Awareness of Osteoarthritis among Saudi population

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Abstract— Osteoarthritis is a degenerative disease that affect joint and cause cartilage lose and thinning. It is a major cause of disability.

Methods : The study evaluated the awearness of Osteoarthritis among 830 saudi peoples males and females in multiple area in Saudi Arabia. The cross sectional study will be conducted among Saudi by questionnaire adopted from Winzelberg et al (OKAT) then , the data will be analyzed by using spss. Result : The sample has consisted of 55,6% women and 44,4% men. The majority (78,4%) had the university degree. Among the respondents, only 36,2% had a sufficient level of awareness about Osteoarthritis . T-test and Chi-squared test were used to reveal the relationship of demographic factors with awareness about Osteoarthritis . Younger and more educated participants had higher awareness scores. The results of the study showed a statistically significant association between age and educational level and the level of awareness of Osteoarthritis since p<0,05 (respectively p=0,000 and p=0,027) Conclusion : Awareness about osteoarthritis among Saudi is insufficient. To promote bone health, prevent Osteoarthritis and improve the economic implications of Osteoarthritis , educational and awareness programs should be established targeting the whole population especially the elderly.

Index Terms— Osteoarthritis , awearness of Osteoarthritis , Saudi populaion, Osteoarthritis in Saudi people

INTRODUCTION

Osteoarthritis (OA) is a degenerative disease that affect joint and cause cartilage lose and thinning. It is a major cause of disability. The main complain of patient with osteoarthritis is painful joint. Other complaint is stiffness of the joint and limitation of activity (1).There are many complications of osteoarthritis which include chondrolysis, osteonecrosis, stress fractures, hemarthrosis, infection and loss of stability of joint.OA has many risk factors which contributing in the course of OA, one of them is the age of patient. There are many studies that found the relationship between the age and OA as they found 27% of those aged 63 to 70 had radiographic evidence of knee osteoarthritis, increasing to 44% in the over 80 age group (2).Another risk factor for developing osteoarthritis is obesity which is a modifiable risk factor. The Chingford Study showed that, for every two unit increase in body mass index (approximately 5 kg), the odds ratio for developing radiographic knee osteoarthritis increased by 1.36 (3).The Framingham Study found men with a history of knee injury were at a 5–6-fold increased risk of developing osteoarthritis. Many other risk factors like occupation, bone density and diet will affect the prevalence and incidence of OA (4, 5 and 6).Literature review for prevalence and incidence for OA is limited due to difficulties on determining and knowing its onset. Worldwide, it is estimated that 18% of women and 9.5% of men ≥ 60 years have symptoms of OA (7). In England, about 1.3 -1.75 million people have OA, with increasing percentage among people over 60 as 10- 15% have some degree of OA, while in France, 6 million new cases diagnosed as OA are made each year (8). In United State, more than 27 million individuals affected by OA (9). In Saudi Arabia, there are limited studies about osteoarthritis. OA are usually diagnosed clinically and by radiological image which used to show many pathological characteristic with OA. X-ray image are showing osteophytes, joint space narrowing, bony cysts and subchondral sclerosis (4), while ultrasound (US) is useful tool for visualization of soft tissue (5). MRI has been used on various types of damage occur on joint for example; meniscus tear, loss of thickness, cartilage lesion and bone marrow lesion (BMLs) which associated with pain and detect by MRI (6).Management of OA consist of two types: the first type is non pharmacological which include exercise (the most important intervention in the management of OA and reduction of body weight (10 and 11). and the second type is pharmacological which include non-steroidal anti-inflammatory drugs (NSAIDS), Paracetamol and Acetaminophen (12).There is an urgent need for the development of strategies to prevent osteoarthritis. So the assessment and identification of osteoarthritis risk factors early in life and through pregeriatric ages are important steps and will be very helpful in the prevention of the disease and

its complications. The aim of this study will be to evaluate the severity of OA and to determine the factors that affect the severity of OA.

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METHODS :

We conducted a cross sectional study from february to november 2017 in different Saudi regions to assess the awareness and knowledge of Osteoarthritis among saudi population . adult Saudi males and females more than 18 years old were invited to participate in the study through an online invitation . We excluded non-Saudi participants and less than 18 years and incomplete responses . The study proposal was submitted to Taif University School of Medicine Ethical Committee and was approved. All completed online questioners were collected in an Excel spreadsheet and exported to the Statistical Package for the Social Sciences (SPSS) file. The questionnaire adopted from winzenberg et al (Osteoarthritis knowledge assessment tool)it is 23 question . that included sociodemographic data, educational level,gander and other questions focusing on general awareness and knowledge about Osteoarthritis. The answer options provided were yes, no, and don't know. Each correct response wasgiven a score of 1 and each one was scored out of a total of 20. A score of θ9 was considered poor knowledge, more than 9 was good knowledge . Data were analyzed using the SPSS software version 20. Frequencies and percentages were used for each variable. The chi square test was used to study the relationship between variables, and the T-test was used for comparison between means. A p value p=0,027 <0,05. was considered statically significant

RESULTS

1-Demographics of the studied subjects

Our study included 930 male (44,4%) and female (55,6%) residents in Kingdom of Saudi Arabia and aged between 18 and 67 years old. Most participants studied at university (78,4%), while 21% of respondents answered that they had a secondary level and out of participants only 0,6 % had an intermediate level of education .

(table 1)

2-Awareness about osteoporosis.

By looking at table 2, the majority of participants have insufficient awareness of osteoporosis with a percentage of 63,8% . The adequate osteoporosis awareness (score > 9) was low and similar in both genders (36,8% of women vs 35,6% of man) compared to a comparable high inadequate awareness about osteoporosis (score ≤ 9) in 63,2% of women and 64,4% of man .

3-Relation of socio-demographic factors and the awareness about osteoporosis.

A) Age

By looking to table (3&4) Results show a tendency of better level of awareness in older persons with an average age of 26,2 years old. To confirm that the difference between the two age means, attributed to level of awareness, is significant, we used the independent samples T-test. It shows that there are statistically significant difference in the age means since p value=0,000 <0,05.

The age categories * level of awareness crosstabulation shows that awareness decreases with age, From those who had a better awareness, respondents belonging to the 18-25 year age range are the most awarned (65,3%) compared to the rest of age categories.

B) educational level

Our results show that among the studied subjects who had a good level of awareness, those who had university degree where the most awarned (82,8%).(table 5). The use of Chi-square test allowed to show a significant relationship between the level of awareness and the educational level since p=0,027 <0,05.(table 6)

DISCUSSION

Osteoarthritis intricacies are driving reasons for dismalness and mortality. There are 9 million assessed Osteoarthritis breaks every year around the world .in Europe, disability due to cancer is lesser than disability due to Osteoarthritis (14). In reviewing the literature regarding the economic effects of treating Osteoarthritis in different countries, we found the coast in Europe is about €37 billion(SR161 billion) , the cost of treating the orthopedic complication of Osteoarthritis is higher compared with the cost of prevention (15). Between 2007 and 2011 the annual cost of Osteoarthritis of South Korea is increased significantly from the US $88.8 million(SR332,9 million) to the US $149.3 million(SR559,8 million) , that include the costs of direct and long-term care and excluding the morbidity and mortality costs (16,25) .In recent studies in Saudi Arabia on 43 patients with Osteoarthritis, the management cost of them in the hospitals was SR2.09 million (US$557,333) (17, 18) , in another study on lifestyle factors influencing bone health >33% of the studied group were having Osteoarthritis compared to the healthy group with significant relation to soft drinks consumption, reduced exercise, osteroid used , limited intake of milk and dairy products, calcium and vitamin D supplementation (19,22,23).This study assesses the awaramong Saudi population ,Aquestionnaire was distributed among Saudi populationand it included questions to assess the level of knowledge about Osteoarthritis, according to the Osteoarthritis knowledge assessment tool (OKAT) in addition to demographic data .for our knowledge this is the first study include all groups of Saudi population .in Our study included 830 male (44,4%) and female (55,6%) residents in Kingdom of Saudi Arabia and aged between 18 and 67 years old. Most participants studied at university (78,4%), while 21% of respondents answered that they had a secondary level and out of participants only 6 had an intermediate level of education .the majority of participants have insufficient awareness of Osteoarthritis with a percentage of 63,8% .The adequate Osteoarthritis awareness (score > 9) was low and similar in both genders (36,8% of women vs 35,6% of man) compared to a comparable high inadequate awareness about Osteoarthritis (score ≤ 9) in 63,2% of women and 64,4% of man so there was no significant difference between awareness and gender . A recent study in Saudi Arabia was done among medical intern

in taif university .this showed there was no significant difference between awareness and gender.(10)Our results show that among the studied subjects who had a good level of awareness, those who had university degree where the most a warned (82,8%)also had poor level of awareness ,those who had high and intermediate school . other studies had same result(5,11,12,13,20,21,24).The qualities of our investigation incorporate a legitimate apparatus (OKAT) to survey informationaboutOsteoarthritis.We additionally gathered data about the elements that may influence mindfulness and might utilize it to energize instruction when all is said in done. This issue is identified with Osteoarthritis particularly. Confinements in our investigation incorporate a modest number size, the utilization of an online study that may prompt determination predisposition. We recommend large study to assess the osteoporosis awareness among Saudi population and make more and more of Osteoarthritis education campaigns in moles and large event to improve awareness about Osteoarthritis

CONCLUSION

Awareness about Osteoarthritis among Saudi is insufficient. To promote bone health, prevent osteoporosis and improve the economic implications of osteoporosis, educational a awareness programs should be established targeting t whole population especially the elderly.

FIGURES

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Characteristics	Patients (n=930)
Mean age ± S. D. (years) [range]	24,8 ±7 [18-67]
Age categories [n (%)]	
18-25	664 (71,4)
26-35	187 (20,1)
36-45	56 (6,0)
> 45	23 (2,5)
Total	930 (100)
Gender [n (%)]	
Female	517 (55,6)
Male	413 (44,4)
Total	930 (100)
Educational level [n (%)]	
Secondary	195 (21,0)
Intermediate	6 (0,6)
University	729 (78,4)
Total	930 (100)

S.D. = standard deviation

1) Table: distribution of respondents according to socio-demographic characteristics

Gender	Level of awareness	Frequency	Percent (%)
Female	Inadequate awareness	327	63,2
	Adequate awareness	190	36,8
	Total	517	100,0
Male	Inadequate awareness	266	64,4
	Adequate awareness	147	35,6
	Total	413	100,0
Total	Inadequate awareness	593	63,8
	Adequate awareness	337	36,2
	Total	930	100,0

2) Table: Saudi awareness about Osteoarthritis

	Level of awareness	N	Mean	Std. Deviation	Std. Error Mean
Age	Inadequate awareness	593	23,98	6,246	,257
	Adequate awareness	337	26,19	7,943	,433

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95%confidence interval of the difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Age	Equal variances assumed	29,646	,000	-4,690	928	,000	-2,211	,471	-3,135	-1,286
	Equal variances not assumed			-4,395	573,483	,000	-2,211	,503	-3,198	-1,223

3) Table Group Statistics

			Level of awareness		
			Inadequate awareness	Adequate awareness	Total
Age categories	18-25	Count	444	220	664
		% within Level of awareness	74,9%	65,3%	71,4%
	26-35	Count	114	73	187
		% within Level of awareness	19,2%	21,7%	20,1%
	36-45	Count	25	31	56
		% within Level of awareness	4,2%	9,2%	6,0%
	> 45	Count	10	13	23
		% within Level of awareness	1,7%	3,9%	2,5%
Total		Count	593	337	930
		% within Level of awareness	100,0%	100,0%	100,0%

4) Table of Age categories * Level of awareness Crosstabulation

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