

## Assessment of Community Knowledge toward Joint Replacement Therapy in Jeddah City

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### ABSTRACT

**Background:** the joint replacement surgery is a great advance in the orthopedic medicine with a long life promise of knee or hip reconstructive surgery which may exceeds 20 years old.

**Objectives:** this study aimed to evaluate the knowledge of community Saudi adults regarding the joint replacement surgery in Jeddah City, Saudi Arabia (KSA), 2017.

**Methods:** this was across sectional community based survey and it was conducted from May to August 2017 in Jeddah city among 670 adult Saudi subjects who were interviewed at shopping malls and community pharmacies. All the respondents answered a self-administrated questionnaire that considered the knowledge of respondents toward joint replacement therapy.

**Results:** all the subjects heard before the term joint replacement therapy and the major source of information was from friends and relatives. Only nine subjects (1.3%) have undergone hip or knee replacement surgery. The level of awareness about joint replacement surgery was adequate in only 30.9% of subjects and insufficient among 69.1% of subjects. The higher level of awareness was significantly associated with old age. **Conclusion:** the level of awareness was inadequate among most of Saudi participants about the causes and effects of the joint replacement surgery. There is urgent need for public education about the joint replacement surgery to address the concerns and advantages of the surgery through media, internet and health educational campaigns.

**Keywords:** knowledge, joint replacement surgery, Jeddah, 2017

### INTRODUCTION

The joint replacement surgery is a great advance in the orthopedic medicine during the last five decades. The long life of knee or hip reconstructive surgery may exceeds 20 years old<sup>(4)</sup>. The complications of some surgeries were associated with complications related to wear, infection, chronic pain, improper implantation and stiffness. Also, the rates of replacements are dramatically increasing even among young<sup>(2-4)</sup>.

Osteoarthritis and rheumatoid arthritis are rated as the most common complication among elderly that would result in physical disability and higher rates of joint replacement<sup>(5)</sup>. The surgery had resulted in higher success rates in about 90%, relieving the pain and improving the function of osteoarthritis patients<sup>(6,7)</sup>. In Kingdom of Saudi Arabia, the number of replacement surgeries is low in comparison with Western Countries. Also, no national, long term studies or regional studies were found in the literature regarding the outcomes, personal characteristics and quality of life after joint replacement surgery. Some few studies in KSA were conducted to assess the rates of knee replacement surgery<sup>(8,9)</sup>; only one study

surveyed the complications and quality of life in Jeddah City<sup>(10)</sup>, while another study assessed the patient's attitude toward the surgery<sup>(11)</sup>.

The knowledge and understanding of the causes and biological aspects concerning the joint replacement therapy are important factors for improving the pain and physical activity<sup>(12)</sup>.

### AIM OF THE STUDY

This study aimed to evaluate the knowledge of community Saudi adults regarding the joint replacement surgery in Jeddah City, Saudi Arabia (KSA), 2017.

### METHODS

#### Study design

This was a Cross-sectional community based survey that was conducted from May to August 2017 in Jeddah city.

#### Study population and sample size:

A total of 670 adult subjects were included in this study after taking into consideration the number of adult population in Jeddah City using the web calculator with 5% error margin and 95% confidence interval<sup>(13)</sup>. The enrolled subjects

were interviewed in shopping malls and community pharmacies.

#### Study tools

All the respondents answered a self-administrated questionnaire that was consisted of three parts. The first part considered the demographics of the participants. The second part was consisted of 3 questions related to the general knowledge about the surgery and the source of their information. The third part assessed the knowledge of the respondents about the causes and types and outcomes of the joint replacement surgery. Each participant was interviewed separately for half an hour to complete the questionnaire. Incomplete data or questionnaires were excluded from the study.

#### Ethical approval

An ethical approval was obtained from the Faculty of Medicine, Imam Mohammed Ibn Saud

Islamic University and ethical approval was given by all the participants enrolled in this study.

#### Statistical analysis

The data were processed using the SPSS version 22 for windows. Then the results were tabulated as numbers and percentages. Chi-square was used for assessment of the relation between the knowledge level and the demographics of participants.

## RESULTS

### Demographics of the studied subjects:

The age of the respondents ranged from 20-59 years old with a range of 44 years. More than half of the subjects were females (57.8%) and 42.2% were males. Also, most of the participants (58.3%) had a bachelor degree, 24.8% had secondary school and 16.9% went to primary school. About 61.2% of subjects were working, while 38.8% were retired or jobless (**Table 1**).

**Table 1: demographics of included subjects (670)**

	Mean $\pm$ SD	Range
Age (years)	44 $\pm$ 10.8	20-59
	No.	Percentage (%)
<b>Gender</b>		
Female	387	57.8%
Male	283	42.2%
<b>Educational Level</b>		
College	391	58.3%
Secondary School	166	24.8%
Primary School	113	16.9%
<b>Working status</b>		
Employee	410	61.2%
Jobless or retired	260	38.8%

### General knowledge

The general knowledge of enrolled participants about joint replacement surgery is shown in **table 2**. All the subjects heard before the term joint replacement therapy. The major source of their information was taken from friends and relatives in 71.2% of subjects, while 15.1% gained knowledge from internet, 11.6% from physician and 2.1% from TV. Only nine subjects (1.3%) had undergone hip or knee replacement surgery.

**Table 2: general knowledge of respondents (670)**

	No.	Percentage (%)
<b>Have you ever heard about joint replacement therapy</b>		
Yes	670	35
No	---	65
<b>What is the source of your knowledge?</b>		
Physician	78	11.6
Friends and relatives	477	71.2
TV	14	2.1
Internet	101	15.1
<b>Have you ever undergone a hip or knee replacement surgery before?</b>		
Yes	9	1.3
No	661	98.7

**Assessment of knowledge of the participants:**

The awareness about joint replacement surgery showed an inadequate knowledge among most of the respondents (65.2%) regarding the effects of osteoarthritis as well as rheumatoid arthritis. Also, more than half of the respondents were not sure about the aim of the surgery to improve the mobility (52.4%) and 56.9% did not know that the surgery will help patients to relief

pain and improve the motion. About 71.9% of subjects did not know that the surgery could help patients with limb deformities. On the other hand, 71% of subjects knew that the surgery is useful for increasing the ability of patients to do normal activities without pain. Only 14.8% of subjects had good knowledge about the blood clots as the most common complication of the surgery (**Table3**).

**Table 3: awareness regarding the joint replacement surgery**

	Correct	Incorrect
1- Osteoarthritis and rheumatoid arthritis are common causes for high rates of joint replacement therapy.	233 (34.8%)	437 (65.2%)
2- The aim of surgery is to provide longevity physical activity and improve the mobility	319 (47.6%)	351 (52.4%)
3- The surgery will help to relieve the pain and improve the motion	289 (43.1%)	381 (56.9%)
4- The surgery could be used for patients with limb deformity	188 (28.1%)	482 (71.9%)
5- The most useful benefit of hip or knee replacement surgery is the ability to do normal activities without pain	476 (71%)	194 (29%)
6- The most common complication of the surgery is blood clots	99 (14.8%)	571 (85.2%)

**Level of knowledge among respondents:**

The level of awareness about joint replacement surgery was adequate in only 30.9% of subjects and insufficient knowledge was found among 69.1% of subjects (**Table 4**).

**Table 4: level of knowledge regarding the joint replacement surgery:**

Knowledge level	Frequency	Percent (%)
Good	207	30.9
Poor	463	69.1
Total	670	100,0

**The relation between respondent’s awareness of joint replacement surgery and demographics:**

The higher level of awareness was significantly associated with old age. Neither gender, educational level nor working status showed association with the level of knowledge (**Table 5**).

**Table 5: association between knowledge of the diabetic foot complications and demographics of included participants:**

	Good (n=207)		Poor (n=463)		P-value
	No.	%	No.	%	
<b>Age</b>					0.01
20-40	74	35.7%	255	55.1%	
40-60	133	64.3%	208	44.9%	
<b>Gender</b>					0.511
Female	120	58%	267	57.7%	
Male	87	42%	196	42.3%	
<b>Educational Level</b>					0.21
College	119	57.5%	272	58.7%	
Secondary School	50	24.2%	116	25.1%	
Primary School	38	23%	75	16.2%	
<b>Working status</b>					0.17
Employee	129	62.3%	281	60.7%	
Jobless	78	37.7%	182	39.3%	

## DISCUSSION

This study was the first study in KSA that issued the knowledge about joint replacement therapy. In Saudi Arabia, the prevalence of joint replacement therapy is still low than western countries and thus the level of knowledge may be inadequate among most of Saudi subjects. The level of knowledge about the advantages and outcomes of the surgery was found to be high among patients in Hong Kong<sup>(14)</sup>.

All of the participants heard before about the joint replacement surgery and the most common source of information was from friends and relatives indicating low prevalence of educational campaigns about the surgery. The prevalence of the surgery was found among 1.3% of the subjects that showed a low prevalence of the surgery in KSA which is less than other western countries. Also, over than one million of the joint replacement surgeries were conducted in United States (US)<sup>(5)</sup>. In addition, the rates of the surgery were increasing among adults and young and this may be to increase the average lifespan and minimizing the pain<sup>(15-17)</sup>.

The level of knowledge was significantly associated with age as the older the age, the higher rates of good knowledge. These results were attributed to that the older subjects may suffer from osteoporosis, hip and knee pain.

The present study had some limitations including that more items must have been screened about the knowledge also the study must be conducted among patients who were decided to undergo hip or knee replacement surgery.

## CONCLUSION

The level of awareness was inadequate among most of Saudi participants about the causes and effects of the joint replacement surgery. There is urgent need for public education about the joint replacement surgery to address the concerns and advantages of the surgery through media, internet and health educational campaigns.

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