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## **Osteoporosis awareness among perimenopausal women at Aswan university hospital in Upper Egypt**

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### **Abstract**

**Introduction:** Osteoporosis is a major public health problem globally. It is defined as a skeletal disorder characterized by low bone strength, leading to an increased risk of fragility fractures. Maximum bone loss occurs in women during perimenopause and menopause. As the prevalence of osteoporosis increases with age, it is estimated that up to 70% of women over the age 80 years have osteoporosis. Young Asian women are more susceptible to have bone mineral loss when compared to their western counterparts.

**Aim of this work:** This study aims to evaluate the level of awareness in perimenopausal women using the Osteoporosis Health Belief Scale (OHBS). Attending Aswan University hospital.

**Methods:** It is a cross-sectional study. The current study was conducted at Aswan university hospital. All women who visited our department of obstetrics and gynaecology outpatient clinic above 45 years irrespective of any symptoms are included. The resulting sample included 100 women. All patients gave verbal and informed consent to complete the OHBS questionnaire

**Results:** In the present study, 100 patients were enrolled. The women belonged to the age group of 45-50 years.

As regard educational level only 31% with high level of education, 67% of them came from rural areas, 76% of them were house wife and 24% were employed and according to source of information heard about osteoporosis 34% from media as regard level of education women with high level of education were more aware than others.

**Conclusions:** Level of awareness among study group were varied significantly with residency. Urban were more aware about osteoporosis when compared to rural women also between housewife and employed. Employed were more aware about osteoporosis when compared to housewife also level of education was a very important rule. Women with high level of education were more aware than others.

**Keywords:** osteoporosis, awareness, Perimenopause, scale

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### **Introduction**

The osteoporosis is a major public health problem worldwide. Defined as a skeletal disorder characterized by low bone strength, leading to an increased risk of fractures due to fragility<sup>[1]</sup>.

Most of bone loss occurs in women during perimenopause and menopause age. The prevalence of osteoporosis increases with age, it is estimated that up to 70% of women over the age 80 years have low bone density<sup>[2]</sup>.

Asian young women are more susceptible to have bone mineral loss when compared to western women<sup>[3]</sup>.

An increase in the average longevity and so the old age of the society in developing countries such as the Middle East has led to an increase in the prevalence of osteoporosis and its following fractures in the area, so that 70% of the cases with hip fracture will happen in these countries by the year 2050<sup>[4-5]</sup>.

Despite emerging therapies to treat osteoporosis, prevention is still preferable for controlling it<sup>[4]</sup>.

To plan for the prevention of osteoporosis, sufficient information about people's health beliefs and knowledge is necessary, and to change the health behaviours related to modifiable risk factors of osteoporosis, it is necessary to be familiar with the individuals' practice in case of prevention and also their cultural and socio-economical class<sup>[6-7]</sup>.

Treatment of osteoporotic complications may consume a significant part of a nation's health-care resources in future as the number of geriatric patients is bound to increase with an increase in the average of life expectancy<sup>[8]</sup>.

Major requirement for managing any health disorder starts with the evaluation of the current awareness of the disorder among the target subjects residing in an area. Prevention and management of osteoporosis require understanding and commitment from the vulnerable population, i.e., postmenopausal and peri menopausal females<sup>[8]</sup>.

Evidence suggesting that knowledge about osteoporosis is a contributor to osteoporosis preventive behaviour, although this is not a clear-cut relation. About India, awareness of osteoporosis is low, since there has been relatively little effort to publicize the problem. Although few surveys indicate that awareness about the disease in the urban population is inadequate, there are no large-scale surveys undertaken to assess the depth of awareness and understanding of osteoporosis in postmenopausal females<sup>[9]</sup>.

### **Aim of this work**

This study aims to evaluate the level of awareness in perimenopausal women using the Osteoporosis Health Belief

Scale (OHBS). Attending Aswan University hospital

**Methods**

It is a cross-sectional study. The present study was conducted at Aswan university hospital. All women who visited the department of obstetrics and gynaecology outpatient clinic above 45 year irrespective of any symptoms are included. The resulting sample included 100 women. All patients gave verbal and informed consent to complete the Osteoporosis Health Belief Scale questionnaire.

OHBS is designed to measure seven constructs: susceptibility, seriousness, Ca benefits, Ca barriers, exercise benefits, exercise barriers, and health motivation. Each item in the Osteoporosis Health Belief Scale is scored from 1 (strongly disagree) to 5 (strongly agree). Six questions constitute one category, and the summary scores are calculated by summing up the scores of each category, which results in the possible score range from 6 to 30. The Osteoporosis Health Belief Scale comprises 42 items: 1-6: susceptibility; 7-12: seriousness; 13-18: benefits of exercise; 19-24: benefits of Ca intake; 25-30: barriers to exercise; 31-36: barriers to Ca intake; and 37-42: health motivation.

All results are expressed as the mean ± standard deviation (SD). Data was analysed statistically by SPSS

Examples of the Osteoporosis Health Belief Scale Questions

1. Is Yours chances of getting osteoporosis are high?
2. Because of your body build, you are more likely to develop osteoporosis?
3. Is it extremely likely that you will get osteoporosis?
4. If there is a good chance that you will get osteoporosis?
5. Are you more likely than the average person to get osteoporosis?
6. Is your family history makes it more likely that you get osteoporosis?
7. Is the thought of having osteoporosis scares you?
8. If you had osteoporosis you would be crippled?
9. Is your feelings about yourself would change if you got osteoporosis?
10. It would be very costly if you got osteoporosis?
11. When you think about osteoporosis you get depressed?
12. It would be very serious if you got osteoporosis?
13. How long regular exercise prevents problems that would happen from osteoporosis?
14. Are you feel better when you exercise to prevent osteoporosis?
15. Are you believe that regular exercise helps to build strong bones?
16. Are exercising to prevent osteoporosis also improves the way your body looks?
17. Are regular exercise cuts down the chances of broken bones?
18. Are you feel good about yourself when you exercise to prevent osteoporosis?
19. If taking in enough Ca prevents problems from osteoporosis?

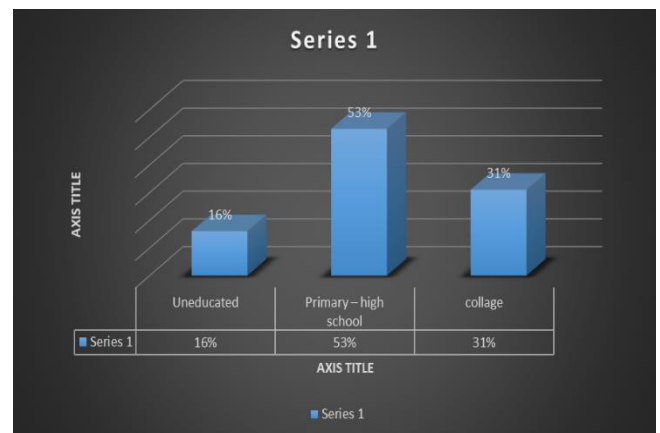
20. Are you have lots to gain from taking in enough Ca to prevent osteoporosis?
21. If taking in enough Ca prevents painful osteoporosis?
22. Are you would not worry as much about osteoporosis if you took in enough calcium?
23. Is taking in enough Ca cuts down on your chances of broken bones?
24. Are you feel good enough about yourself when you take in enough Ca to prevent osteoporosis?

**Results**

In the present study, 100 patients were enrolled. The women belonged to the age group of 45-50 years

**Table 1:** Educational level among study group

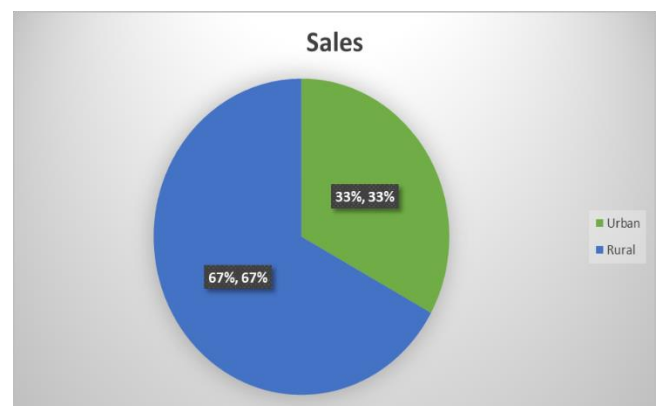
Item	Number	Incidence
Uneducated	16	16%
Primary – high school collage	53	53%
	31	31%



**Fig 1**

**Table 2:** Classification of the women according to residency

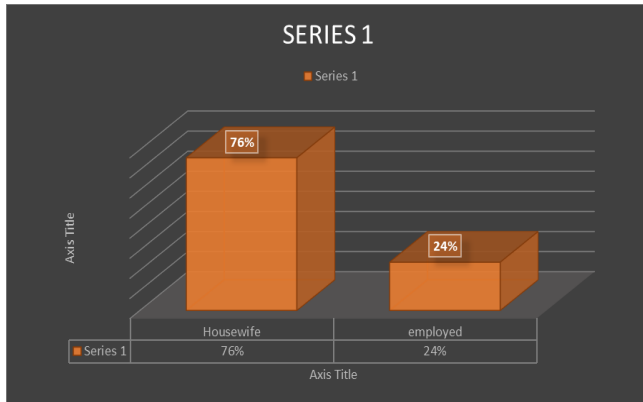
Item	Number	Incidence
Urban	33	33%
Rural	67	67%
Total	100	100%



**Fig 2**

**Table 3:** Classification of the women according to occupation

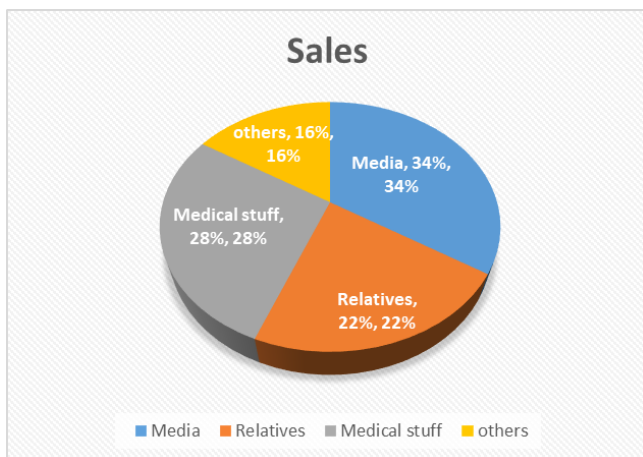
Item	Number	Incidence
Housewife	76	76%
employed	24	24%
Total	100	100%



**Fig 3**

**Table 4:** Classification of the women according to source of information heard about osteoporosis

Item	Number	Incidence
Media	34	34%
Relatives	22	22%
Medical stuff	28	28%
others	16	16%
Total	100	100%



**Fig 4**

**Table 5:** level of awareness of osteoporosis among study women

Parameters	Aware	Unaware	P value
Uneducated	3	13	p<0.05
Primary – high school	30	23	p<0.05
collage	22	9	p<0.05
Urban	25	8	p<0.05
Rural	17	50	p<0.05
Housewife	26	50	p<0.05
employed	16	8	p<0.05

Regarding level of awareness among study group were varied significantly with residency ( $p<0.05$ ). Urban were more aware about osteoporosis when compared to rural women also between housewives and employed. Employed were more aware about osteoporosis when compared to housewives also level of education was a very important rule. Women with high level of education were more aware than others.

**Discussion**

Osteoporosis is a “silent killer” that millions of people around the world suffer from, and it is important due to its morbidity, mortality, adverse effects on the quality of life and the extra costs imposed to the patient and the community<sup>[10]</sup>.

Most of bone loss occurs in women during perimenopause and menopause age. Prevalence of osteoporosis increases with age, it is estimated that up to 70% of women over the age 80 years have osteoporosis<sup>[2]</sup>.

In the present study level of awareness among study group were varied significantly with level of education ( $p<0.05$ ). Urban were more aware about osteoporosis when compared to rural women. Employed were more aware about osteoporosis when compared to housewife also level of education was a very important rule. Women with high level of education were more aware than others. This results in agree with (Ayesha *et al.*)<sup>[11]</sup>. they found that Rural women are more ignorant about the condition (40% were aware). Educated women have more awareness when compared to uneducated women (56.25% vs 27.78%).

Riaz *et al.* also reported higher knowledge about osteoporosis in educated Pakistani women<sup>[12]</sup>.

Akhtar *et al.* showed significantly lower awareness in women (aged 16-49 years) belonging to lower socioeconomic and less educated group. Women staying in urban areas had better knowledge about osteoporosis<sup>[13]</sup>.

This result dis agree with Manickavasagam *et al.*<sup>[14]</sup>. they found that the performance of participants stratified according to their educational status, no significant difference was observed between illiterate/primary level educated and the rest of the participants with regard to osteoporosis awareness.

In the present study media were the most common source of information heard about osteoporosis 34% and only 28% heard about osteoporosis thorough medical and health stuff, similar finding were reported by study on middle aged and elderly women in Singapore<sup>[15]</sup>.

This reveals the fact that with the current system of education, the weight of importance given to osteoporosis and its consequences is probably suboptimal.

Current study has some limitations. It was a single-centre study with a small sample size, and it considered only the Osteoporosis Health Belief Scale, along with general criteria. We did not collect data regarding dietary Ca, exercise patterns, and general life styles such as social life.

We recommend studying the Osteoporosis Health Belief Scale with other related osteoporosis factors, food habits, to develop an educational program for prevention of the disease.

The current study is limited by its cross-sectional design. Ideally, conducting a teaching session on osteoporosis, its risk factors, and treatment and assessing the questionnaire responses before and after the same will help in determining the effect of education

on their existing state of awareness about osteoporosis.

### Conclusions

Level of awareness among study group were varied significantly with residency. Urban were more aware about osteoporosis when compared to rural women also between housewife and employed. Employed were more aware about osteoporosis when compared to housewife also level of education was a very important rule. Women with high level of education were more aware than others.

### Recommendations

General physicians who provide primary care to the elderly should discuss about osteoporosis during clinic visits for management of chronic diseases such as diabetes or hypertension. Conducting osteoporosis awareness programs in schools and colleges will assist in improving their knowledge. Using mass media including print, broadcast, and digital media to improve awareness will help in reaching out to a majority of the general population. Individuals at risk of osteoporotic fractures who attend hospitals for other ailments can be provided information leaflets about osteoporosis and fall prevention.

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### Compliance with ethical standards

No funding was received for this study. All procedures performed in this study involving human participants were in accordance with the ethical standards of the institution

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**Conflict of interest:** None declared

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