

Case Study

The Role of Cultural Beliefs in Performing Total Knee Arthroplasty: A Case Report Study

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ABSTRACT

Following the Total Knee Arthroplasty (TKA) procedure, the patient experienced several complications, including reduced range of motion, pain, swelling, and a general sense of weakness and fatigue. Overall, women undergo this surgery more frequently than men, and elderly or obese patients are generally at higher risk for postoperative complications and adverse outcomes. The patient is a 65-year-old man with a history of cardiovascular diseases, including high blood pressure, who does not mention any specific medical history. The patient has been walking impaired for 3 years due to knee joint wear and tear, and due to cultural issues including lack of proper health literacy, negative peer influences, and lack of correct beliefs and understanding of the disease, he does not accept knee joint replacement properly. Initially, the patient stated that the cause of the joint wear was the injection of Corona drug and claimed that he would recover soon. After 3 years, the patient underwent right knee joint replacement surgery. After 3 months, the patient's right leg was also operated on. Currently, the patient's leg condition is very good and satisfaction with the operation is reported to be excellent. According to the patient's words, special trust should be placed in the treatment team and any fear or distrust of the medical staff should be avoided. Unfortunately, the patient's surgery was postponed for 3 years due to cultural beliefs and personal opinions. The results of this case report showed that cultural and personal beliefs play a fundamental role in improving patients' health.

Introduction

As age increases, the prevalence of chronic diseases rises accordingly. Patients with chronic conditions frequently suffer from a wide

spectrum of disorders related to the nervous system—such as stroke—and the cardiovascular system, including myocardial infarction, pacemaker implantation, as well as diabetes and various musculoskeletal disorders [1-4].

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Joint degeneration (osteoarthritis) is among the most common rheumatic diseases, often observed in a large proportion of individuals above the age of 65. In recent decades, the incidence of osteoarthritis has been growing steadily. Multiple contributing factors have been identified, including unhealthy lifestyle, gender, excessive body weight, and inadequate physical activity [5–7].

In the early stages of the disease, intra-articular injections or physiotherapy are recommended; however, when the condition becomes more severe, the only effective treatment option is Total Knee Arthroplasty (TKA). This surgical procedure is complex and costly, and therefore patients frequently experience several barriers and challenges when considering or undergoing it [8–10].

Following TKA surgery, patients commonly face complications such as limited range of motion, pain, swelling, weakness, and general fatigue [11]. Globally, women undergo knee replacement surgery more frequently than men, and patients who are older or obese are at higher risk of postoperative complications and adverse outcomes [12,13].

With the progressive aging of the population and the consequent increase in knee osteoarthritis prevalence, treatment imposes a significant burden on healthcare systems. To achieve conservative management and reduce healthcare expenses, early diagnosis based on relevant clinical and radiological findings is essential [14,15].

Candidates for TKA surgery often experience multiple psychological problems, most notably anxiety and depression. In patients with psychological distress, the perception of pain correlates closely with their mental state. Indeed, psychological factors—such as fear of movement, anxiety, and pain catastrophizing—are among the most important predictors of patients' dissatisfaction following total knee replacement [14,16–18].

Case Presentation

In 2025, the patient is a 65-year-old man with a history of cardiovascular diseases, including hypertension, and no other significant medical

conditions. The laboratory test results obtained from the patient are presented in Figures 1 and 2. Approximately three years prior, the patient developed gait disturbances due to knee joint degeneration. However, as a result of cultural factors such as lack of adequate health literacy, negative peer influences, and incorrect beliefs and perceptions about his illness, he resisted accepting knee replacement surgery. Initially, the patient attributed his joint degeneration to receiving a COVID-19 vaccine injection and expressed confidence that he would soon recover spontaneously.

After about six months of progressive knee degeneration and increasing physical limitations—including inability to walk or perform daily activities—the patient chose traditional treatment methods as his primary form of therapy. He repeatedly visited non-credentialed traditional practitioners who had no professional medical training. Following multiple visits to such individuals, he eventually sought consultations with qualified physicians in his own city, including more than six orthopedic specialists, two neurosurgeons, and three anesthesiologists or pain specialists. All physicians unanimously advised surgical intervention as the main treatment option.

Despite this consistent recommendation, the patient proceeded to consult physicians in neighboring provinces. These specialists also emphasized the necessity of surgery, after which the patient finally agreed to undergo Total Knee Arthroplasty (TKA). Approximately 18 months after initial symptom onset, he consented to the procedure. By that time, his disability had become severe, and he faced considerable difficulty even performing basic daily activities such as using the restroom.

Unfortunately, because TKA surgeries in both his city and neighboring provinces were performed only in private hospitals—and he was unable to afford private care—he decided to seek treatment at hospitals in Tehran Province. After three separate in-person visits to public hospitals there, no surgery appointment was allocated to him. Consequently, he reverted to alternative and non-pharmacological therapies. Through online searches and social media, the patient contacted an individual who falsely claimed—through heavy advertising—that knee

degeneration could be treated in five minutes. After visiting this person, the patient developed severe physical, psychological, and emotional complications, ultimately becoming completely incapacitated. He lost the ability to walk or perform personal tasks such as using the restroom or getting out of bed, and suffered intense pain in multiple body regions, especially in the knee, leg, back, and head.

Three years later, the patient underwent right knee replacement surgery, followed by surgery on the left knee three months later. At present, his recovery is excellent, and his postoperative satisfaction is reported to be very high. According to the patient, developing trust in the medical treatment team and avoiding fear or skepticism regarding healthcare providers are essential steps in achieving successful outcomes. An MRI was not performed on the patient.



Figure 1. Radiographic status of the patient's knee before surgery



Figure 2. Preoperative knee radiograph of the patient in a standing position

Case Discussion

Cultural sensitivity refers to the ability to respond appropriately to the attitudes, emotions, and circumstances of diverse groups of people. It is regarded as a superior attitude for achieving success in cross-cultural encounters and is one of the predictors of cultural competence. In fact, care that is accompanied by cultural sensitivity plays an important role in the caregiver's willingness to see illness through the patient's eyes and to understand contextual conditions such as cultural, social, therapeutic factors, or even the likelihood of disease onset [19-21].

This case report study showed that cultural beliefs have influenced on the delay of treatment in patients undergoing total knee arthroplasty (TKA), leading to the postponement of their therapy. Noktehsanj *et al.* conducted a study on the quality of life of patients who underwent TKA and found that their quality-of-life score increased from 21 to 36 [22]. Tahmasebi *et al.* also carried out a case report and indicated both the functional score and the knee score improved after surgery [23].

The study by Shamsaei *et al.* demonstrated that the Islamic faith, through the use of moral and religious principles, has contributed to the improvement of lifestyle around the world. Furthermore, a divine worldview and belief system have had positive effects on mental, spiritual, and physical health [24]. In the present case, it was shown that the patient's cultural beliefs and personal convictions played an effective role in their treatment process.

Conclusion

The results of this case report showed that cultural and personal beliefs play a fundamental role in improving patients' health.

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