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**AWARENESS OF OSTEOPOROSIS IN POSTMENOPAUSAL INDIAN WOMEN:
AN EVALUATION OF OSTEOPOROSIS HEALTH BELIEF SCALE**

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Introduction

Osteoporosis means «porous bones» and is characterized by a decreased mineral density of the bones [1]. It is seen in ageing population and is considered as a modern epidemic. Osteoporosis makes the bones weak and fragile, increasing the chances of them getting fractured even with trivial trauma. Such fractures may lead to pain, deformity, and disability [2]. Osteoporosis renders significant morbidity among the geriatric population, especially in postmenopausal females. A proactive role needs to be played for preventing its consequences. Before initiating any preventive measures, priority to understand the awareness level among the target population is necessary. The questionnaire-based study design was used for this study. The basic requirement for managing any health disorder starts with the evaluation of the current awareness of the disorder among the target subjects residing in a region. The prevention and management of osteoporosis require understanding and commitment from the vulnerable population.

Aim

To evaluate the level of awareness in postmenopausal women using the Osteoporosis Health Belief Scale (OHBS) and their BMD (bone mineral density).

Subjects and Methods

A questionnaire (OHBS)-based study in 100 postmenopausal women, southern part India, Pondicherry and Tamilnadu. The information of data was obtained from the department of obstetrics & gynaecology and department of orthopaedic in Mahatma Gandhi medical college and research institute. The BMD was measured in each case by dual-energy X-ray absorptiometry. Height, weight, and body mass index (BMI) of the participants were noted. In OHBS, there are 42 items in the scale as susceptibility 1–6, seriousness 7–12, benefits of exercises 13–18, benefits of calcium intake 19–24, barriers to exercise 25–30, barriers to calcium intake 31–36 and health motivation 37–42. Each item is rated using a 5-point Likert scale as 1-strongly disagree, 2-disagree, 3-neutral, 4-agree and 5-strongly agree. Apart from the OHBS, other parameters such as the participants' height, weight, BMI, dietary habits, and physical activity were recorded. According to the «t» score of BMD assessment by dual-energy X-ray absorptiometry (DEXA), the patients were divided into three groups namely normal (t score $\geq -1,0$), osteopenia (t score between $-1,0$ and $-2,5$), and osteoporotic (t score $\leq -2,5$). The data so collected was analysed in an IBM statistics software.

Results and discussions

The average age of the 100 enrolled women was 47.6 years (38–64 years). The average BMI was $26,6 \pm 3,48$. Out of the 100 women, here, we divided patients into 3 groups with help of BMD assessment; 18 women had a «t» score of $-2,5$ and below and were osteoporotic, 55 women had «t» score — 1 to $-2,5$ and were osteopenia and 27 women had «t» score -1 to 1 and were considered normal. There was no statistically significant difference between the mean susceptibility scores of the three groups (normal, osteopenia, and osteoporotic), the mean scores were normal (18,30), osteopenia (18,58), and osteoporotic (18,17) individuals respectively ($p = 0,804$).

Using ANOVA, the P-values for other parameters such as seriousness ($p = 0,520$), benefits of exercise ($p = 0,293$), benefits of calcium intake ($p = 0,329$), barriers to exercise ($p = 0,760$), barriers to calcium intake ($p = 0,953$), and health motivation ($p = 0,859$) were not statistically significant.

Out of the 42 questions of the questionnaire, in only 2 questions the number of women answering as «agree» was high. The two questions, «Regular exercise helps to build strong bones» 48 % and «Exercising regularly makes you uncomfortable» 47 %. In the rest of the 40 questions, most of the responses were neutral which create ambiguity whether the person agrees or not and can affect the results accordingly. Therefore, this scale can omit neutral response for more concrete responses. The person should be asked to commit whether he/she agrees or not.

The mean BMIs among the three groups were normal ($28,2 \pm 3,11$), osteopenia ($26,2 \pm 3,37$), and osteoporotic ($25,2 \pm 3,65$) of the population.

For the Indian population, the exact figures on the prevalence of osteoporosis are not available, but the estimation is that more than 61 million Indians have osteoporosis with women accounting for 61 % of them. A literature search failed to provide us with any study assessing the awareness among Indian population, and hence, we attempted to study the similar population in and around Chennai, Tamilnadu and Pondicherry, India using a representative sample. Objective assessment of any condition or state needs a measurement tool like the OHBS.

The scores of all the seven parameters of OHBS was statistically not significantly among the normal, osteopenia, and osteoporotic women, which means the health belief regarding susceptibility is not much difference between the groups. In other words, the susceptible population lacks adequate knowledge about osteoporosis. The osteoporotic population had comparatively lower seriousness than the other two groups and almost equal mean scores in barriers to exercise, barriers to calcium intake and health motivation parameters of the OHBS in comparison to the normal population. The overall goal of health education is to ensure that the population understands the risk factors and their current health status and can simultaneously make an informed decision regarding their health behaviour to prevent such diseases. However, more research is required to find out the different ways and types of intervention that can alter and positively affect the health beliefs of the population at risk. In a developing country like India, some people are ignorant to terms such as calcium and its definition. Therefore, an average intelligence of the population should be measured before this questionnaire though this was just not possible in this study being it was a community public health check-up.

Conclusion

The results show that there is a great deficit in the awareness level of postmenopausal Indian women regarding osteoporosis. Lacks adequate knowledge about osteoporosis where understand by OHBS evaluation among the population. Most of the women were unaware of the condition and the means to prevent it. The study emphasizes that health care professionals have a lot of ground to cover to decrease the incidence of osteoporosis and its associated health problem.

REFERENCE

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