

Assessment of Knowledge And Practice Regarding Osteoporosis Among Post-Menopausal Women

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Abstract

Aim: The aim of the study is to assess the knowledge and practices regarding osteoporosis among post-menopausal women.

Methodology: A descriptive cross-sectional study design was used. A purposive sampling technique was used. The study population was post-menopausal women and sample size was 153.

Results: The study was descriptive cross-sectional so descriptive statistics was applied, frequency distribution was calculated, and data normality was checked. The study reported that the participants with low knowledge and practices were 110 (71.9%), the participants with high knowledge were 43 (28.1%).

Conclusion: The study concluded that the majority of post-menopausal women having low knowledge regarding osteoporosis.

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Introduction

Osteoporosis is a progressive and chronic skeletal condition whereby the bone becomes weak and structurally delicate to generate significant downstream effects particularly during later age like an increased risk of falls and disabling fractures, and the effect of osteoporosis is especially severe in women after menopause (Hawkins et

al., 2021). Practically, osteoporosis makes the skeleton more and more fragile; it puts the risk of fracture significantly higher; this effect becomes much more common in postmenopausal women, where osteoporosis appears to significantly increase after the menopausal transition (Lorentzon et al., 2022).

The decline of bone strength is not only an indication of a decrease in bone quantity but also a bone quality that becomes less favorable, containing poor microarchitecture, altered bone turnover relationships, accruing microdamage, and the shift in mineralization mechanisms (Fonseca et al., 2014). As people are growing older, bone mass density is likely to go down, a point of interest in explaining the increasing cases of fractures that are apparent among the elderly groups. Osteoporosis is epidemiologically more prevalent in females who are said to experience about three times as many cases compared to men occurring (Kanis & Pitt, 1992) a disparity that is commonly associated with the lower bone mass peak and the hormonal alterations associated with menopause that hastens the incidence of skeletal loss (Wren et al., 2007).

It is generally believed that in women, the greatest burden of osteoporosis is directly linked with a lack of estrogen (Wang et al., 2023). Estrogen has an established role in calcium homeostasis and overall skeletal control and sustenance, which is why it assists in preserving bone mass and bone structure (Cannarella et al., 2019). The bone loss rate can associate with menopause can increase significantly often to approximately 2%–5% a year and this speedy deterioration may continue up to a decade (De Villiers and Goldstein, 2022). In line with this issue, it has been shown that the prevalence of osteoporosis in ambulatory postmenopausal women may reach 50% on one or more skeletal sites with the morbidity risk following osteoporotic hip fracture estimated to be about 20% during the first year (Clynes et al., 2020).

The average postmenopausal women have been reported to lose approximately 5% of their bone volumes due to the osteoporosis process (Bhatnagar & Kekatpure, 2022). The frequency of fracture is age-related, and it is reported that up to one out of every two women can develop bone fracture after 60 years old, and the risks are not only determined by age but also by lifestyles factors that are unique to each person. Importantly, a subset of postmenopausal women often estimated at around 25% may be categorized as “fast bone losers,” and such individuals can be identified through direct measurement of bone loss and the assessment of bone resorption markers (Yong & Logan, 2021). Population-level estimates further suggest that osteoporosis prevalence rises from roughly one-third among adults aged 50–60 years to more than half of those over 80 years, and projections indicate that by 2050 the global number of individuals affected by osteoporosis (including males and females) will reach 6 million, with approximately three-quarters living in developing countries (Xiao et al., 2022).

Methodology

A descriptive cross-sectional study design was used to assess the knowledge and practices regarding osteoporosis among post-menopausal women. The purposive sampling technique was used. The study population was post-menopausal women visiting tertiary care hospital. The study setting was Jinnah hospital Lahore. The duration of this study was 9 month. The study sample was 153 calculated through solvin's formula.

An adapted questionnaire of knowledge and practices was used to gather the information from the study sample. The study included post-menopausal women aged ≥ 40 years the patient comes with osteoporosis since 6th month. Women who refused to participate and women with hearing problem were excluded in the study.

After collecting data, the data was compute analyze by software program (SPSS) version (22). The ethical consideration was followed which is organize by The Superior University, department of Nursing, Lahore. The participant's confidentiality was ensured.

Chapter Analysis

Study participants and their Socio demographic Characteristics

Table No: 1 Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 56-60	99	64.7	64.7	64.7
61-65	54	35.3	35.3	100.0
Total	153	100.0	100.0	

Table No: 2 Educational level

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid educated	84	54.9	54.9	54.9
Uneducated	69	45.1	45.1	100.0
Total	153	100.0	100.0	

Table No: 3 Address of patient

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Lahore	91	59.5	59.5	59.5
out of Lahore	62	40.5	40.5	100.0
Total	153	100.0	100.0	

The demographic findings show that the majority of participants were aged **56–60 years (64.7%)**, while a smaller proportion fell in the **61–65 years age group (35.3%)**, indicating that most respondents were in the younger segment of the older-adult population. In terms of education, **more than half were educated (54.9%)**, whereas **45.1% were uneducated**, suggesting a moderately balanced literacy distribution. Regarding residence, **59.5% of respondents belonged to Lahore**, while **40.5% were from outside Lahore**, showing that the sample was slightly more urban-centered. Overall, the demographic profile reflects a predominantly younger-old, moderately educated group with a greater representation from Lahore.

Distribution of Knowledge and practices questions

Sr.no	Statement	True	False
1.	Osteoporosis leads to an increase risk of bone fracture.	111(72.5%)	42(27.5%)
2.	Osteoporosis usually causes symptoms (for example pain) before fracture occur.	81(52.9%)	72(47.1%)
4.	Osteoporosis more common in man.	92(60.1%)	61(39.9%)
5.	Family history of osteoporosis strongly predisposes a person to osteoporosis	72(47.1%)	81(52.9%)
6.	An adequate calcium intake can be achieved from two glasses of milk a day	92(60.1%)	61(39.9%)
7.	Calcium supplements alone can prevent bone loss	82(53.6%)	71(46.4%)
8.	A high salt intake is a risk factor for osteoporosis	63(41.2%)	90(58.8%)

The results suggest that most of the respondents correctly described osteoporosis as the disease that increases the risk of a fracture (72.5%), and that the prevalence of osteoporosis among women is 64.7% at the age of 80. Even so, there were large misunderstandings; specifically, 52.9% of those questioned had an incorrect viewpoint that osteoporosis occurs with signs before the onset of fractures but 51 percent had a false notion that smoking does not cause the condition. Other areas of knowledge shortage were also present in relation to the consumption of sodium (58.8% of the question misjudged) and the influence of family history (52.9% of the question wrongly approved). Some knowledge about osteoporosis was also present but the fact that false responses were at high levels in several of the items highlights some of the major misconceptions that need to have educational interventions.

Discussion

This study was aimed at assessing the level of knowledge and preventive behaviours on osteoporosis among postmenopausal women. In the existing sample, 99 participants (64.7% included age 56-60 years) and 54 participants (35.3) comprised the 61-65 year age. When it comes to the levels of education, 84 (54.9) respondents were educated, and 69 (45.1) were not. Regarding place of residence, 91 participants (59.55) lived in Lahore, and 62 (40.45) lived outside the city.

One of the studies carried out in southern India was an investigation of knowledge, practices and attitudes of osteoporosis amongst the postmenopausal women. The results showed that 57 percent (n=171) were familiar with the concept of osteoporosis as the condition that increases the susceptibility to fractures and 52.3 percent (n= 172), knew how reduced bone strength, falls, and related fractures are interconnected. Although 67 percent (n=181) knew that by age 65, many women could develop osteoporosis, 66.3 percent (n=199) were mistaken about the fact that osteoporosis occurs more often in men than in women (Nelapati, 2023). In the current study, 72.5 percent (n = 153) stated that osteoporosis predisposes bone fractures, and 42.5 percent (n 153) stated that over the age of 50, women have to expect osteoporosis-associated bone fractures. Also, 60.1 percent (n=153) gave the opinion that osteoporosis is more common in men as opposed to women.

A survey of community awareness and preventive practices on osteoporosis was conducted among menopausal women in India, and 100 female participants between 45 and 56, years old, were surveyed. In that sample, 50 percent of the participants had a median score of 12 in terms of knowledge, with the other half scoring below 12

(Thomas & Paul, 2023). On the contrary, the present research resulted in the finding that 110 respondents (71.9 -percent) had low osteoporosis knowledge and 43 respondents (28.1 -percent) had high knowledge, thus highlighting a sizable body of knowledge gap in the study results.

Another study was done in central India and aimed at identifying the gaps of knowledge in postmenopausal women, thus recruiting 792 participants. In this study, 30 percent of the participants stated that osteoporosis is a condition that affects women, and 80 per cent of them felt that a high-calcium diet would be beneficial in preventing osteoporosis (Mohabey et al., 2021). On the other hand, the current study documented that half of the respondents agreed that calcium is beneficial in the inhibition of bone loss whilst half of the respondents believed that osteoporosis is more prevalent in males than in females indicating that the misunderstanding on the nutritional aspect might not be abated completely even in cases where part of them accept the nutritional aspect.

Conclusion

The results derived in the research reflect that knowledge and management practices of the participants (post-menopausal females) with regard to prevention and management of osteoporosis were not optimal. There was a knowledge gap in the area of symptoms, risk factors, and treatment options, which indicates the lack of education on the topic. These findings highlight why there is a strong urgency of strengthening awareness campaigns among young adults especially those who have a desire to join the healthcare career field. The reinforcement of osteoporosis-based educational efforts would potentially support better preventive behaviors and positive bone health over time.

Strengths

The experiment had used a validated and structured questionnaire thus making the knowledge and practices reliable in measurement.

The sample size was large enough to give sufficient representation of the target population.

The research is covering an important public health issue where the evidence of the study will be important to educational intervention in the future.

Limitations

The research was also restricted geographically to few geographical areas which may limit the applicability of the study.

Self-reports can be affected by the social desirability or recall bias.

The cross-sectional design does not allow considering the changes in the course of time or creating cause-effect relationships.

Recommendations

Introduce osteoporosis education in university programs in forms of lectures, workshops, and awareness creation.

Introduce preventive measures like dietary change, calcium consumption and physical exercise in the community through mass education.

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