

# Reasons For Refusal of Total Knee Arthroplasty Among Patients Recommended For Surgery In Turkey Secondary-Level Public Hospitals: A Cross-Sectional Questionnaire-Based Study

Mehmet Can Gezer<sup>1\*</sup>, Seyyid Şerif Ünsal<sup>2</sup>

<sup>1</sup>Mamak State Hospital, Ankara, Türkiye

<sup>2</sup>Ankara Atatürk Sanatorium Education And Research Hospital, Ankara, Türkiye

## ABSTRACT

This study aims to identify the reasons why patients declined total knee arthroplasty (TKA) despite being advised to undergo the procedure in secondary-level public hospitals and to examine the relationship between these reasons and various demographic variables.

A descriptive, cross-sectional study was conducted in 2025. The study included 50 patients who had previously been offered total knee arthroplasty (TKA) in a secondary-level public hospital but had declined the procedure and subsequently presented to a tertiary-level university hospital. Structured face-to-face surveys were administered at the tertiary hospital. The questionnaire evaluated sociodemographic characteristics, prior health experiences, and reasons for refusing surgery in the public hospital.

The most frequently cited reason for refusing surgery was distrust in the physician's experience (60%), followed by concerns about hospital hygiene (58%), and staff inattentiveness (16%). Female patients more frequently cited "long waiting times" as a reason ( $p = 0.012$ ). Although statistical significance was not found for other reasons across education level, income, or occupation, subgroup analysis revealed that hygiene concerns and physician distrust were more prominent in low-income, low-education, and unemployed groups.

Patient decisions to refuse TKA in public hospitals are influenced not only by clinical concerns but also by perceptual and systemic factors. These findings can inform policies to improve patient-centered care in public healthcare institutions.

**Keywords:** Total Knee Arthroplasty; Public Hospitals; Surgery Refusal; Patient Preference

## Introduction

Knee osteoarthritis is the most common form of degenerative diseases of the knee joint and is a clinical picture that causes loss of function, limitation in activities of daily living and a decrease in quality of life, especially in the elderly age group. The disease is usually characterized by cartilage degeneration, osteophyte formation and subchondral bone changes (1). Total knee arthroplasty (TKA) is included in the treatment plan when conservative treatment methods are ineffective in the intermediate and advanced stages and its efficacy has been supported by numerous randomized controlled studies (2,3). Reduction in pain, improvement in joint function and a significant increase in overall quality of life have been reported after TKA (2). However, some of the patients who are evaluated as candidates for surgery

refuse the surgical procedure for various reasons. The factors affecting this situation are thought to be at individual, social and systemic levels (4).

Although public hospitals provide a significant portion of healthcare services in Turkey, patient preference for higher level healthcare institutions such as private hospitals or university hospitals is common, especially when it comes to surgical procedures. In the literature, factors such as long waiting times, concerns about hospital hygiene, inadequate communication with the physician, inadequate postoperative care conditions, and distrust of healthcare personnel stand out among the reasons behind surgical refusal in public hospitals (5,6). In addition, the one-to-one attention, short-term appointments and comfort-oriented service approach offered by private healthcare institutions have a positive effect on patient perception and this may directly affect the surgical decision-making

\*Corresponding Author: Mehmet Can Gezer, Mamak Public Hospital Department of Orthopaedics and Traumatology, Ankara, Turkey  
E-mail: mehmetcangezer9121@gmail.com, Phone: (+90-531) 4677029

ORCID ID: Mehmet Can Gezer: 0000-0001-7034-2522, Seyyid Şerif Ünsal: 0000-0002-2092-3422

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process (7). In some field studies conducted in Turkey, it has been reported that patient satisfaction levels are lower in public hospitals compared to private hospitals (8). These preferences are based not only on medical reasons but also on sociocultural and psychological factors (4).

The primary aim of this study was to analyze the decision mechanisms of patients who did not undergo this surgical procedure despite being offered total knee arthroplasty in secondary public hospitals and to systematically reveal the reasons for refusal. The primary aim of this study was to analyze the decision mechanisms of patients who did not undergo total knee arthroplasty in secondary state hospitals and to systematically reveal the reasons for refusal. Through a structured questionnaire for this patient group, both their past health experiences and health system preferences were questioned; in line with the findings obtained, the main factors affecting patient behavior were tried to be identified.

## Material and Method

This descriptive cross-sectional study was conducted in 2025. The study population consisted of patients who had previously been offered total knee arthroplasty (TKA) in a secondary-level public hospital but had declined surgery. These patients subsequently presented to the orthopedics and traumatology outpatient clinic of a tertiary-level university hospital, where data collection was performed.

Ethical approval was obtained from the University Medical Faculty Clinical Research Ethics Committee (decision dated 07/2025, number 2024-BÇEK/33). The study adhered to the principles of the Declaration of Helsinki. All participants were informed in detail about the purpose and scope of the study, and written informed consent was obtained. Personal data were anonymized and securely stored.

During 2025, 154 patients were diagnosed with advanced primary knee osteoarthritis (Kellgren-Lawrence stage 3–4) and received an indication for TKA at the secondary-level public hospital. Among these, 50 patients who declined surgery were included in the study. All eligible patients who declined surgery during the predefined study period were consecutively enrolled; therefore, no sampling procedure was applied.

### The inclusion criteria are:

1. Being 18 years of age or older,
2. Presence of advanced primary osteoarthritis of the knee (KL stage 3-4),

3. Having surgical indication for total knee arthroplasty,
4. Declaring that they do not want to have the recommended surgery at the public hospital,
5. Completed the questionnaire completely and meaningfully.

### Exclusion criteria:

1. Diagnosis of secondary knee osteoarthritis (e.g. rheumatoid arthritis, post-traumatic deformity, tumor, etc.),
2. Previous knee replacement or major knee surgery,
3. Not having an indication for TKA,
4. Not being able to participate in the survey due to cognitive impairment.

A total of 50 patients were included in the study. All of these patients refused surgery in the same center despite being offered knee replacement surgery in a public hospital. A structured questionnaire was administered to this group of patients to question the reasons for their decision to refuse. In addition, it was determined that 5 of these patients had undergone surgical procedures in the past in a public hospital for different reasons; however, they had no history of knee surgery. This was specifically noted in the analysis.

Data were collected through a structured questionnaire developed by the research team and adapted from similar studies in the literature (9,10). The questionnaires were administered to the patients face-to-face with one-to-one interviews and privacy principles were observed. The application period lasted an average of 10 minutes and the interviews were conducted by the same orthopedic specialist.

### The questionnaire consists of three main parts:

**1. Demographic and Clinical Information:** Age, gender, marital status, education level, occupation, monthly income, social security status, duration of knee pain and concomitant chronic diseases were questioned.

**2. Behavior and Reasons for Refusal of Surgery:** Patients were asked the question "Do you plan to have knee replacement surgery in a public hospital?" on a 5-point Likert-type scale (1: Definitely yes - 5: Definitely no); patients who scored 4 and 5 were classified as "refused surgery". In addition, the reasons for refusing surgery were asked as multiple choice, and patients were asked to give more than one reason. The options are

- Distrust of hygiene conditions
- Length of waiting time

- o Distrust of physician experience
- o Tendency to prefer private hospitals
- o Previous negative health experiences
- o Staff apathy
- o Other (open-ended statement)

**3. Retrospective Health Experience:** Patients were asked whether they had undergone any previous surgical procedure, and if so, the type of procedure and the type of hospital (public, university, private). The aim of this section was to analyze the effect of patients' past experiences on their current surgical preferences.

**Statistical Analysis:** The collected data were analyzed using SPSS version 25.0 (IBM Corp., Armonk, NY, USA). Continuous variables were assessed for normality using the Shapiro–Wilk test. Normally distributed variables were expressed as mean  $\pm$  standard deviation, while non-normally distributed variables were presented as median (minimum–maximum). Categorical variables were summarized as frequency and percentage.

Associations between categorical variables were evaluated using Pearson's chi-square test or Fisher's exact test when expected cell counts were less than five. The Mann–Whitney U test was used for comparisons of continuous variables between two independent groups due to non-normal distribution. All statistical tests were two-tailed, and a  $p$ -value  $< 0.05$  was considered statistically significant. This study was conducted using all eligible patients within the predefined study period; therefore, no a priori sample size calculation was performed.

## Results

A total of 50 patients were included in the study. The mean age of the participants was  $70.4 \pm 6.6$  years (55–84). Of the patients, 34 were female (68.0%) and 16 were male (32.0%). Regarding education level, 20 patients (40.0%) had primary school education or below, and 30 patients (60.0%) had secondary school education or above. Ten patients (20.0%) had a monthly income below 25,000 TL (Turkish Lira), while 40 patients (80.0%) had a monthly income of 25,000 TL or more. All patients had social security coverage. (Table 1).

Table 1: Demographic and Clinical Characteristics of the Study Population

To the question, “Do you plan to have knee replacement surgery in a public hospital?”, 22 patients (44.0%) responded “no” and 28 patients (56.0%) responded “absolutely not.” Therefore, all participants were considered to have refused surgery.

The reasons for refusal were assessed in a multiple-choice format. The most frequently reported reasons were lack of trust in physician experience (60.0%) and distrust in hospital hygiene (58.0%). The third most common reason was staff apathy (16.0%) (Table 2).

When the associations between refusal reasons and demographic variables were examined, “length of waiting time” was reported significantly more frequently by female patients ( $p = 0.012$ ). Apart from this, no statistically significant relationship was found between distrust in hospital hygiene, lack of trust in physician experience, staff apathy, preference for private hospitals, previous negative experiences, and gender, education level, income level, or social security (Table 3).

When age groups were analyzed, patients aged  $\geq 70$  years reported distrust in hospital hygiene significantly more frequently than younger patients ( $p = 0.001$ ).

Five patients (10.0%) reported a history of previous surgical intervention. All five selected distrust in hospital hygiene as a reason for refusal. Some of these patients also reported staff apathy and length of waiting time.

When evaluated according to education level, among patients with primary school education or below ( $n = 20$ ), the most frequently reported reason was lack of trust in physician experience (75.0%), followed by distrust in hospital hygiene (55.0%). Staff apathy was reported by 10.0% of patients in this group. Among patients with secondary school education or above ( $n = 30$ ), distrust in hospital hygiene (60.0%) and lack of trust in physician experience (50.0%) were the most common reasons, while staff apathy was reported by 20.0% of patients. No statistically significant difference was observed between education groups (Table 4).

In the income-based analysis, among patients with a monthly income below 25,000 TL ( $n = 10$ ), lack of trust in physician experience and distrust in hospital hygiene were each reported by 50.0% of patients. In the group with a monthly income of 25,000 TL or above ( $n = 40$ ), lack of trust in physician experience

**Table 1:** Demographic and Clinical Characteristics of the Study Population

	N(%)
Variable	n (%) or Mean $\pm$ SD
Age (years)	70.4 $\pm$ 6.6 (55–84)
Gender	
Female	34 (68.0%)
Male	16 (32.0%)
Education level	
Primary school and below	20 (40.0%)
Secondary school and above	30 (60.0%)
Monthly income	
<25,000 TL	10 (20.0%)
$\geq$ 25,000 TL	40 (80.0%)
Social security (SSI)	50 (100.0%)

Data are presented as number (%) unless otherwise indicated. Age is presented as mean  $\pm$  standard deviation (range). TL: Turkish Lira; SSI: Social Security Institution

**Table 2:** Reasons for Refusal of Surgery

	Number of Patients	Percentage (%)
Lack of confidence in the doctor's experience	30	60
Distrust of hospital hygiene	29	58.0
Staff apathy	8	16

Data are presented as number (%). Multiple responses were allowed

**Table 3:** Association Between Reasons for Refusal and Demographic Variables

Reason for Refusal	Gender (p-value)	Education (p-value)	Income (p-value)
Length of waiting time	0.012	0.380	0.934
Lack of trust in physician experience	1.000	1.000	1.000
Distrust in hospital hygiene	0.110	0.266	0.352
Staff apathy	0.180	0.910	0.446

Pearson chi-square test or Fisher's exact test was used as appropriate. Exact p-values are presented. Statistical significance was defined as  $p < 0.05$

**Table 4:** Reasons for Refusal of Surgery by Education, Income and Occupational Groups

	Primary school and below (n=20)	Secondary school and above (n=30)	<25,000 TL (n=10)	$\geq$ 25,000 TL (n=40)	Housewife (n=33)	Self-employed (n=7)	Unemployed (n=4)	Retired (n=6)
Lack of trust in physician experience	15 (75.0%)	15 (50.0%)	5 (50.0%)	25 (62.5%)	17(51.5%)	3 (42.9%)	4(100.0%)	6 (100.0%)
Distrust in hospital hygiene	11 (55.0%)	18 (60.0%)	5 (50.0%)	24 (60.0%)	20(60.6%)	1 (14.3%)	4(100.0%)	4 (66.7%)
Staff apathy	2 (10.0%)	6 (20.0%)	2 (20.0%)	6 (15.0%)	4 (12.1%)	4 (57.1%)	0 (0.0%)	0 (0.0%)

Data are presented as number (%). Due to small subgroup sample sizes, statistical comparisons were not performed TL: Turkish Lira

was reported by 62.5% and distrust in hospital hygiene by 60.0% of patients. Staff apathy was reported by 20.0% and 15.0% of patients in the lower- and higher-income groups, respectively. No statistically significant differences were observed between income groups (Table 4).

In the subgroup analysis based on occupational groups, distrust in hospital hygiene was most frequently reported among unemployed patients (100.0%) and retirees (66.7%), followed by housewives (60.6%). Lack of trust in physician experience was also reported by all unemployed and retired patients (100.0%). Staff apathy was most commonly reported among self-employed individuals (57.1%). Due to limited subgroup sample sizes, these findings are presented descriptively (Table 4).

Table 4: Reasons for Refusal of Surgery by Education, Income and Occupational Groups

## Discussion

In this study, the reasons for refusal of total knee arthroplasty (TKA) among patients who were offered surgery in a secondary public hospital were analyzed in detail. The findings indicate that the decision to avoid surgery in public hospitals is influenced not only by individual factors but also by perceptions related to institutional trust. In particular, distrust in physician experience (60.0%) and concerns regarding hospital hygiene (58.0%) were the most frequently reported reasons. These findings highlight the importance of patient confidence in both surgical expertise and hospital conditions when making decisions about major orthopedic procedures. This may affect not only patient satisfaction but also access to timely treatment and may lead to postponement of some surgeries. Since failure to perform interventions in orthopedic surgery in a timely manner may increase the risk of functional loss and complications, these data may contribute to the identification of areas for improvement that may have a direct impact on patients' health outcomes (11). However, environmental factors such as hospital conditions, support staff competence and lack of organization directly affect patient confidence, especially before major surgeries. This situation reveals that technical competence alone cannot guarantee patient acceptance in public hospitals and that a trust-based approach is mandatory.

The fact that female patients reported the length of waiting time as a reason more often than male patients ( $p = 0.012$ ) shows how gender roles are reflected in surgical decisions. Women's domestic responsibilities, the obligation to take care of individuals in need of care, and being under time

pressure due to their social roles direct them to alternative healthcare facilities that offer a faster recovery process (12). This is not only a sociological observation but also a

practical barrier that directly affects surgical participation. Indeed, similar trends have also been identified in studies evaluating patient expectations before TKA (13).

In subgroup analyses, the similar frequency of "surgeon experience" and "hygiene" reasons regardless of education and income level indicates that lack of trust is not only a socioeconomic issue but also a systemic problem. This finding suggests that structural deficiencies such as rotation practices, frequent physician changes and inadequate preoperative counseling processes in public hospitals fail in the process of building patient trust (14). In the literature, it is emphasized that the most important factor affecting patients' preference for surgeons is the experience of the physician and his/her communication with the patient (15-17).

The fact that hygiene and specialty concerns are prominent in individuals with higher income levels reflects the tendency of patient profiles with higher expectation levels to move away from public services in secondary care hospitals, while the similar or even more intense level of these concerns in unemployed and retired patients indicates a general distrust of the public system. Although these patient groups have limited access to private healthcare services, their tendency to postpone surgery or seek alternatives leads to a patient picture with low compliance with treatment. In a study, it was reported that low-income patients rejected TKA recommendation more frequently and the basis of this rejection was distrust in the healthcare system (9).

"Staff indifference", which is one of the reasons for refusal of surgery, points to the interaction between the patient and the care environment, not directly to the patient-physician relationship. In the literature, the effect of the behaviors of nurses and support staff on the patient decision process has long been known (18,19). This factor was underreported in our study. However, it should be kept in mind that past experiences may leave lasting effects on patient attitudes.

Our results suggest that surgical services in public hospitals should be redesigned with an approach based not only on technical competence but also on patient trust, predictability and communication. In major interventions such as TKA, establishing a trust-based, continuous relationship between the patient and the surgeon will increase surgical acceptance rates. In this context, supportive practices such as fixed

surgeon practices, preoperative counseling sessions and patient information materials should be systematized.

This study has several limitations. It was conducted at a single center with a relatively small sample size. As data were collected through a questionnaire, responses may be subject to recall or social desirability bias. Potential selection bias should also be considered, as all included patients presented to a tertiary-level university hospital after declining surgery in a secondary-level public hospital. The questionnaire used in this study did not undergo formal psychometric validation, which may limit the reliability of the findings. No a priori sample size calculation was performed, as all eligible patients within the study period were included. Therefore, the generalizability of the findings may be limited.

This study evaluated the reasons why patients declined TKA in public hospitals. The findings indicate that refusal was largely associated with distrust in physician experience and concerns about hospital hygiene rather than purely individual preferences. These results suggest that patient trust and communication play a critical role in surgical decision-making. Strengthening transparency, continuity of care, and patient-centered communication in public hospitals may improve acceptance of recommended surgical treatment.

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