

Perception of Patients on Rehabilitation Practices after Hip and Knee Arthroplasty: A Qualitative Exploratory Study

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ABSTRACT

Background: Rehabilitation after hip and knee arthroplasty is essential for restoring mobility, function, and quality of life. Patients' perceptions of these rehabilitation practices significantly influence adherence, satisfaction, and overall recovery outcomes.

Objective: The study aimed to explore patients perceptions of rehabilitation practices following hip and knee arthroplasty procedures.

Methods: A qualitative, phenomenological, and exploratory design was adopted. Data were collected through in depth, face to face interviews using a self-developed questionnaire. Six participants undergoing rehabilitation after hip or knee arthroplasty were recruited from Pakistan Railways Hospital, Rawalpindi. Interviews were transcribed verbatim and analyzed thematically using ATLAS.ti 8 software. Through systematic coding, one overarching theme patient satisfaction and four subthemes were identified: physiotherapist behavior and counseling, adherence to a structured rehabilitation protocol, addressing patients' concerns, and overall rehabilitation experience.

Results: Participants expressed a high degree of satisfaction and psychological dependence on their physiotherapists. Those who underwent hip arthroplasty reported slightly higher satisfaction compared to knee arthroplasty patients. Despite positive perceptions, issues such as inconsistent communication, care coordination gaps, and varying therapist attitudes were highlighted as areas needing improvement.

Conclusion: Patients perceptions of rehabilitation following total hip and knee arthroplasty revealed that communication, therapist empathy, patient engagement, social support, and perceived recovery barriers shape their overall rehabilitation experience. Integrating these insights into physiotherapy protocols can enhance patient centered care, improve adherence, and promote better postoperative outcomes.

Keywords: Arthroplasty, Perception, Physiotherapy, Postoperative Period, Rehabilitation.

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Introduction

Although nearly 85% of patients undergoing total hip replacement (THR) are diagnosed with osteoarthritis, inflammatory arthritis including both seropositive and seronegative types also remains a significant indication for total hip arthroplasty. In patients with rheumatoid arthritis, it has been suggested that the cost of total hip arthroplasty to the community can be offset within one and a half years due to reduced expenditure on long-term social and medical care (1). In the United States, approximately 250,000 individuals are currently living with hip prostheses, and by 2010, around 332,000 total hip arthroplasty procedures were performed annually. This number is projected to increase substantially in the coming years as the population ages and surgical techniques continue to evolve (2).

Similarly, total knee replacement (TKR) has proven to be an effective intervention for most end-stage cases of osteoarthritis, primarily addressing pain reduction and enhancement of activities of daily living (ADLs) and instrumental activities of daily living (IADLs). In the United States, the utilization of TKR has risen considerably over the past two decades, particularly among younger patients. Approximately 431,000 TKR procedures are performed each year, with women accounting for nearly 40% more cases than men. The frequency of TKR tends to rise with age, peaking in the late seventies before gradually declining (3). Despite the global increase in arthroplasty procedures, comprehensive epidemiological data for Asian populations remain limited (4). The prevalence appears to be higher among older males, likely due to degenerative and mechanical changes associated with aging (5,6). Degeneration, effusion, and wear of the hip and knee joints are often consequences of disease progression or injury, with osteoarthritis emerging as the most common etiology affecting approximately 70.19% of hip cases and 33.6% of knee joints (7,8).

Historically, evaluation of THR and TKR has emphasized surgical outcomes, implant survival, and mechanical function (9). However, the postoperative phase particularly rehabilitation plays a pivotal role in determining functional recovery and patient satisfaction, though the literature assessing its long-term impact remains limited (10). Rehabilitation typically includes muscle strengthening, range-of-motion exercises, and structured physiotherapy interventions (11), which have been associated with improved postoperative outcomes, though their contribution to sustained recovery over time warrants further exploration (12). Preoperative rehabilitation has also been shown to positively influence postoperative recovery, enhancing functional gains and reducing complications compared to patients who did not receive preoperative training (13).

Traditionally, the success or failure of arthroplasty has been defined through revision rates, implant longevity, and

functional outcomes, yet patient perceptions and satisfaction are equally critical in determining treatment success (14). Evidence suggests that standardized rehabilitation protocols emphasizing early mobilization, muscle reconditioning, and task-specific training can significantly enhance postoperative recovery (15,16). Patient expectations and priorities, however, vary widely, influencing motivation and adherence to rehabilitation programs (17). High satisfaction levels are associated with greater compliance and better outcomes, underscoring the importance of patient-centered approaches (18). Despite the functional benefits of TKR and THR, studies reveal that approximately 20% of TKR and 7–15% of THR recipients report dissatisfaction post-surgery, often linked to unmet expectations or residual limitations in physical function (19). Consequently, effective interprofessional collaboration (20) and delivery of individualized, patient-centered care (21) are imperative for optimizing recovery and satisfaction.

Despite extensive global research, there remains a paucity of qualitative studies exploring patient perceptions and lived experiences of post-arthroplasty rehabilitation, particularly in low- and middle-income contexts such as Pakistan. Evidence indicates that implant longevity tends to be higher among elderly and female patients (22), while younger individuals often exhibit greater expectations regarding return to work, leisure, and daily activity performance following arthroplasty (23). Moreover, pain relief has been reported as the most satisfying postoperative outcome, whereas improvements in social and occupational functioning remain less pronounced (24).

This study seeks to bridge this gap by exploring patient perceptions of rehabilitation following hip and knee arthroplasty within the Pakistani healthcare context. Understanding these perspectives is essential for developing culturally relevant clinical practice guidelines and optimizing rehabilitation strategies. By identifying patients' experiences, expectations, and perceived barriers, the study aims to inform future rehabilitation frameworks, ensuring they are more responsive, individualized, and effective in promoting functional recovery and overall well being.

Materials and Methods

This qualitative study employed an exploratory design, an approach commonly used to investigate phenomena that have not been extensively studied before (25). Six participants undergoing rehabilitation after hip or knee arthroplasty were recruited from Pakistan Railways Hospital, Rawalpindi. The study was grounded in a phenomenological methodological orientation, focusing on understanding the lived experiences of patients who underwent total hip and knee arthroplasty. Participant involvement was embedded throughout the research design to ensure the acceptability and relevance of the

study objectives. Ethical approval for the study was obtained from the Ethical Review Committee of Riphah International University, Lahore, and all procedures were conducted in accordance with the principles outlined in the for human research ethics. Prior to participation, written informed consent was obtained from all participants after explaining the purpose, procedures, and confidentiality measures of the study.

The research team consisted of a female principal investigator a physiotherapist holding a Doctor of Physical Therapy (DPT) degree and a Master’s in Health Professions Education, with fourteen years of clinical experience and seven years of academic and research background. Two female Doctor of Physical Therapy students, trained in qualitative interviewing techniques, assisted with data collection. Their clinical familiarity

with rehabilitation practice contributed to sensitivity during patient interactions, while reflexivity was maintained to acknowledge how their assumptions and professional identities could influence data interpretation.

A total of six participants who had undergone hip or knee arthroplasty were recruited using purposive sampling to ensure rich and relevant insights. Two additional patients were interviewed initially but later withdrew due to time constraints. Inclusion criteria included adults of either gender aged over 30 years, at least one week post-operative, and currently receiving physiotherapy rehabilitation. Exclusion criteria comprised patients with life-threatening illnesses, those who were 6–9 months pregnant, infants or children, and individuals with pre-existing peripheral motor or central nervous system disorders that could interfere with rehabilitation outcomes.

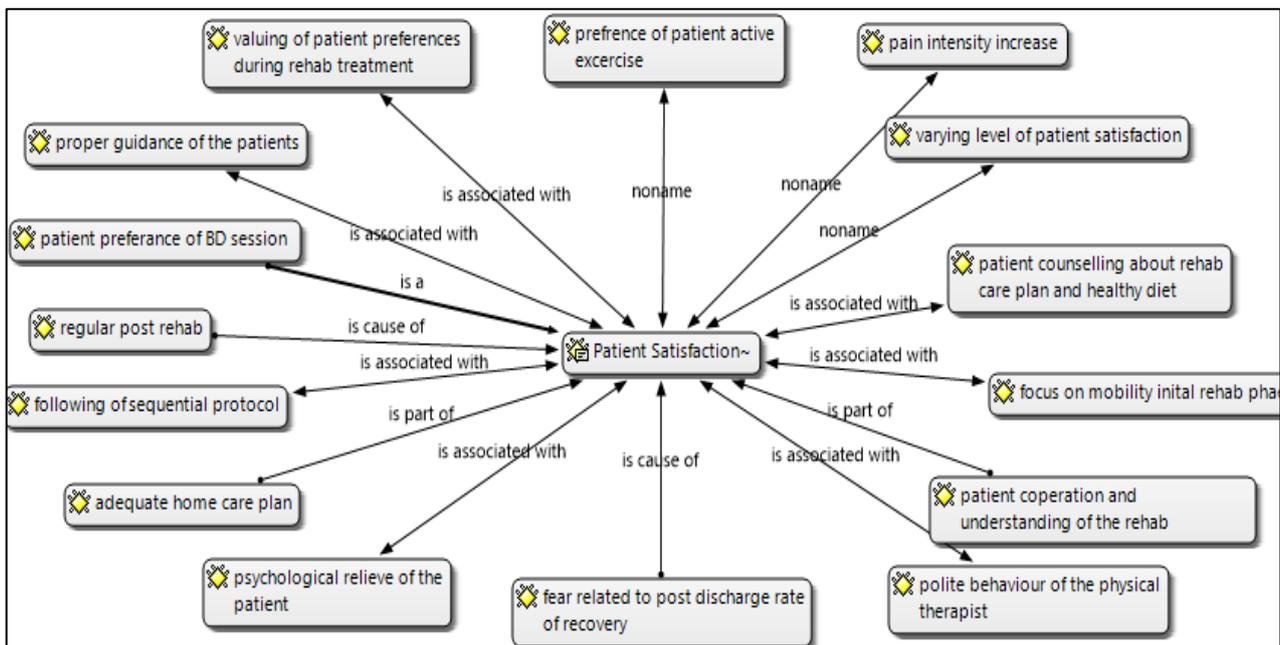


Figure 1: Concept map of patient satisfaction

Data were collected through face to face, semi structured interviews using a self developed interview guide. The guide was constructed after reviewing related literature and pilot-tested by one expert clinician and one academic physiotherapist to ensure content validity and clarity. Each interview lasted approximately 15–20 minutes and was audio recorded with participants’ consent. The questions were open ended to elicit detailed responses, focusing on patients’ perceptions, satisfaction, and experiences with rehabilitation. Examples of questions included: “Are you satisfied with the treatment protocol of the hospital?”, “How cooperative is your therapist?”, and “Do you have any suggestions for improving current rehabilitation practices for arthroplasty patients?”.

Credibility of the data was enhanced through multiple strategies. Rapport and trust were established with

participants before and during interviews to encourage open sharing. Prolonged engagement allowed a deeper understanding of participants’ perspectives. Member checking was performed by sharing transcribed summaries with participants to verify the accuracy of interpretations. Additionally, peer debriefing was conducted by an independent qualitative researcher to identify and minimize researcher bias. The study maintained transparency by providing a detailed account of the research design, participant selection, data collection, and analysis procedures, ensuring dependability and enabling future replication.

Triangulation was not conducted as the study employed a single method of data collection, and combining multiple qualitative and quantitative sources was deemed unnecessary given the exploratory focus. Anticipated

biases included respondent fatigue, low motivation, and time constraints. These were minimized by maintaining engaging dialogue, providing flexible scheduling, and ensuring participants had adequate time to respond.

Audio recordings were transcribed verbatim and analyzed using ATLAS.ti qualitative data analysis software. Thematic analysis was conducted following a systematic approach. Two independent coders repeatedly read the transcripts to gain familiarity with the data, then performed initial open coding, assigning codes to all text segments relevant to the research objectives. Codes were refined through discussion and merged into broader categories to identify candidate themes and subthemes (26). Final themes were developed through iterative comparison and consensus among the research team. A

Results

A total of six participants were included in the study, comprising four patients who underwent total hip replacement (THR) and two who underwent total knee

conceptual framework depicting patient satisfaction with rehabilitation practices following arthroplasty was generated using ATLAS.ti visualization tools to illustrate thematic relationships.

Descriptive statistics related to participant demographics were analyzed using IBM SPSS Statistics version 25, and results were reported in terms of frequencies, percentages, and ranges to provide contextual understanding of the sample characteristics. The study maintained confidentiality throughout all phases, with de-identified data stored securely and accessible only to the research team. Through this rigorous qualitative methodology, the study sought to generate in-depth insights into patient perceptions of rehabilitation following hip and knee arthroplasty within the Pakistani healthcare context.

replacement (TKR). Although efforts were made to include ethnically diverse participants, all were Asian. The interviews were conducted until data saturation was achieved. The demographic characteristics of participants are presented in Table 1.

Table 1: Demographic Characteristics of Participants

Characteristic	THR (n = 4)	TKR (n = 2)
Age (Range, years)	50–82	60–78
Gender (♀/♂)	2 / 2	1 / 1
Urdu as First Language	3	1
Marital Status (Married/Unmarried)	4 / 0	2 / 0
Postoperative Status (Days)	4–14	1–14

Thematic analysis identified one overarching theme, “Patient Satisfaction,” supported by two subthemes: behavior and counseling and addressing patient concerns. All participants expressed a high degree of satisfaction with physiotherapy, describing it as a crucial aspect of recovery after arthroplasty. Patients emphasized the physical, emotional, and psychological benefits of physiotherapy and perceived it as an essential part of healthcare. They described their therapists as empathetic, skilled, and professional, which fostered trust, motivation, and adherence to treatment. One participant shared, “It’s good if my physiotherapy continues because my mind is getting so much calmness due to it” (F, 82, THR), while another stated, “For now, he has started rehabilitating my knee, and the rehabilitation of hip will be started later” (M, 50, THR).

Patients appreciated polite communication, proper guidance, and counseling about exercise routines, healthy diet, and rehabilitation plans. They reported feeling psychologically relieved and reassured through their therapists’ encouragement. The structured exercise sessions with defined sets and repetitions gave the physiotherapy sessions a professional appearance,

enhancing patient confidence. Some participants emphasized that proper home care plans provided by their therapists helped them remain consistent and satisfied even after discharge. As one participant explained, “When my right hip was operated, doctors started post-op rehabilitation and after four to five days of hospital stay, they discharged me and guided about the number and type of exercises I have to do at home” (F, 82, THR). Patients also noted that being encouraged to perform exercises actively improved their recovery rate and confidence: “Majority of them try that the patient himself does the exercise” (F, 82, THR).

Pain management emerged as an important factor in determining satisfaction. Many participants reported postoperative pain as a major concern but appreciated the therapists’ understanding and supportive approach. One participant stated, “I still feel too much pain in walking” (M, 50, THR). Despite pain, most patients remained motivated, largely due to the therapists’ guidance and consistent follow-up. Several participants described their reliance on physiotherapists, with some expressing hesitation about discharge from hospital rehabilitation. For instance, “I have told the staff that the physiotherapists

here are very committed, so don't discharge me because I fear that I will not recover at home in the same way" (F, 60, THR). Others suggested increasing the frequency of physiotherapy sessions to twice daily to enhance recovery, as expressed by one participant: "My suggestion about my physiotherapy is that if the physiotherapists who are now visiting me once a day, if they start visiting two times per day then it will help me in recovering at a faster rate" (F, 78, TKR).

Overall, the analysis revealed that patient satisfaction was largely influenced by the therapists' professional conduct, effective communication, individualized rehabilitation guidance, and responsiveness to patient concerns. The sense of psychological comfort and trust developed through patient-therapist interaction significantly enhanced compliance and optimism during recovery. Physiotherapy was viewed not only as a physical healing process but also as an emotionally reassuring and confidence-building experience, reinforcing its importance in postoperative care for arthroplasty patients.

Table 2: Themes, Subthemes, Codes, and Illustrative Quotations from Patient Interviews

Subtheme	Code	Illustrative Quotation
Behavior and Counseling	Polite behavior	"She talks to me very politely."
	Patient education about the physical therapy treatment session	"He makes me walk, and side by side he tells me about which exercise he is going to perform on me and how it will be beneficial to me."
	Patient counseling about the rehab care plan and healthy diet	"Doctor counsels me to do my exercise regularly and to have healthy diet."
	Proper guidance of the patients	"He explains me thoroughly about how I have to perform my exercises."
	Psychological relief of the patient	"It's good if my physiotherapy continues because my mind is getting so much calmness due to it."
Address to Patient Concerns	Increase in pain intensity	"I still feel too much pain in walking."
	Post-discharge fear about recovery	"I have told the staff that the physiotherapists here are very committed, so don't discharge me because I fear that I will not recover at home in the same way."
	Patient suggestion of BD sessions	"My suggestion about my physiotherapy is that if the physiotherapists who are now visiting me once a day, if they start visiting two times per day then it will help me in recovering at a faster rate."

Discussion

The present study explored the perceptions of patients regarding early postoperative rehabilitation following total hip replacement (THR) and total knee replacement (TKR), providing valuable insights into patient-centered experiences that can guide the refinement of physiotherapy practice and rehabilitation guidelines. Patients expressed a strong sense of satisfaction with physiotherapy, emphasizing that therapist behavior, effective communication, and individualized rehabilitation plans played crucial roles in their recovery experience. Trust in the physiotherapist emerged as a key determinant of satisfaction, consistent with existing literature which highlights the importance of interpersonal communication and therapeutic alliance in shaping patient adherence and perceived treatment efficacy (27). Inadequate communication or lack of empathy from healthcare providers has been reported to negatively affect patients' confidence, engagement, and long-term outcomes (28). Similarly, previous studies have shown

that patients' perception of professional competence and empathy significantly correlates with overall hospital satisfaction and adherence to rehabilitation programs (29).

Findings from this study were consistent with prior research indicating that physiotherapists' supportive behavior positively influences treatment motivation and adherence. It has been established that autonomy-supportive conduct characterized by empathy, active listening, and patient involvement in decision-making enhances compliance with rehabilitation protocols (30). Participants in the present study acknowledged that physiotherapists' kindness, patience, and professional demeanor encouraged active participation in therapy sessions. Although preoperative psychological conditions were not directly examined, earlier literature emphasizes that preoperative depressive symptoms or anxiety can negatively affect postoperative functional recovery and patient satisfaction (30). Hence, early psychosocial assessment and counseling before surgery may contribute to improved rehabilitation engagement and outcomes.

The study also reaffirmed the significance of early mobilization and structured postoperative rehabilitation. Several systematic reviews and meta-analyses have demonstrated that early initiation of rehabilitation after arthroplasty significantly reduces postoperative complications, enhances functional recovery, and shortens hospital stay (31). Consistent with these findings, patients in this study described early rehabilitation as essential in restoring confidence, mobility, and independence. Previous evidence has shown that mobilization within the first 24 hours after surgery increases the likelihood of early discharge and improves joint function (32). Participants in this study appreciated having adequate time to express their concerns during therapy, aligning with prior research that highlights the role of patient–therapist communication in enhancing satisfaction and perceived support. Patients who received ample time and personalized attention during therapy sessions reported greater psychological comfort and motivation to adhere to prescribed exercises.

The results further support previous findings by Sanderson et al., who reported that patients’ perceptions of successful outcomes after hip and knee arthroplasty are multifaceted, encompassing physical function, pain relief, and emotional well-being rather than merely surgical success (33). Differences between patient and clinician perspectives on what constitutes a favorable outcome have also been documented, suggesting that aligning therapeutic goals through shared decision-making can minimize dissatisfaction and miscommunication (34). Moreover, recent studies have indicated a global reduction in hospital stay durations following joint replacement surgeries, underscoring the growing emphasis on efficient rehabilitation pathways and enhanced recovery protocols (35). However, the findings of this study emphasized that while early discharge may improve hospital throughput, ensuring adequate patient education and follow-up care is essential to prevent post-discharge anxiety and functional setbacks.

A noteworthy strength of the present study was its qualitative approach, which provided in-depth understanding of patients’ lived experiences during rehabilitation. The use of purposive sampling ensured the inclusion of participants with diverse postoperative trajectories, enriching the data through varied perspectives. Thematic analysis using a structured coding process enhanced analytical rigor and ensured credibility of findings. The involvement of experienced physiotherapists as interviewers also helped foster trust and openness among participants, allowing authentic insights to emerge. However, certain limitations must be acknowledged. The study involved a small sample size, which, while sufficient for qualitative inquiry, limits the generalizability of findings. Additionally, the participants were recruited from a single clinical setting, which may not fully represent the broader population of arthroplasty

patients in Pakistan. Audio clarity issues during some interviews may have resulted in partial loss of nonverbal cues and contextual nuances. Furthermore, the study focused only on patients actively receiving rehabilitation; thus, the experiences of those unable to access or continue therapy were not captured, which might have provided a more comprehensive view of barriers to care.

Despite these limitations, the study provided valuable implications for clinical practice. It highlighted the necessity of strengthening communication between patients and physiotherapists through the adoption of patient-centered communication models and continuous professional training. Integrating digital health platforms such as tele-rehabilitation and mobile-based exercise monitoring can further enhance patient engagement and accessibility to physiotherapy services (36). Developing standardized, evidence-based rehabilitation guidelines for THR and TKR patients in Pakistan would promote consistency in care delivery and outcome measurement. Moreover, implementing structured follow-up programs that monitor patients’ pain, psychological state, and functional progress can help identify those at risk of delayed recovery or noncompliance.

Conclusion

This study provided valuable insights into patients’ perceptions of rehabilitation following total hip and knee arthroplasty, emphasizing the central role of communication, empathy, and individualized physiotherapy in recovery. Patients expressed high satisfaction with early postoperative rehabilitation, linking their improvement to professional therapist behavior, structured exercise regimens, and emotional support. The findings highlight that effective rehabilitation extends beyond physical restoration, it nurtures confidence, mental well-being, and trust in healthcare providers. From a human healthcare perspective, these insights underscore the importance of patient centered care, interprofessional collaboration, and continuous communication to enhance adherence, satisfaction, and long term functional outcomes for arthroplasty patients.

Authors’ Contributions

ICMJE authorship criteria	Detailed contributions	Authors
Substantial Contributions	Conception or Design of the work	1,2
	Data acquisition	3,5
	Data analysis or interpretation	4,6
Drafting or Reviewing	Draft the work	1
	Review critically	1,2,3,4
Final approval	Final approval of the version to be published.	1,2,3,4,5,6
Accountable	Agreement to be accountable for all aspects of the work.	1,2,3,4,5,6

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