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ASSESSMENT OF OSTEOPOROSIS KNOWLEDGE AMONG SAUDI FEMALES IN RIYADH, KSA

***Basim Khalid AlHarthi[1], Abdulmalik Alkhodair[2], Amro Youssef Elias[3], Saud Nasser Aleisa[4], Faisal Abdullah ALMoumen[5], Mohammed Yahya Hassan Al-yami[6]**

[1]Taif University.

[2]Imam Mohammed Bin Saud University.

[3]King Abdulaziz University.

[4]Imam Mohammed Bin Saud University.

[5]Imam Abdulrahman Bin Faisal University.

[6]Najran University.

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***Corresponding Author**
Basim Khalid AlHarthi
Taif University.

ABSTRACT

Background: Osteoporosis is considered as a major worldwide health problem. Little is known about its definition, risk factors and prevalence in KSA. ***Objectives:*** Evaluating the general knowledge of Saudi females in Riyadh about osteoporosis. ***Methods:*** This was an analytical and descriptive study. A reliable osteoporosis knowledge assessment tool (OKAT) questionnaire was published online for considering the levels of osteoporosis awareness from February 2017 to July 2017. ***Results*:** The majority of females were educated, married, had college degree and living in medium economic state. Only ten patients reported having osteoporosis. The majority of participants (%) had high OKAT scoreindicating high prevalence of good knowledge among included subjects. The young age, being highly educated and good economic status were significantly associated with good awareness. ***Conclusion*:** A good level of knowledge about osteoporosis was found among included subjects. Although having good awareness about osteoporosis in Riyadh, the majority of subjects obtained their knowledge from relatives and physicians. Thus, authorities should create educational programs at all health care facilities to assess a preventive programs for osteoporosis.

KEYWORDS: Osteoporosis, Awareness, Saudi Females, Riyadh.

INTRODUCTION

Osteoporosis is the most common and worldwide public health silent disease in postmenopausal women. This disease is a systemic disease of thin bone disease where the bones had weakening of its micro-architecture tissue, low bone mass, fragile bones with a high vulnerability to fractures.[1,2]

According to the International Osteoporosis Foundation, the symptoms of osteoporosis are not clear till the occurrence of the first fracture and it significantly affect old women.[3-6] The risk factors for osteoporosis are female gender, old age, low levels of sex hormones, smoking, low levels of vitamin D and menopause.[3,7] Also, bad life style habits and low exposure to sunshine are also important predisposing factors for osteoporosis.[8,9]

In KSA, there is a great concern about the knowledge of osteoporosis and its risks and preventive measures. However, many studies have reported a poor knowledge score about osteoporosis.[10,12] Thus, this study aimed to investigate the level of awareness of Saudi females about osteoporosis and finding the association between the subject's demographics and level of knowledge.

METHODS

Study design and setting

This was a descriptive and analytical study that was conducted among Saudi females in Riyadh region during the period from February 2017 to July 2017.

Sample size and study population

The total number of Saudi females in Al-Riyadh region was 2204529 females as estimated by the KSA General Authority for Statistics in 2017.[13] The response rate to all questions was estimated to be 87.7% according to previous studies that was conducted in KSA for assessment of knowledge about osteoporosis.[14,15] The minimum sample size by the Raosoft sample size calculator[16] using a confidence interval of 95% and a margin of error of 5%was 166. A larger sample of 200 females was taken to cover missed and uncompleted questionnaires. The inclusion criteria were Saudi females older than 20 years old. The exclusion criteria were non-Saudifemales, age less than 20, and uncompleted data in the questionnaire.

Study tools

An online questionnaire was designed according to the questionnaire of osteoporosis knowledge assessment tool that was implemented from Winzenberget al.,[17] with some modifications. The questionnaire was translated into Arabic language and revised by 3 supervisors then published online. The questionnaireinvolved of 2 aspect, the first one was about the demographics of included females and the 2nd part comprised of 15 true or false questions about general knowledge of osteoporosis and one mark was given for each correct answer and 0 was given for wrong answer.

Statistical analysis

The results were coded and analysed bySPSS software package version 22.0then tabulated.

RESULTS

Demographics of the studied subjects

The age of the included subjects was 21-30 years old in 37% of subjects, 31-40 years old in 38% and older than 41 years old in 25% of included subjects. The majority of subjects had a college degree (65%) and 20% were post-graduate while 15% of participants had high school. Out of included subjects, 83% were married, 11% were single and 6% were divorced. Also, 78% of subjects had medium income, 9% had high income and 13% had low economic status (Table. 1).

Table 1: Demographicsof Saudi females (n = 200).

	N.	Percentage (%)
Age (Year)		
21 - 30	74	37%
31 - 40	76	38%
41+	50	25%
Level of education		
High School	30	15%
College degree	130	65%
Post-graduate	40	20%
Marital status		
Single	22	11%
Married	166	83%
Divorced	12	6%
Economic status		
High	18	9%
Medium	156	78%
Low	26	13%
Source of information		

Internet	97	15%
One of relatives has osteoporosis	5	65%
Physician	60	30%
TV programs	2	1%
Health education campaigns	36	18%

Prevalence of osteoporosis

Out of 200 subjects, only 10 (5%) subjects were suffering from osteoporosis and the rest of subjects had no signs or history of osteoporosis (Figure. 1).

Figure 1: Prevalence of osteoporosis in included subjects.

Awarenessaboutosteoporosis in included subjects

The majority of respondents answered right questions about effects of osteoporosis on fracture, the silent signs of the disease before fracture, falls are important sign for osteoporosis and how physical activities are helpful for prevention of osteoporosis. On the other hand, their knowledge about risk of genetics, and efficiency of having two glasses of milk and eating sardines and broccoli in prevention of osteoporosis was low. There was a good knowledge among subjects about risks of cigarette smoking, menopause and addiction to alcohol on induction of osteoporosis.

Table 2: Level of awareness about osteoporosis in included subjects.

	True	False
1. Osteoporosis is a risk factor for bone fractures?	160 (80%)	40(20%)
2. Higher bone mass during childhood gives protection against osteoporosis development?	158(79%)	42(21%)
3. The signs of osteoporosis usually appear before fractures?	142(71%)	58(29%)
4. The fall is an important mark for osteoporosis?	184(92%)	16(8%)
5. Physical activities are helpful for prevention of osteoporosis?	104(52%)	96(48%)
6. The genetic factors and family history of osteoporosis are risk factors for osteoporosis?	98(49%)	102(51%)
7. Two glasses of milk per day could provide an adequate calcium intake for prevention of osteoporosis?	80(40%)	120(60%)
8. The adoption to sardines and broccoli could provide adequate calcium to people who are sensitive from dairy products?	96(48%)	104(52%)
9. Cigarette smoking is a risk factor for osteoporosis?	173(86.5%)	27(13.5%)
10. During the ten years following menopause, there is a great risk for osteoporosis?	137(68.5%)	63(31.5%)
11. Using hormonal therapy after menopause could prevent from osteoporosis?	32(16%)	168(84%)
12. Osteoporosis have no available and effective treatments?	55(27.5%)	145(72.5%)
13. Addiction to alcohol is a prompting factor to osteoporosis.	200(100%)	--
14. Osteoporosis is considered a silent disease?	107(53.5%)	93(46.5%)
15. High intake of dairy products could prevent osteoporosis?	129(64.5%)	71(35.5%)

Knowledge score

Table 3 showed that the majority of subjects (69%) had good OKAT knowledge and only 31% of them had poor knowledge (Figure. 2).

Table 3: Knowledge of osteoporosis score.

	Knowledge Score
Good Knowledge	138 (69%)
Poor knowledge	62 (31%)

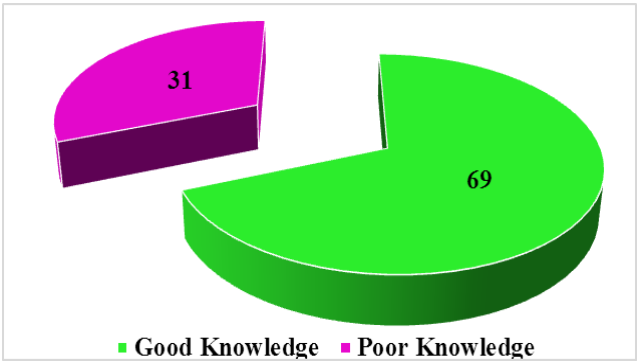

Figure 1: Knowledge of participants regarding osteoporosis.

Association between knowledge and demographics of included participants

There was a significant association between good knowledge with young age, being highly educated and high economic status (Table. 4).

Table 4: Association between osteoporosis knowledge and socio-demographic variables.

	Good Knowledge (n=138)	Poor Knowledge (n=62)	P-value
Age (Year)			
21 - 30	62 (83.8%)	12 (16.2%)	<0.001
31 - 40	57 (75%)	19 (25%)	
41+	19 (38%)	31 (62%)	
Level of education			
High School	9 (30%)	21 (70%)	<0.01
College degree	104 (80%)	26 (20%)	
Post-graduate	25 (62.5%)	15 (37.5%)	
Marital status			
Single	20 (91%)	2 (9%)	>0.05
Married	111 (66.9%)	55 (33.1%)	
Divorced	7 (58.3%)	5 (41.7%)	
Economic status			
High	12 (66.7%)	6 (33.3%)	<0.05
Medium	117 (75%)	39 (25%)	
Low	9 (34.6%)	17 (65.4%)	

DISCUSSION

This study discussed the level of knowledge among Saudi females about osteoporosis but this study had some limitations as the results can't be generalized due to low sample size and the questionnaire was online.

Osteoporosis globally is highly prevalent among postmenopausal women and females in comparison with males.[9,18,19] Most of subjects had good knowledge about osteoporosis which was different from other studies conducted in KSA.[14,18-20] Consistent results in Riyadh City showed a high level of awareness about osteoporosis that reached to 57%.[2]

In the same respect with this study, education and young age were significantly correlated with higher levels of knowledge as shown in other studies conducted in different regions of KSA.[14,21,22]

CONCLUSION

A good level of knowledge about osteoporosis was found among included subjects. Although having good awareness about osteoporosis in Riyadh, the majority of subjects obtained their

knowledge from relatives and physicians. Thus, authorities should create educational programs at all health care facilities to assess a preventive programs for osteoporosis.

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