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Knowledge and awareness about osteoarthritis and joint replacement surgery among the adult population above 18 years old in Tabuk city

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ABSTRACT— It has been noticed in orthopedic clinics here in Tabuk that many elderly people refuse to do joint replacement surgery when they need it because of some miss beliefs. Assessing the knowledge and concepts about risk factors will decrease the incidence of Osteoarthritis among the population above 18 years old in Tabuk city in the Kingdom of Saudi Arabia (KSA). A cross-sectional study that was based on a survey analysis among the adult population above 18 years old in Tabuk city, Saudi Arabia. Most of the subjects agree or strongly agree (42.6%) that they have a high probability of getting osteoarthritis. The majority of respondents gain their knowledge from the internet and media while only 34% gain their knowledge from friends and public information. Most of the subjects have good knowledge about the loss of movement during OA, complications, pain, disabilities, and economic costs. The majority had good knowledge about the treatment of choice for OA. Sufficient knowledge was found among the subjects regarding the surgery and its outcomes while only 19.8% thought that joint replacement may disable OA patients. Most of the subjects have positive knowledge about the importance of trying to DX early, doing routine medical checks, and respecting the doctor's advice. The level of knowledge about OA and joint replacement surgery was adequate among the majority of subjects. Also, most Saudi participants had a good understanding of the benefits and outcomes of joint replacement surgery for improving their mobility.

KEYWORDS: Knowledge, awareness, osteoarthritis, joint replacement surgery, Tabuk City, KSA

1. INTRODUCTION

Osteoarthritis (OA) is a chronic disease with long-term duration and is categorized by the cartilage weakening in joints causing stiffness of bones, pain, and reduced movement [1]. The medical and treatment costs of OA in the US exceeded $65 billion per year [2]. The complications of OA are very common and increase the burden of management costs on the governmental authorities [3].

OA could result in ligaments, muscles, and menisci damage. The cartilage and bone fragments could drift to the joint space resulting in pain and irritation during movement. Also, it affects all the body joints including the hands, spine, and feet. Shoulder and hip. The worldwide estimated prevalence of OA is 10%-15% among adults over 60 years old [4]. The most common type and Saudi subjects are Radiographic knees OA as about 53.3% of males and 60.9% of females suffering from OA were diagnosed with OA of the knee joint [5]. Also, another study conducted at a Primary Health Care Centre in the Eastern Province of Saudi

Arabia for 18 months showed that the majority of included subjects had knee OA when compared to those having a hip with a ratio of the hip to knee was 1:80 [4].

The pain resulting from OA is the main cause among workers which could impair work activity and decrease the quality of life for the working population. It also can result in increasing the usage of health care resources and costs of management [6].

It has been noticed in orthopedic clinics here in Tabuk that many elderly people refuse to do joint replacement surgery when they need it because of some miss beliefs. The present study aimed at assessing the knowledge and concepts about risk factors that will decrease the incidence of Osteoarthritis among the population above 18 years old in Tabuk city.

2. Methods

2.1 Study design and setting

It is a cross-sectional study that was based on a survey analysis among the adult population above 18 years old in Tabuk city, Saudi Arabia. This survey analysis was done in 4 malls in Tabuk city (Almakan Mall, Alhokair Mall, Alsanabel Mall, and Alraqi Mall.

2.2 Study population and sample size

A convenience sample of adult males and females population above 18 years old in Tabuk city. The sample size was calculated based on this equation (n=Z2PQ/d2) taking the total size 796425 [7], confidence level (95%), and margin error (5%) to be 364. An additional 10% was added to cover the missing data. The total sample obtained was 400 [8].

2.3 Study tools

The pre-formed self-administered questionnaire requires information about osteoarthritis. The questionnaire was designed after reviewing the available studies on medical research engines. The study's independent factors are the level of knowledge about osteoarthritis, and missed beliefs about joint replacement surgery.

2.4 Ethical approval

Ethical approval for the study was obtained from the Committee of Scientific research in the College of Medicine and the ethical committee of scientific research at the University of Tabuk. Questionnaires were kept anonymous to ensure privacy. The guidelines of the Helsinki declaration of ethics in the conduction of research (1988) were followed.

2.5 Statistical analysis

Data will be analyzed using the IBM SPSS statistical software (version 20; SPSS Inc., Chicago, IL, USA). Descriptive and comparative statistics with appropriate tests will be done to highlight the results.

3. Results

3.1 Demographics of the studied subjects

The demographics of the included females are presented in Table. 1. Most of the included subjects (41.5%) were aged 18-25 years old. Also, the majority of respondents were females (65.3%) and 50.8% had a college degree. As for employment, 45.5% were unemployed, and 35.5% were employed. Most of the subjects were living in urban regions (92.5%) while only 7.5% were living in rural areas.

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Table (1): Demographic of included subjects (400)

Character	Frequency
Age group	
18-25	166 (41.5%)
26-35	89 (22.3%)
36-55	75 (18.8%)
>50	70 (17.5%)
Sex	
Male	139 (34.8%)
Female	261 (65.3%)
Marital status	
Single	209 (52.3%)
Married	161 (40.3%)
widowed	30 (7.5%)
Educational level	
Primary	33 (8.3%)
Secondary	141 (35.3%)
University	203 (50.8%)
Postgraduate	23 (5.8%)
Job	
Unemployed	182 (45.5%)
Housewife	51 (12.8%)
Employee	142 (35.5%)
Retired	25 (6.3%)
Residency area	
Urban	370 (92.5%)
Rural	30 (7.5%)
Total number	400 (100%)

3.2 Assessment of knowledge of included subjects

Table. 2 indicated the level of knowledge of the subjects toward OA. Most of the subjects agree or strongly agree (42.6%) that they have a high probability of getting osteoarthritis. About 71.3% of the subjects are scared of the idea of getting OA. 43.3% of the subjects have good knowledge about the loss of movement during OA. The majority of respondents gain their knowledge from the internet and media while only 34% gain their knowledge from friends and public information.

As for the high economic costs of OA, more than half of the respondents agree and strongly agree that it has a high burden on the economic status (56.8%). Also, 75.8% 65.6% and 81.8% agree and strongly agree that the OA pain, deformity, and disability are scary, respectively.

About 81.3% of subjects thought that exercise could improve pain while only 25% agreed or strongly agreed that prolonged analgesics are safe. As for the treatment, only 34.6% agree or strongly agreed that the treatment of OA is medical and not surgical while the majority thought that OA needs surgery 40.1% and about 28.5% of the subjects agreed that all patients will require surgery at the end. Their knowledge of the surgical treatment, only 24.3% have good knowledge about the surgical treatment and 52.6% of the subjects thought that joint replacement is the treatment of choice for OA.

About 36.8% of subjects thought that most joint replacement patients are satisfied while the majority 47.8%

were neutral. But 40.8% of subjects thought that after joint replacement surgery, the patient returned to normal activities while only 19.8% thought that joint replacement may disable the OA patients.

As for the complications after the joint replacement surgery, 36% of subjects thought that it had no complications and don't cause disability while 47% were neutral and 17% agreed about the complications. 27.6% of the subjects thought that they have good information about the outcome & complications of joint replacement and 78.8% of subjects always look for new health information.

Most of the subjects have positive knowledge about the importance of trying to DX early, doing routine medical checks, and respecting the doctor's advice.

Table (2): Awareness regarding the OA:

Character	Frequency
High chance to get OA	
strongly disagree	39 (9.8%)
disagree	91 (22.8%)
neutral	100 (25%)
agree	129 (32.3%)
strongly agree	41 (10.3%)
OA scares you	
strongly disagree	24 (6%)
disagree	49 (12.3%)
neutral	42 (10.5%)
agree	161 (40.3%)
strongly agree	124 (31%)
OA = loss of movement	
strongly disagree	31 (7.8%)
disagree	99 (24.8%)
neutral	97 (24.3%)
agree	118 (29.5%)
strongly agree	55 (13.8%)
Internet & media	
strongly disagree	42 (10.5%)
disagree	61 (15.3%)
neutral	91 (22.8%)
agree	136 (34%)
strongly agree	70 (17.5%)
Friends and public	
strongly disagree	47 (11.8%)
disagree	119 (29.8%)
neutral	98 (24.5%)
agree	106 (26.5%)
strongly agree	30 (7.5%)
OA = high cost	
strongly disagree	18 (4.5%)
disagree	42 (10.5%)
neutral	113 (28.3%)

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agree	143 (35.8%)
strongly agree	84 (21%)
Pain scary	
strongly disagree	6 (1.5%)
disagree	38 (9.5%)
neutral	53 (13.3%)
agree	144 (36%)
strongly agree	159 (39.8%)
Deformity scary	
strongly disagree	19 (4.8%)
disagree	51 (12.8%)
neutral	68 (17%)
agree	145 (36.3%)
strongly agree	117 (29.3%)
Disability scary	
strongly disagree	9 (2.3%)
disagree	27 (6.8%)
neutral	37 (9.3%)
agree	144 (36%)
strongly agree	183 (45.8%)
Exercise and PT = improve pain	
strongly disagree	8 (2%)
disagree	17 (4.3%)
neutral	50 (12.5%)
agree	171 (42.8%)
strongly agree	154 (83.5%)
Prolong analgesics are safe	
strongly disagree	105 (26.3%)
disagree	128 (32%)
neutral	67 (16.8%)
agree	50 (12.5%)
strongly agree	50 (12.5%)
Most OA treatments are medical, not surgical	38 (9.5%)
strongly disagree	107 (26.8%)
disagree	117 (29.3%)
neutral	97 (24.3%)
agree	41 910.3%)
strongly agree	
Most OA need surgery	
strongly disagree	12 (3%)
disagree	81 (20.3%)
neutral	147 (36.8%)
agree	115 (28.8%)
strongly agree	45 (11.3%)
All OA need surgery at the end	
strongly disagree	40 (10%)
disagree	118 (29.5%)

neutral	128 (32%)
agree	88 (22%)
strongly agree	26 (6.5%)
Have good knowledge about surgical treatment	
strongly disagree	69 (17.3%)
disagree	122 (30.5%)
neutral	112 (28%)
agree	75 (18.8%)
strongly agree	22 (5.5%)
Joint replacement is the good treatment choice	
strongly disagree	22 (5.5%)
disagree	49 (12.3%)
neutral	119 (29.8%)
agree	149 (37.3%)
strongly agree	61 (15.3%)
Most joint replacement patients satisfied	
strongly disagree	12 (3%)
disagree	50 (12.5%)
neutral	191 (47.8%)
agree	105 (26.3%)
strongly agree	42 (10.5%)
After joint replacement surgery, you return to normal activities	
strongly disagree	19 (4.8%)
disagree	70 (17.5%)
neutral	148 (73%)
agree	131 (32.8%)
strongly agree	32 (8%)
Joint replacement may disable you	
strongly disagree	45 (11.3%)
disagree	134 (33.5%)
neutral	142 (35.5%)
agree	58 (14.5%)
strongly agree	21 (5.3%)
Most joint replacement patients you know had complications or disability	
strongly disagree	42 (10.5%)
disagree	102 (25.5%)
neutral	188 (47%)
agree	46 (11.5%)
strongly agree	22 (5.5%)
Have good information about outcomes & complications of joint replacement	
strongly disagree	52 (13%)
disagree	103 (25.8%)

neutral	135 (33.8%)
agree	79 (19.8%)
strongly agree	31 (7.8%)
always look for new health information	
strongly disagree	14 (3.5%)
disagree	27 (6.8%)
neutral	44 (11%)
agree	160 (40%)
strongly agree	155 (38.8%)
keeping your health is important for you	
strongly disagree	14 (3.5%)
disagree	11 (2.8%)
neutral	21 (5.3%)
agree	97 (24.3%)
strongly agree	257 (64.3%)
always try to Do it early	
strongly disagree	14 (3.5%)
disagree	36 (9%)
neutral	54 (13.5%)
agree	138 (34.5%)
strongly agree	158 (39.5%)
do routine medical checks	
strongly disagree	42 (10.5%)
disagree	72 (18%)
neutral	95 (23.8%)
agree	96 (24%)
strongly agree	95 (23.8%)
respect & do doctors' advice	
strongly disagree	13 (3.3%)
disagree	23 (5.8%)
neutral	59 (14.8%)
agree	145 (36.3%)
strongly agree	160 (40%)
information Source about OA	
family	57 (14.3%)
friends	45 (11.3%)
school	96 (24%)
social media	186 (46.5%)
others	16 (4%)
Total number	400 (100%)

4. Discussion

The present study showed a high level of knowledge among the subjects in Tabuk regarding OA and joint replacement surgery awareness and this could be attributed to the that most of the subjects are highly educated. The prevalence of joint replacement therapy in KSA is still lower than in other western countries indicating a lack of knowledge about the disease except for the high prevalence of OA in Saudi Arabia

however in Hong Kong, the surgery was more prevalent than in other countries [9].

Social media was the main source of knowledge on the included subjects of OA and joint replacement surgery. However, in Hong Kong, the majority of subjects gained knowledge from relatives and friends but the second source of information was the media [9].

Most of the included subjects have good knowledge about the costs, effects, pain, deformity, and disability from OA complications. These results were in the same respect as other studies from Europe and Korea where the annual costs of OA treatment were higher than those for prevention [10], [11]. The same results were found in KSA as the governmental costs for the treatment of OA exceeded US$557,333 [12]. However, in contrast to the present results, the level of knowledge about the pain and complications of OA as well as the effect of exercise was adequate among Saudi subjects in a recent study [13].

As for the knowledge regarding the treatment of OA and joint replacement surgery and its complications, the knowledge was adequate among most of the respondents. Consistently, [14] showed a high percentage of population knowledge and acceptance of joint replacement surgery among OA patients during the last 10 years. Also, most OA patients and their relatives had a good understanding of the surgery and its outcomes [9].

This study has some limitations including that all the subjects were educated and don't represent the whole population as well as incomplete data and low cooperation of subjects.

5. Conclusion

The level of knowledge about OA and joint replacement surgery was adequate among the majority of subjects. Also, most Saudi participants had a good understanding of the benefits and outcomes of joint replacement surgery for improving their mobility.

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