

## ASSESSMENT OF POSTMENOPAUSAL WOMEN ABOUT OSTEOPOROSIS DISEASE AND TREATMENT IN ALHASA: CROSS SECTIONAL STUDY

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### ABSTRACT

Osteoporosis is a major global public health problem associated with significant morbidity, mortality and socioeconomic burden. It defined as a skeletal disorder characterized by low bone strength, leading to an increased risk of fragility fractures. The quality of postmenopausal life accounting for 1/3 of women's life has been emphasized with an increase in Saudi Arabia. No previous studies done in our population, so the primary purpose for this study is to evaluate the patients' awareness about osteoporosis disease and treatment among postmenopausal Saudi females. This study is questionnaire-based survey. One hundred postmenopausal women conducted between 1 December 2015 to 1 March 2015 to evaluate their awareness about the disease, risk factors and possible treatment that provide the basis for

health plans to control the disease. The evaluation of the patients' awareness performed by distributing designed questionnaire in multisite (King Fahad Hospital, PCCSH and community population) in AlHasa and those filled after oral interview with those patients. Therefore, those patients had a moderate awareness with 70% about possible treatment and nutritional factors but low awareness with 30% about the risk factors that induced Osteoporosis. In relation to bisphosphonates as treatment remedy, no patient aware that it is the most commonly used drug for treatment of Osteoporosis. Our study found that the patients' awareness about their possible treatment related to postmenopausal osteoporosis was higher than their awareness about risk factors that induced Osteoporosis due to deficiency in patient counseling program and low availability of medical information sources.

**KEYWORDS:** Awareness, population, osteoporosis, postmenopausal and women.

## 1. INTRODUCTION

Osteoporosis is a common disease characterized by low bone mineral density and deterioration in the micro architecture of bone tissue, leading to an increased risk of fracture.<sup>[1]</sup> By 50 years of age, one in three women and one in five men will suffer a fracture in their remaining lifetime.<sup>[2,3]</sup> However, the Postmenopausal osteoporosis is a major health problem at the individual and population levels.<sup>[4]</sup> The quality of postmenopausal life accounting for 1/3 of women's life has been emphasized with an increase in Saudi Arabia.<sup>[5]</sup> As various symptoms associated with menopause and ageing-related diseases including osteoporosis have become critical in women's health.<sup>[6]</sup> Despite the increase in its significance, osteoporosis is widely recognized as a preventable and treatable disease; therefore, an appropriate detection and management system that includes lifestyle modifications may minimize the burden on public health resources worldwide.<sup>[7]</sup> Although clinical guidelines recommend cessation of tobacco use, avoidance of excessive alcohol intake, participation in regular exercise and an adequate intake of calcium and vitamin D for maintaining bone health.<sup>[8,9]</sup>

Several studies have shown that osteoporosis patients do not follow the recommended clinical guidelines after diagnosis of the disease.<sup>[10,11]</sup> The aim of this questionnaire-based study was to determine the level of basic awareness about osteoporosis disease and treatment in postmenopausal Saudi females in different sites in AlHasa.

## 2. METHOD

### 2.1 Study design

This study is questionnaire-based survey. The questionnaire contained 11 questions related to risk factors, non-pharmacological treatment, pharmacological treatment and major side effects related to medication use. One hundred patients are conducted between 1 December 2015 to 1 March 2015 to evaluate their awareness about the disease, risk factors and possible treatment that provide the basis for health plans to control the disease. The evaluation of the patients' awareness performed by distributing designed questionnaire in multisite (King Fahad Hospital, PCCSH and community population) in AlHasa and those filled after oral interview with those patients.

### 2.2 Data analysis

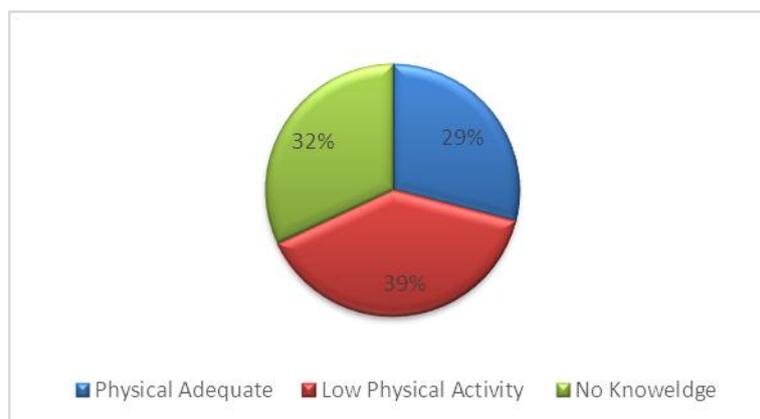
During this study, the data were collected from the filled questionnaires and entered to Microsoft Excel Program to analyze the results as percentage parameter.

### 3. RESULTS AND DISCUSSION

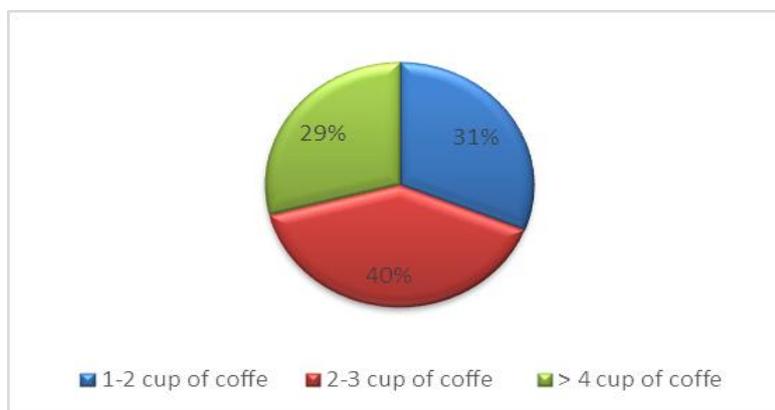
One hundred patients completed the questionnaires after oral interview and included in the analysis by using excel program.

**Table (1): Baseline characteristics of the patients.**

Age (means $\pm$ SD)	53.87 $\pm$ 2.79
Female sex — no. (%)	100
Height (means $\pm$ SD)	161.68 $\pm$ 2.566
Weight (means $\pm$ SD)	63.74 $\pm$ 11.067
Educational level (n)	
• Uneducated	40
• Primary School intermediate school	29
• secondary school	18
• Diploma	6
	7
Social status: (n)	
• Married	96
• Unmarried	4



**Figure (1): The postmenopausal women awareness about the physical activity.**



**Figure (2): The postmenopausal women awareness about the amount of coffee cups induced osteoporosis.**

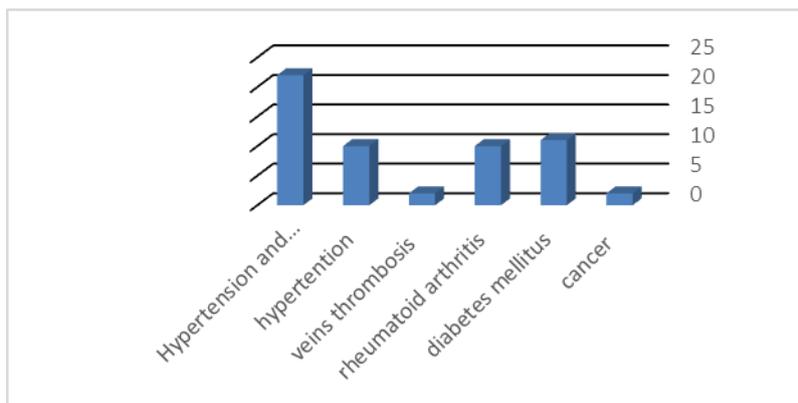


Figure (3): The postmenopausal women awareness about the underlying diseases induced osteoporosis.

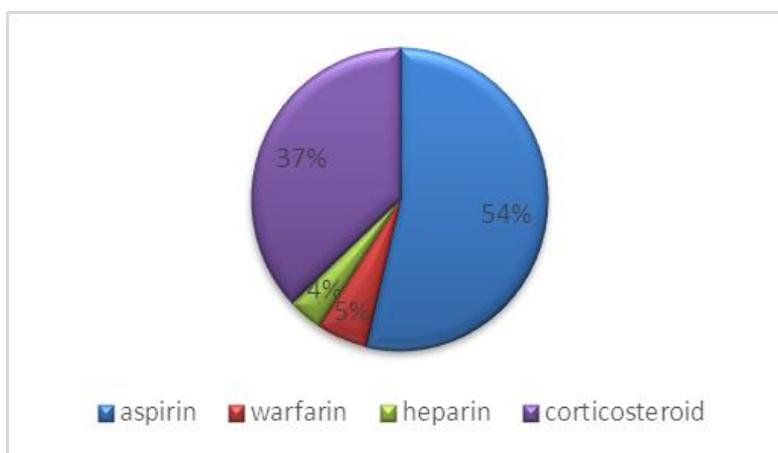


Figure (4): The postmenopausal women awareness about the drugs induced osteoporosis.

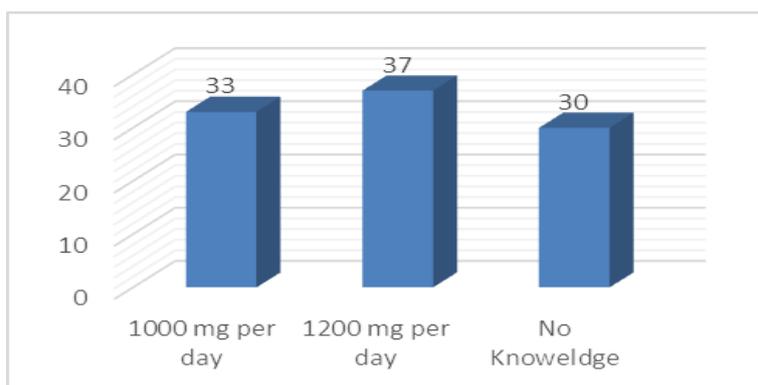


Figure (5): The postmenopausal women awareness about the calcium dose requirement.

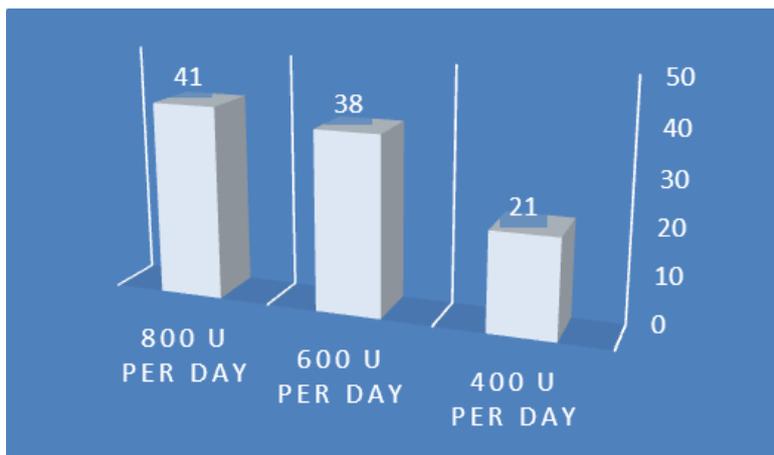


Figure (6): The postmenopausal women awareness about the vitamin D dose requirement.

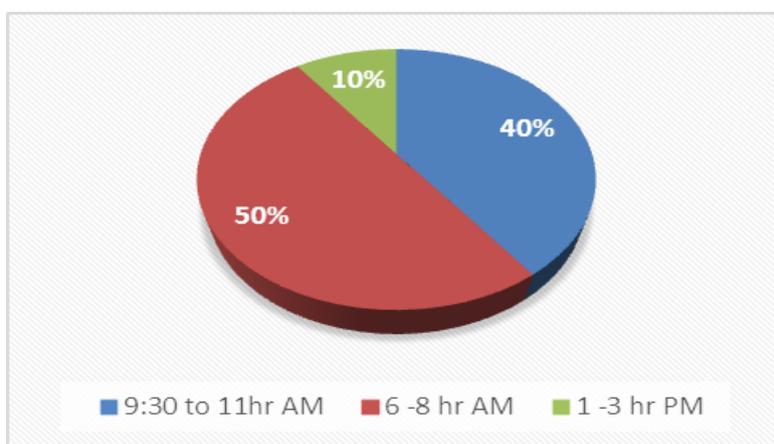


Figure (7): The postmenopausal women awareness about the awareness of the sunlight exposure.

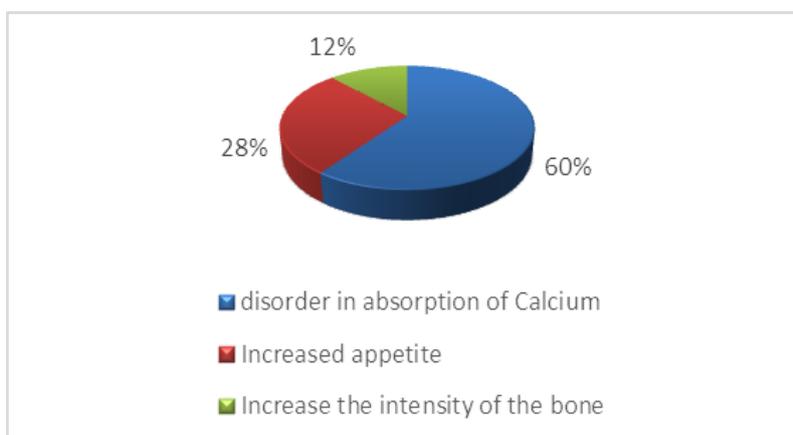
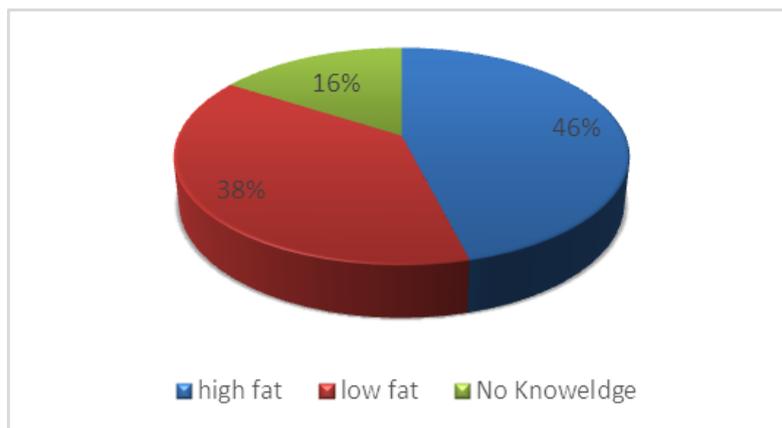
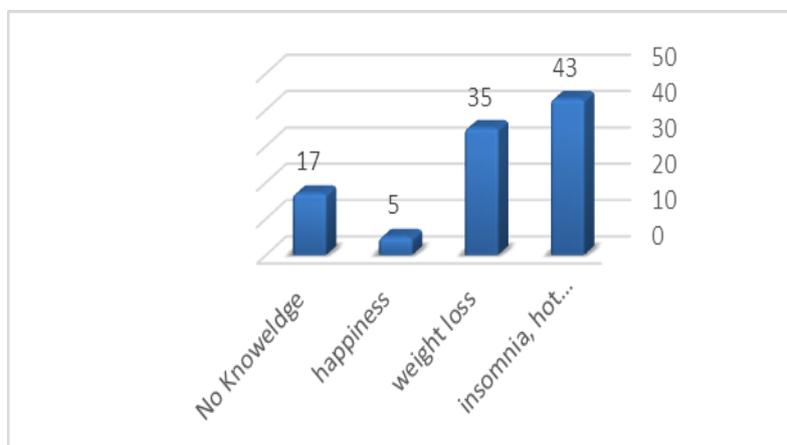


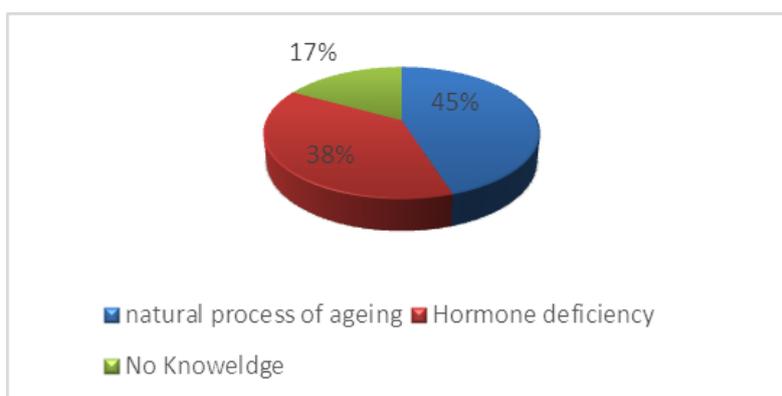
Figure (8): The postmenopausal women awareness about the soft drinks inducing osteoporosis.



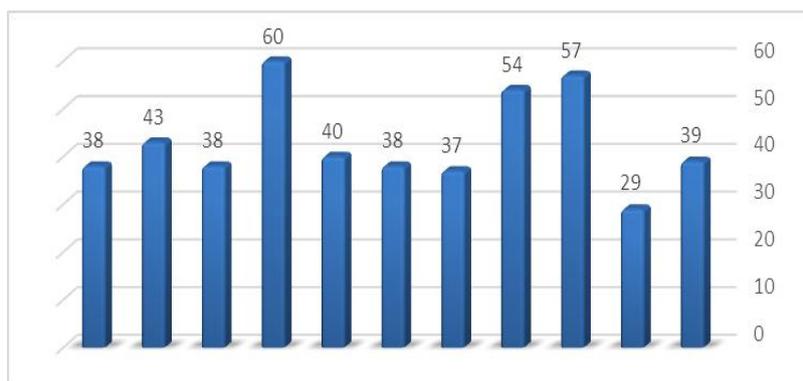
**Figure (9):** The postmenopausal women awareness about the type of milk used in osteoporosis.



**Figure (10):** The postmenopausal women awareness about the postmenopausal interval symptoms.



**Figure (11):** The postmenopausal women awareness about the postmenopausal pathophysiology.



**Figure (12):** The postmenopausal women awareness about the osteoporosis disease and treatment.

**Table (13):** The level of the postmenopausal women awareness for each aspect.

Level of awareness	Awareness aspects
Low 0-30%	Calcium daily requirement
Moderate 31-70%	Osteoporosis Supplements, Vitamin D3 daily dose requirement, Supplements administrations time and monitoring.

**Table (14):** The level of postmenopausal women awareness about the osteoporosis disease and its treatment.

Level of awareness	Questions
Percentage of patients who had a low awareness	4
Percentage of patients who had a moderate awareness	94
Percentage of patients who had a high awareness	2

This study, which included 100 female patients with Osteoporosis showed that awareness about the risk factors of osteoporosis was a moderate awareness (39%) about the benefit of the physical activity for prevention the osteoporosis disease as shown in Fig. 1, also about the underlying diseases (57%) that could induced the osteoporosis disease as shown in Fig.4. Only (54%) of them were aware about the drugs that could induced the osteoporosis disease as shown in Fig.4.

Unfortunately, but they showed the low awareness (29%) about the amount of coffee cups that could induced the osteoporosis disease as shown in Fig. 2.

According to nutritional factors and bone health, the results showed a moderate awareness of the postmenopausal women about the daily requirement of calcium intake (37%) and for vitamin D3 (38%) as shown in Fig.5 and Fig.6.

However, the results showed a moderate awareness of the postmenopausal women about the about the best time for sunlight exposure (40%) as shown in Fig.7, also about the relationship between the soft drinks and the osteoporosis disease (60%), as shown in Fig.8.

In addition, they preferred different types of milk to prevent the occurrence of osteoporosis disease (38%), as shown in Fig.9.

Related to the postmenopausal interval symptoms (Insomnia, hot flashes, nervousness) awareness and the exact pathophysiology of postmenopausal symptoms, they showed a moderate awareness 43%, 38% respectively, as shown in Fig.10 and Fig.11.

As result of this survey, the percentage of postmenopausal women who had a moderate level of awareness about the osteoporosis disease and the treatment was 94%.

A related study conducted in Riyadh to assess the level of knowledge, attitude and practices regarding Osteoporosis among primary health care physicians in the KSA. It was cross sectional survey of 364 primary health care physicians working in different PHC units in the KSA. As results, there was a need to extend medical knowledge regarding the contemporary management of osteoporosis and its risk factors. In addition, it encouraged improving physicians' performance; as osteoporosis prevention strategy.<sup>[12]</sup> The study limitation was the small sample size and multisite but in one center.

#### **4. CONCLUSION**

Our study found that the patients' awareness about their possible treatment related to Postmenopausal osteoporosis was higher than their awareness about risk factor that induced Osteoporosis due to deficiency in patient counseling program and low availability of medical information sources. As plan, I recommend apply program for patient education and awareness in hospital and in community services. Also, the importance role of community events that increase the awareness of patient about the disease and its complication in addition to provide mobile applications as medical information resource provided as simple and clear Arabic language.

#### **5. ACKNOWLEDGMENT**

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