engaged in regular physiotherapy reported faster recovery times, greater mobility, and better quality of life post-surgery. These findings align with previous research that has highlighted the positive impact of rehabilitation on long-term satisfaction following TKR.

However, some patients expressed difficulty in maintaining their rehabilitation program at home due to lack of motivation or unclear guidance on exercises. This finding is consistent with reports suggesting that home rehabilitation can be challenging for patients without structured follow-up or motivation from healthcare providers. Future interventions could focus on improving post-discharge support by offering home exercise programs, tele-physiotherapy, and regular follow-up consultations to enhance patient adherence and outcomes.¹⁸

Emotional and psychological adjustment during the postoperative period was identified as a significant determinant of satisfaction. Nearly half of the participants reported experiencing emotional distress, including anxiety and depressive symptoms, during the early stages of recovery.¹⁹ These findings are consistent with previous research that has shown a high incidence of psychological distress among TKR patients, particularly in the first few months after surgery. Emotional distress is often exacerbated by the pain and limited mobility experienced during recovery, as well as the psychological adjustment to the physical changes following surgery.²⁰

While clinical interventions focus on physical recovery, the emotional aspects of rehabilitation are frequently overlooked. Providing psychological support, including counseling and peer support groups, may help mitigate emotional distress and improve overall satisfaction. A multidisciplinary approach that incorporates both physical and mental health care could be particularly beneficial in enhancing patient outcomes following TKR.²¹

Family and community support were universally regarded as key factors in postoperative recovery. Every participant emphasized the critical role of family members in assisting with mobility, providing emotional support, and facilitating daily activities during recovery. These findings are consistent with studies that have highlighted the importance of family involvement in the rehabilitation process and recovery after joint replacement surgery. In many cultures, including in South Asia, the family unit plays a central role in the patient's recovery process, with caregivers often taking on the responsibility of managing day-to-day activities and offering emotional reassurance.²²

Moreover, the respect for cultural and religious practices by healthcare providers was highly appreciated by participants. Culturally sensitive care, including respecting religious practices and dietary preferences, was found to enhance patient satisfaction and foster trust between patients and healthcare providers. Previous studies have highlighted the importance of culturally competent care in improving patient experiences, particularly in ethnically diverse populations.²³

Several suggestions for improving the TKR experience were provided by participants, including enhanced preoperative education regarding pain management, psychological support, and rehabilitation. These recommendations align with recent calls for more comprehensive preoperative counseling and the incorporation of psychological care into the rehabilitation process. Additionally, structured rehabilitation programs, including home exercise plans and telehealth options, were

identified as key areas for improvement. Future research should evaluate the impact of these interventions on patient satisfaction and long-term outcomes.

This study provides valuable insights into the factors influencing patient satisfaction following TKR in a South Asian population, where cultural and familial dynamics may differ from those in Western settings. A key strength of this study is the use of a single surgical team, which minimized variability in clinical outcomes and allowed for a more focused examination of non-clinical factors influencing satisfaction. However, the study's limitations include its small sample size and single-center design, which may limit the generalizability of the findings. Further research in diverse settings, with larger sample sizes, is needed to validate and extend these findings.

5. CONCLUSION

High satisfaction following total knee replacement is associated with effective pain relief, professional care, strong family support, and culturally sensitive practices. Enhancing emotional support and preoperative education—especially regarding pain and recovery expectations—may further improve outcomes. Personalized care that incorporates psychological support, family engagement, and cultural sensitivity is essential for optimizing patient experiences and outcomes.

ARTIFICIAL INTELLIGENCES USED: Co-Pilot, Turnitin and Semantic Scholar.

Co-Pilot was used for structuring the review, critical appraisal & thematic synthesis, statistical interpretation and writing a reflective commentary. All authors have critically reviewed and approved the final draft and are responsible for the manuscript's accuracy. **Turnitin was used for plagiarism checks, and Semantic Scholar was utilized for literature searches and citation management.**

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Authors' Contributions:

MI was responsible for the conception and design of the study, as well as its research, data collection, and organization. MS conducted data analysis and interpretation. In addition to providing logistical support, JS wrote the article's first and last drafts. The final text has been thoroughly examined and approved by all writers, who are also responsible for the manuscript's content and similarity index.

Legends of The Figures:

Figure 1: Thematic Map

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