Original Article

Patient satisfaction following Total Knee Arthroplasty; an increasingly significant outcome measure

Hira Arshad, Ubaid Ullah Akbar, Hafiz Muhammad Asim

Lahore College of Physical therapy, LM & DC Lahore, Pakistan

Objective: To evaluate the frequency, antibiotic resistance, toxigenicity of Methicillin-resistant Staphylococcus aureus (MRSA) in food chain workers at our institution.

Methodology: A total of 160 nasal swabs were collected from food chain workers in Al-karak district in the south Jordan. MRSA and its toxigenicity were detected using cultural and molecular methods. Antibiotic susceptibility was determined by the disc diffusion method.

Results: The frequency of MRSA was 18.7% (n=30). There was a significant difference for nasal carriage of MRSA by *recent* hospitalization workers (p=0.008) or having a family member who was a healthcare worker (p=0.001). Isolates were highly resistant to fusidic acid (33%) followed by rifampicin (17%) and gentamicin (7%). All MRSA isolates were resistant to Cefoxitin. Among *S. aureus* enterotoxins, *SEA* was the most commonly reported enterotoxin gene from the isolates, followed by *SEH*, *SED, SEC, SEE, and SEJ,* respectively.

Conclusion: Food handlers were a potential source for MRSA infection and food poisoning out breaks might be attributed to the carriage of the toxigenic MRSA strains. More hygienic restrictions and infection prevention plan must be applied in food industry to ensure the good food handling and storage. (Rawal Med J 202;45:363-366).

Keywords: Staphylococcus aureus, MRSA, antibiotic resistance, Staphylococcal Enterotoxins, Food poisoning.

INTRODUCTION

Total Knee Arthroplasty (TKA) is one of the most successful and effective surgical intervention for the reduction of pain and functional improvement in patients with advanced arthritis. Prevalence of TKA among females (4.8%) is higher as compared to males (3.4%).[1] Patient satisfaction is considered to be the optimum outcome of all orthopedic procedures.[2] Factors affecting the outcome of TKA are obesity, unrealistic expectations for joint function or complete pain relief immediately following surgical procedure. Obesity (body mass index of 30 kg/m^2 or above) is one of important patient-related factor that can affect the expected outcome of TKA.[3]

Patient satisfaction following TKA plays an essential role in the development of treatment strategies.[4] Some studies suggest that obese patients are equally satisfied with their knee arthroplasty as non-obese patients.[5,6] Others have reported that obese patients presents with greater risks of complications and reduced satisfaction and the revision TKA is more common in obese patients.[7] Insufficient data is currently available on the satisfaction of patients after TKA and impact of obesity on this procedure in Pakistan. The aim of this study was ascertain patient satisfaction after TKA in obese females.

METHODOLOGY

This descriptive study was conducted at Ghurki Trust Teaching Hospital (GTTH), Lahore on 51 female patients aged between 35-55 years using non-probability convenience sampling technique from August 2018 to January 2019. Sample size was calculated by using WHO software with 4.8% prevalence.[1] Baseline demographic data of age, gender, BMI and date of surgery were collected from patient. Patients were selected on the basis of gender and high BMI i.e. more than 30 kg /m^2. Patients with BMI more than 40 kg/m^2 (morbidly obese) and patients with revision TKR were excluded from the study. An Informed consent was obtained from all patients.

Self-Administered Patient Satisfaction (SAPS) questionnaire was used including four questions

based on four items, patients' overall satisfaction with surgery, the extent of pain relief, the ability to perform home or yard work and the ability to perform recreational activities. Items were scored on a 4-point Likert scale with response categories consisting of very satisfied (100 points), somewhat satisfied (75 points), somewhat dissatisfied (50 points), and very dissatisfied (25 points). Patients were asked to grade their level of satisfaction for each question (i.e., very dissatisfied, somewhat dissatisfied, somewhat satisfied or very satisfied).

Statistical Analysis: The data were analyzed using SPSS version 21 software. The study variables are presented in the form of descriptive statistics.

RESULTS

The study population comprised of 51 female patients with the mean age of 43±2.6 years. Among them, 37(72.5%) were in Obesity Class I and 14(27.5%) were in Obesity Class II category of BMI. For overall satisfaction, 43(84.3%) were very satisfied, 5(9.8%) were somewhat satisfied, 2(3.9%) were somewhat dissatisfied and 1(2%) were very dissatisfied with their surgery.

Table . Patients' Responses to Questionnaire.

Question	Category	Number	%
How satisfied are you with the results of your surgery?	Very Satisfied	43	84.3%
	Somewhat Satisfied	5	9.8%
	Somewhat dissatisfied	2	3.9%
	Very dissatisfied	1	2%
How satisfied are you with the results of your surgery for improving your pain?	Very Satisfied	42	82.4%
	Somewhat Satisfied	5	9.8%
	Somewhat dissatisfied	2	3.9%
	Very dissatisfied	2	3.9%
How satisfied are you with the results of surgery for improving your ability to do home or yard work?	Very Satisfied	33	65.7%
	Somewhat Satisfied	10	19.6%
	Somewhat dissatisfied	6	11.8%
	Very dissatisfied	2	3.9%
How satisfied are you with the results of surgery for improving your ability to do home or yard work?	Very Satisfied	27	52.9%
	Somewhat Satisfied	18	35.3%
	Somewhat dissatisfied	4	7.8%
	Very dissatisfied	2	3.9%

The satisfaction rate was quite similar for improving pain. However, for improving their ability to do home or yard work, the patients' satisfaction rate was comparatively low (65.7%), while nearly half of the patients i.e. 27 (52.9%) were very satisfied with the results of surgery for improving their ability to do recreational activities (Table).

DISCUSSION

Patient satisfaction is becoming increasingly important in defining a successful outcome of surgical interventions.[8] This study has demonstrated that most of the female patients were satisfied six months after TKA, irrespective of their obesity and only a smaller percentage of obese patients were dissatisfied. Stickles et al concluded that obese TKA patients were just as satisfied and happy with their outcome as non-obese and obese patients with nearly same functional improvement.[9] Another study concluded that obesity did not influence survival, radiographical results and patient reported outcomes following TKA.[5]

The evaluation of TKA outcomes has advanced from focusing mainly on clinical outcomes, to

patient reported measures and patient satisfaction. It has been anticipated that 9 to 30% of patients may be dissatisfied following TKA and hence a better understanding of the determinants of patient satisfaction may aid in the improvement of subjective outcomes.[10] In our study, the SAPS scale was used and this short four-item satisfaction scale is a highly valid and reliable tool for measuring satisfaction with the outcome of TKA.

Our findings are similar to a previous report, where improvement in pain was more consistently achieved than function with TKA.[11] In our study, nearly 83% of patients were very satisfied with pain relief, but only 53% were very satisfied with their ability to perform leisure activities following TKA. Possible explanations for this may be poor health, fear of movement, un-fulfilled preoperative expectations, fear of falling or social dealings the relationship between patient and surgeon, incision length or lack of participation in the rehabilitation programs. However, patients' response to overall satisfaction was high in majority of the patients.[12]

We used Short Administered Patient Satisfaction Questionnaire (SAPS) that is specifically designed patient reported outcome measure (PROM) for patients with TKA and Total Hip Arthroplasty.[11] Choi et al suggested that patient satisfaction can be assessed through determinants and components of satisfaction.[2] The former are all of the patient-reported factors while the latter can be explained as all of the surgeon related factors. SAPS focused primarily on determinants of satisfaction related with patients' subjective response. Moreover, extensive discussion and explanation prior to surgery might lessen patient dissatisfaction after TKA.[2]

Though obesity may be considered as a risk factor for complications following TKA, data remain scarce on the influence of obesity on patient reported outcome following this procedure.[13] Current study efforts to fill the gap and provide data regarding this significant patient reported outcome and suggests TKA in obese patients a successful surgical procedure in terms of satisfaction.

CONCLUSION

Most obese female patients were satisfied with their surgery irrespective of their high BMI. However, their satisfaction response in ability to perform leisure activities and doing home or yard work following TKA was comparatively low.

Author contributions:
Conception and design: Hira Arshad, Ubaid Ullah Akbar
Collection and assembly of data: Hira Arshad
Analysis and interpretation of the data: Hira Arshad
Drafting of the article: Hira Arshad
Critical revision of the article for important intellectual content: Hira Arshad, Ubaid Ullah Akbar
Statistical expertise: Hira Arshad, Ubaid Ullah Akbar
Final approval and guarantor of the article: Hafiz Muhammad Asim
Corresponding author email: Dr. Hira Arshad: hiraarshad450@gmail.com
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