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RESEARCH ARTICLE

KNOWLEDGE AND AWARENESS ABOUT OSTEOPOROSIS AMONG SAUDI ADULTS IN RIYADH, SAUDI ARABIA, 2016

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Abstract

Introduction: Osteoporosis is a major public health problem, which affects millions of people around the world and its frequency increases by age, and the Kingdom of Saudi Arabia (KSA) is not an exception. Osteoporosis is a disease characterized by low bone mass and micro-architectural deterioration of bone tissue.

Objectives: This study aimed to evaluate knowledge and awareness of osteoporosis among general Saudi adult in Riyadh.

Methodology: An Observational, descriptive cross-sectional study conducted on 150 males and females participants of general Saudi adult in Riyadh city, 2016. Inclusion criteria: Saudi adults, and Exclusion criteria: other than Saudi nationalities and children. The Sample technique used in this study: convenience consecutive sampling. The data was cleared, coded, entered and analyzed by SPSS (Static Package For Social Science) and Microsoft excel was used to generate figures and charts. Chi-square test with significance level (P value 0.05).

Results: Out of 150 participants, 145 have heard about osteoporosis. About (60.66%) of participants have moderate general knowledge about osteoporosis. while only (25.33%) have good general knowledge about osteoporosis. Males participants had the best knowledge about the high risk age group of getting Osteoporosis (55.44%) compared to females participants (44.89%). Approximately most of the participants (48%) thought that they are susceptible to contracting osteoporosis in a point of their lives. Out of 49 females, who participated in the study, on asking about their susceptibility to contracting osteoporosis, approximately half (51.02%) of them knew that they are susceptible of contracting osteoporosis, while males were (46.53%) out of 101. This indicates that there is no statistically significant between males and females on perceived susceptibility. This study showed there is significant relations (P-Value: 0.046) between participants with high perceived knowledge (87.76%), low perceived knowledge (66.67%) and their knowledge about relation between eating a diet low in milk products and getting osteoporosis.

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Conclusion: Knowledge and awareness are moderate towards this disease. This finding is similar to other studies done in the kingdom in different cities implying no serious actions were taken to improve this situation. Health authorities should create programs to upraise the awareness of the community for this important disease, especially at primary health care levels and community pharmacies.

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Introduction:-

Osteoporosis is an irreversible [1] systemic skeletal disorder that affects bone density and quality, leading to bone fragility and increased risk of fractures [2]. It is a major public health problem [1], which affects millions of people around the world and its frequency increases by age [2]. It affects almost: one-tenth of women aged 60, one-fifth of women aged 70 years, as well as two-fifths of women aged 80 years [3] but men are also at risk [1], and the Kingdom of Saudi Arabia (KSA) is not an exception [2]. It was also considered as one of the major contributors of mortality and morbidity among elderly people [1]. The prevalence of osteoporosis among Saudi population was estimated at 34% in a review of the published articles in to 2011 [2]. Sun-light exposure can increase the bone mineral density of vitamin D deficient bone and lead to the prevention of non-vertebral fractures [11], Women in particular receive little or no sun-light since they cover their bodies with dark veils completely. Studies about the prevalence of this disease in Kingdom of Saudi Arabia (KSA), have shown that among postmenopausal Saudi women 50–80 years of age, 39.5 % had osteoporosis [4]; there were 24.3, 62 and 73.8 % of affected women in the age groups 50–59, 60–69 and 70–80 years, respectively [3], among Saudi males 21.4 % were osteoporotic [4]. There is evidence suggesting that osteoporosis knowledge is one contributor to osteoporosis prevention behavior [1]. Awareness about osteoporosis can aid in its prevention [3]. Knowledge, perception of personal susceptibility and belief in the seriousness of the disease are important for influencing behavioral change by prevention programs [2]. The assessment of these parameters can be done through what is called knowledge, attitude and practice, hereafter referred as “KAP” [4]. Small numbers of KAP studies was carried out with regard to this disease, especially in Asian countries [1]. In KSA, there is scarcity of local studies which discussed the level of awareness toward osteoporosis, in both females and males members. The study compares KAP scores between males and females, and also to investigate the relations between socio-demographic characteristics and KAP scores. Awareness about osteoporosis can aid in its prevention [3]. Estimating the level of knowledge of populations through this research can help to guide prevention public health programs and tailor them according to needs of community [3]. Osteoporosis includes several controllable and uncontrollable risk factors; the controllable risk factors (environmental) include low activity level, sedentary lifestyle over many years, smoking, alcohol abuse and inadequate diet including eating disorder, low calcium intake, low vitamin D intake and excessive consumption of soft drinks [1]. Caffeine use of more than three cups of coffee every day might increase calcium excretion in the urine and it affects bone health. Whilst the uncontrollable factors include gender, family history, ethnicity and race, advancing age, postmenopausal status and body frame size [2]. Although there is an increased interest in the level of knowledge and beliefs among general physicians about osteoporosis, it remains a sidelined issue in the clinical practice field [1]. More and more sedentary lifestyle of children and adolescents is also alarming [3]. This trend is even more serious among adolescent females who live a sedentary lifestyle more often than boys [4]. One of the risk factors of osteoporosis and thus also easier occurrences of fractures is smoking. The explanation of the negative influence of smoking on the bones is not simple because the individual elements of the smoke interfere differently with the bone tissue metabolism [2]. This study aimed to assess level of knowledge and awareness toward osteoporosis among Saudi adults population [2]. One of The goals of this work was to evaluate the knowledge, attitudes and practices of adolescent females in relation to the risk factors of osteoporosis, specifically their physical activity, smoking and diet and to find out the differences in the knowledge in relation to age, sex and school types. In the nutrition area the goal was to set the average intake of nutrients that are in relation to the bone health – calcium, phosphorus, vitamin D, proteins and sodium [2]. Our study aims to assess the level of knowledge regarding osteoporosis.

Objectives:-**General Objective:-**

To assess level of knowledge toward osteoporosis among Saudi adult population.

Specific Objectives:-

1. To assess Knowledge about effect of physical activity on osteoporosis among Economic classes.
2. To compare between knowledge about prevention of osteoporosis and education levels.
3. To assess knowledge about relations between eating dithery milk products and getting osteoporosis among High and low perceived knowledge adults.
4. To compare between male, female and knowledge about common ages get osteoporosis.
5. To assess knowledge about susceptibility to contracting osteoporosis among adult females.
6. To assess knowledge about complication of osteoporosis among employers.
7. To investigate awareness about risk factors of osteoporosis among illiterate and educated people.
8. To compare between general knowledge about osteoporosis and people have good and low perceived knowledge.

Methodology:-

An Observational, descriptive cross-sectional study conducted on 150 male and female participants of general Saudi adult in Riyadh city 2016. Inclusion criteria: Saudi adults, and Exclusion criteria: other than Saudi nationalities and children .The Sample technique used in this study: convenience consecutive sampling. The data was cleared, coded, entered and analyzed by SPSS (Static Package For Social Science) and Microsoft excel was used to generate figures and charts. Chi-square test with significance level (P value 0.05).Consent was obtained before data collection from each participant.

Results:-

After data collection we realized that majority of participant were male (67.3%). More than half (54.7%) of respondents are between 20-24 years. Almost half of participants (48.7%) were university educated. Fifty two percent of the sample living in own villa (High class).

From all questions that asses level of general knowledge of osteoporosis, about sixty one percent of all participants , have moderate general knowledge about Osteoporosis as shown in table 1-A.

In table 2-A showed that (44.7%) of respondents answered correctly that smoking can cause Osteoporosis. About 50% (47.3%) of participants answered that Osteoporosis can't be hereditary .while only (31.3%) were correct. About drinking cola as risk factor of osteoporosis,(82%) of participants mentioned that Cola affect bones as risk, while (11.3%) don't think so. Regarding Milk-Rich diet and getting Osteoporosis,(79.3%) of all participants said Yes. There was no big difference between people agreed(38%) or disagreed(30%) about irregular period in excessive exercise, as risk of Osteoporosis increase. So (54%) of respondents have good knowledge of risk factors about osteoporosis , while (35.33%) they carrying moderate knowledge about them .

Table 3-A showed that (62.7%) of participants thought that Osteoporosis can be prevented by physical activity, while only (22.7%) of participants didn't. The majority (82.7%) identify exposure to the sunlight one of prevention methods of osteoporosis. Also (55.3%) stated that children at age 6 need more calcium .

Most of participants (48%) thought that they are susceptible to contracting Osteoporosis.

The majority of participants rated their knowledge as either moderate knowledge (37.3%) or poor knowledge (30%). While only (32.7%) rated their knowledge as good.

(69.3%) of the participants know that Osteoporosis can lead to fractures .While (48%) of participants believed Osteoporosis can't lead to death as mentioned in table 4-A. Table 4-b:approximately 50% of participants out of have poor knowledge regarding Osteoporosis complication ,and (34%) have good ideas .

Discussion:-

Our study showed the General knowledge of osteoporosis is moderate (60.66%) for the majority of the studied sample and this goes in line with Maria Tahir¹, 26 January 2016 [6] both studies showed moderate knowledge about osteoporosis. Notable, the comparison study focus on female only.

Our study showed that the majority of participants have moderate and good knowledge (89.33%) in the questions, cause of osteoporosis include family history, post-menopausal status and excess in soft drinks and this goes in line with Maria Tahir¹, 26 January 2016 [6] and Yosria El-Said Hossien², May 20, 2014 [9]. Notable, the comparison study focus on female only.

In our study the majority of participant whom answered correctly (on: smoking is a risk factor for osteoporosis) had a secondary school education level (49.21%). Which goes in contrary to a study done by Mohammed Yehia Saeedi¹³ El. Tlt; in Riyadh, Saudi Arabia, 2014, [2], where he found: the majority of the participants considered the smoking as a risk factor for osteoporosis (88.5%), were all with university education. That contributed to the fact that our sample was from the general population, and his was among primary health care physicians.

Our study goes in line with (Afraa talal¹⁴ et al), (19 June 2013 in Riyadh), [1] which showed more susceptibility toward osteoporosis among female, our results indicates (60.64%) of the participants who agree with this, and our study shows that there is no statistically significant difference ($p = 0.419$) between knowledge if osteoporosis more common in female among poor and high knowledge. And the reason may be due to they think it related to menopause.

Our study revealed that (79.33%) of participants with different education levels have answered correctly on whether there is relation between eating a diet low in milk products and getting osteoporosis. Similar results were found by Noman-ul-Haq¹ El Tlt; in Quetta, Pakistan, 2015, [6] which showed that, (82.1%) answer correctly. On the other hand, a study done by Yosria El-Said Hossien¹ El Tlt; in El-Minia, Egypt, 2014, [9], stated that only (5.7%) answered correctly. That might be attributed to the fact that her study was done on secondary school students, but our study was done on general population with the majority of participants (48.7%) with university education.

Our study showed the majority of the studied sample answered to “Sunlight exposure can prevent from osteoporosis” correctly (82.7%) and this goes in line with Yosria El-Said Hossien², May 20, 2014 [9]. The majority of the studied sample has a moderate knowledge about prevention (62%) and goes in line with KafiFrah Alshammari³, .2014.11.3 [36] and Maria Tahir¹, 26 January 2016 [6], which mentioned prevention of osteoporosis by exposure to sunlight, physical activity and calcium intake. Notable, the comparison study focus on female only.

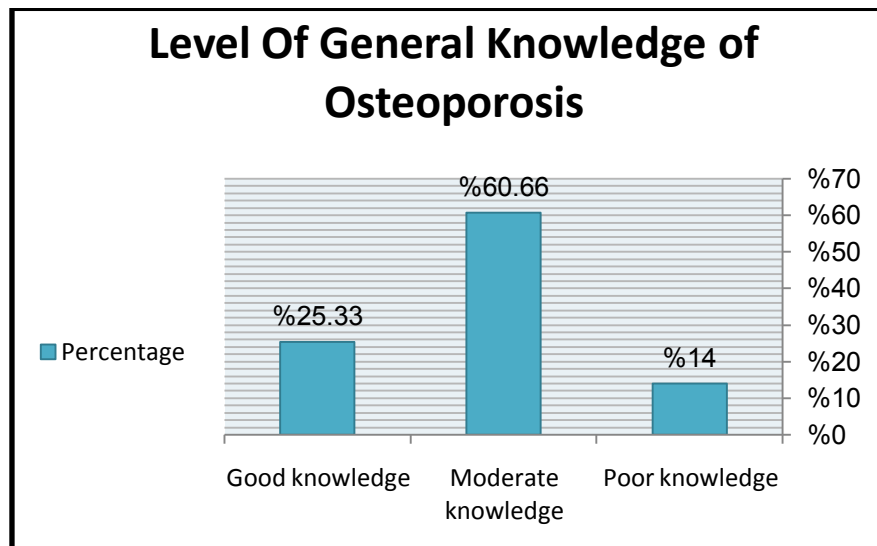


Table 1-A :- Level Of General Knowledge of Osteoporosis:

Have you ever heard about osteoporosis ?	YES	NO	I don't know		Total
No.	145	5			150
%	96.7%	3.3%			100%
Which ages of these carries highest risk of getting osteoporosis?	Elderly ages	Middle ages	Young ages	I don't know	
No.	78	26	36	10	150
%	52%	17.3%	24%	6.7%	100%
Normally, bone loss speeds up in elderly ages?	YES	NO	I don't know		
No.	101	23	28		150
%	67.3%	15.3%	17.3%		100%
osteoporosis is more common in female ?	YES	NO	I don't know		
No.	89	34	27		150
%	59.3%	22.7%	18%		100%

Table 1-B

	Poor knowledge	Moderate knowledge	Good knowledge
Number	21	91	38
Percentage	14%	60.66%	25.33%

Table2-A:-Level Of Knowledge of Risk factors Of Osteoporosis:

Can smoking cause osteoporosis ?	YES	NO	I don't know	Total
No.	67	37	46	150
%	44.7%	24.7%	30.7%	100%
Do you think that osteoporosis may be hereditary ?				
No.	47	71	32	150
%	31.3%	47.3%	21.3%	100%
Is there any relation between eating a diet low in milk products and getting osteoporosis ?				
No.	119	18	13	150
%	79.3%	12%	8.7%	100%
Is drinking too much cola harmful to your bones ?				
No.	123	10	17	150
%	82%	6.7%	11.3%	100%
Irregular or complete loss of your periods due to excessive exercise does it increase the risk of osteoporosis?	Agree	Disagree	I don't know	
No.	57	45	48	
%	38%	30%	32%	

Table 2-B

	Poor knowledge	Moderate knowledge	Good knowledge
Number	16	53	81
Percentage	10.66%	35.33%	54%

Table3-A:-Level of Knowledge Regarding Prevention of Osteoporosis:

Can physical activity prevent osteoporosis?	YES	NO	I don't know	Total
No.	94	34	22	150
%	62.7%	22.7%	14.7%	100%
Can exposure to the sunlight participate in prevention of osteoporosis ?				
No.	124	17	9	150
%	82.7%	11.3%	6%	100%
In which age you think need to take calcium ?	Adolescents	Children age 6	I don't know	
No.	44	83	23	
%	29.3%	55.3%	15.3%	

For the first six months of life a baby does not need any food or drink except breast milk ?	YES	NO	I don't know	
No	100	36	14	150
%	66.7%	24%	9.3%	100%

Table 3-B

	Poor knowledge	Moderate knowledge	Good knowledge
Number	51	93	6
Percentage	34%	62%	4%

Table 4-A :- Level Of Knowledge Of Complication Of Osteoporosis:

Can osteoporosis lead to fractures ?	Yes	No	May be	I don't know	Total
No.	104	9	34	3	150
%	69.3%	6%	22.7%	2%	100%
Can osteoporosis lead to death ?	Yes	No	I don't know		
No.	28	72	52		150
%	17.3%	48%	34.7%		100%

Table 4-B

	Poor knowledge	Moderate knowledge	Good knowledge
Number	73	26	51
Percentage	48%	17.33%	34%

Conclusion:-

In conclusion, general knowledge about Osteoporosis considered to be moderate among Saudi population as this study reveals. Thus knowledge and awareness are also low towards this disease. This finding is similar to other studies done in the kingdom in different cities implying no serious actions were taken to improve this situation.

Recommendation:-

Ministry of Education should be involved in health education about osteoporosis and its related factors in schools or even could provide educational program via their curriculum to improve the awareness of this disease among students and thus ensuring that they received accurate information .

Health authorities should create programs to upraise the awareness of the community for this important disease, especially at primary health care levels and community pharmacies.

A good knowledge and awareness of a disease are pre-requisites for success of preventive measures, modifications in life styles and treatment adherence.

The study suggested that better training and motivation may improve cooperation SAUDI population, which will consequently lead to methods of breaking down barriers to change in clinical practice and promoting the fully integrated care of patients with OP.

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