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Patient Expectations and Satisfaction With Foot and Ankle Surgery in Saudi Arabia: A Retrospective Cohort Study

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ABSTRACT

The success of surgery is associated not only with the quality of the procedure but also with the degree to which it meets the patient's expectations. Limited data are available on patient expectations related to foot and ankle surgery in Saudi Arabia. Our study assessed the preoperative expectations and postoperative satisfaction of patients who had undergone foot and ankle surgery at 1 hospital in Saudi Arabia. A survey-based, retrospective cohort study was conducted among patients who had undergone elective foot or ankle surgery at King Abdul-Aziz Medical City, Riyadh, from January 2010 to December 2015. The participants, who were randomly selected, were interviewed by telephone in April 2016. The average interval between the surgery and the telephone interview was 1 year. We performed stepwise multiple logistic regression analysis to assess the predictors of patient satisfaction with surgery. A total of 383 participants were interviewed (51.7% male). The sample included participants with a wide age range. Most participants had undergone surgery because of pain (74.9%) or movement difficulties (37.1%); only 9.4% had undergone surgery for cosmetic reasons. Most (80%) of the participants reported they were satisfied with the surgical results. Young age, bilateral surgery, efficient pain control, and fulfilled expectations had the greatest positive effects on satisfaction. The findings of the present study will help improve our understanding of the expectations of patients who undergo elective foot and ankle surgery in Saudi Arabia. Additionally, our results can give orthopedic surgeons insight into patients' ideas and concerns regarding their surgery, which might ultimately improve communication between surgeons and patients.

To improve patient satisfaction and avoid the reactions of anger or disappointment after any surgery, the patient expectations should be thoroughly understood (1,2). Patient satisfaction reduces the risk of malpractice claims and contributes to the efficiency of hospitals and healthcare professionals (3). In contrast, unmet patient expectations can result in poor compliance, loss of follow-up, and termination of the patient–doctor relationship (4).

Patient expectations were an independent factor affecting the functional outcome of total joint replacement surgery (5). In another study, patients expecting improvement in essential activities after surgery had a greater satisfaction rate than patients expecting improvement in nonessential activities (6). Wilkinson and Maher (7) conducted a study of a cohort of patients who underwent foot surgery in Doncaster, UK, and found that decreased pain was the dominant expectation, followed by improved mobility, and improved shoe fit. A few patients expected cosmetic improvement (7). Ankle and foot surgeries include ankle, hindfoot, midfoot, and forefoot procedures. One of the most common is hallux valgus surgery (8). From 25% to 33% of patients who have undergone hallux valgus corrective surgery remain dissatisfied at follow-up examinations, indicating that their expectations were not assessed and addressed (9).

Little is known about patient expectations related to foot surgery, especially in Saudi Arabia. To the best of our knowledge, the present study is the first to address questions regarding the expectations of patients undergoing elective foot and ankle surgery and whether the

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surgery was successful in meeting those expectations. Also, we sought to determine which characteristics affect patient satisfaction after foot and ankle surgery.

Patients and Methods

Study Setting and Participants

The present cross-sectional study was conducted at King Abdul-Aziz Medical City (KAMC), in Riyadh, Saudi Arabia. The orthopedic surgery department at KAMC is one of the largest in the Middle East. Approximately 3000 patients—children and adults—visit the foot and ankle clinic each year to be diagnosed and treated for disorders of the bones, ligaments, muscles, and nerves.

We investigated the expectations of, and satisfaction with, foot and ankle surgery in Saudi patients of both sexes who had undergone elective foot and ankle surgery at KAMC from January 2010 through December 2015.

Questionnaire and Sampling Technique

Owing to the paucity of studies in this area in Saudi Arabia, we used the Patient Satisfaction Questionnaire (PSQ-10), a component of the Podiatric Audit of Surgery and Clinical Outcome Measures (10). The questionnaire is composed of 3 sections. The first section, which was not included in the original PSQ-10, mainly requests demographic information. The questions in the second section focus on patient expectations, and the questions in the third section focus on satisfaction with foot and ankle surgery.

PSQ-10 is a questionnaire that allows one to assess both patient expectations and satisfaction at the same time. The questionnaire includes 10 to 14 questions. In question 1, patients are requested to state their expectations. Questions 2 to 4 are about complications and problems after surgery and whether these were explained to the patients. Questions 5 to 7 are about postoperative discomfort and pain control. Questions 8 to 10 address patient satisfaction with the operation, and whether patients believe their expectations were met. Taylor et al (11) measured PSQ-10 test–retest reliability and found satisfactory consistency. However, to date, the intrarater and interrater reliability, ceiling and basement effects, recall biases, and all the potential shortcomings associated with questionnaire development have not been tested. Although the PSQ-10 is one of most popular tools among surgeons in the United Kingdom, the developers failed to conceptualize patient satisfaction using a patient focus group before development (7).

The questionnaire was translated into Arabic and piloted in a convenience sample of 50 patients who had visited the foot and ankle clinic in March 2016. Feedback was requested concerning the wording of the questions, how long it required to complete, and whether any of the questions seemed overly intrusive. The language was then modified accordingly.

Simple random sampling was used to select the patients for the present study. Random sampling was performed using an electronically engendered list of medical record numbers of all eligible patients who had met the inclusion and exclusion criteria and had undergone elective foot and/or ankle surgery at the hospital from January 2010 through December 2015. The participants were randomly selected from the list using electronic data spreadsheet software (Excel 2016 for Mac, Microsoft, Redmond, WA).

Adult Saudi patients, both male and female, who had undergone elective foot and/or ankle surgery from January 2010 through December 2015, were eligible for the present study. Patients with mental or physical disabilities that impeded their ability to complete a telephone interview were excluded from the present study. After patients' eligibility for the study had been confirmed, the questionnaire was completed by interviewing the participants by telephone. Three interviewers were involved. All 3 used the same wording when asking the questions. To prevent nonresponse bias, a set of measures was implemented, including proper selection and training of the interviewers, and 9 attempts at different periods of the day in the case of failure to reach a patient by telephone. The average duration between the surgery and the telephone call was 1 year. To minimize recall bias, we verified the respondents' answers by reviewing their medical records. Only 32 participants had undergone surgery before December 2013. Each day, 30 participants who met the eligibility criteria were selected randomly, and their information was added to the data set. This systematic approach was maintained until the intended sample size had been reached.

Sample Size

The confidence level and margin of error were 95% and 5%, respectively. Likewise, the estimated sample size that would indicate the surgery was successful in meeting patient expectations was 50%, which always gives the largest sample size. The sample size calculated to meet these criteria was 384 participants. The sample size was calculated using OpenEpi, version 3, an open source calculator.

Data Management and Statistical Analysis

Data management and statistical analyses were performed using the Statistical Package for Social Sciences (SPSS), version 22 (IBM Corp., Armonk, NY). Descriptive statistics were obtained by reporting the frequencies and percentages for the categorical variables. The chi-square test was used to compare groups. Stepwise logistic regression analysis was performed to identify the predictors of patient satisfaction, adjusting for predictors found to be statistically significant or known to be theoretically important and associated with satisfaction from the published data. The odds ratios (ORs) and 95% confidence intervals (CIs) were also calculated. Differences were considered significant at $p < .05$.

Ethical Considerations

The institutional review board at the King Abdullah International Medical Research Center, National Guard Health Affairs, Riyadh, Saudi Arabia, approved the present study. Participants provided verbal informed consent at the beginning of the telephone interview. Participants were informed of their right to withdraw from the study at any stage or to have their data excluded from the analysis, and they could interrupt the interview at any time. The interviews were not recorded, and the participants did not receive compensation of any kind.

Results

Baseline Characteristics

A total of 384 participants responded to the questionnaire. The number of participants who were contacted but did not complete the interview was only 3. The participation of male and female patients (198 [51.6%] males, 186 [48.4%] females) was almost equal. Of the 384 participants, 213 (55.6%) were married. Most (57.7%) of the participants were living in the central region of Saudi Arabia. The study included patients with a wide age range (range 18 to 67 years); however, the largest age group (122 participants; 31.9%) was aged 31 to 40 years.

With respect to formal educational status, 191 respondents (49.9%) had a secondary school certificate or less. The type of surgery varied