

# Level of Awareness of Osteoporosis Among Health Care Providers – A Study of Four Tertiary Referral Hospitals of Lahore

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## ABSTRACT

Lack of knowledge among patients regarding osteoporosis is a big barrier to the management of this disease. This study was carried out to assess the knowledge of osteoporosis among healthcare providers who were more than 40 years of age.

**Material and Method:** Doctors and nurses of age more than 40 years, working in four major teaching hospitals of Lahore, Pakistan (Mayo Hospital, Services Institute of Medical Sciences, Lady Wallingdon Hospital and Jinnah Hospital) were approached randomly and asked to fill out a questionnaire. This questionnaire consisted of two parts. The first part consisted of 20 simple questions to be answered by checking “true”, “false” or “don’t know”. These questions were developed by Ailinger in “Facts on Osteoporosis Quiz” (FOOQ). The other part of the questionnaire had brief questions regarding the biodata and educational qualification of the respondent.

**Results:** The study revealed that most of the health care providers were unaware or had insufficient knowledge of the disease. Not a single respondent gave 100% correct answers. Out of 20 questions the Mean score of correct answers was 14.72, the least score was 8/20 and best was of 18/20. 17% of the respondents had good knowledge, 42% had average and 41% had poor knowledge. Respondents showed variable response on different aspects of osteoporosis.

**Conclusion:** There is an urgent need for re-education of the health care providers about osteoporosis. This can be done with seminars, workshops and interactive sessions discussing gravity and the magnitude of the disease.

## INTRODUCTION

Osteoporosis is a major health problem affecting both men and women across the globe<sup>1</sup>. This skeletal abnormality is characterized by decrease in bone mass and an increased risk of fracture. There are emerging studies from several countries on the knowledge of osteoporosis among healthcare workers using various assessment tools, and many studies have reported a deficit in knowledge among this group.<sup>2-6</sup>

The Facts on Osteoporosis Quiz (FOOQ) is one of the instruments that has been developed to assess knowledge of osteoporosis. This instrument consists of 20 true and false questions, and its content was generated based on the osteoporosis consensus conference of the National Institutes of Health in 2000.<sup>7</sup>

A randomized study was conducted by Hannon using the FOOQ to investigate nurses’ and midwives’ knowledge of osteoporosis, as well as to assess their education and training needs.<sup>8</sup>, It was found that the mean score of nurses’ knowledge of osteoporosis was only 13.75, which was less than the mean score of 16.8 found among a general population in Ailinger et al’s study. This study highlights the concern over the role of nurses and midwives in health education, particularly regarding osteoporosis.

Another population-based survey conducted by Saw et al to determine the awareness and knowledge about osteoporosis in middle-aged and elderly Chinese women showed that osteoporosis is not being taken as a serious disease and knowledge about its risk factors, its complications and management was lacking.<sup>9</sup>

The present study was also conducted to determine the attitude of health care professionals working in teaching hospitals towards osteoporosis. The survey was comprised of very simple questions which did not need professional

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expertise to be answered and could have been answered by an educated lay man. Yet, health care professionals were chosen in this study as all of them were educated and qualified having the least qualification of being Bachelor of Science. Their knowledge regarding a particular health related problem imparts a significant role in education of the general population. As osteoporosis is mainly a problem of the aging people, only health care professionals of the age 40 or more were selected.

It is hoped that the present study will help us understand the deficiencies in the knowledge regarding osteoporosis and will contribute directly or indirectly in the health education of general population in our country.

### MATERIAL & METHOD

A descriptive cross sectional survey was carried out simultaneously in four teaching hospitals of Lahore (Mayo Hospital, Services Institute of Medical Sciences, Lady Wallingdon Hospital, Jinnah Hospital). Post graduate residents working in the respective hospitals were given the task of distributing the questionnaire among the nurses and doctors of age 40 and above and collecting after having them answered. All of the respondents were informed briefly about the study and names were kept confidential. All the activity was entirely on voluntary basis and the selection of the respondents was done randomly among different departments of the hospitals.

The data collected from the residents was handled only by the principal investigators in Mayo Hospital and was analyzed by SPSS program. Demographic characteristics and scores on the Questionnaire were summarized using descriptive summary measures.

**Table 1:** Level of awareness was graded according to the number of correct responses

More than 16	Good
13-16	Fair
Less than 13	Poor

### RESULTS

Total number of study participants was 177

Out of 177 respondents in the study, not a single respondent gave 100% correct answers. Out of 20 questions in the first part of questionnaire, the Mean score of correct answers was 14.72, the least score was 8/20 and best was of 18/20. 17% of the respondents had good

knowledge, 42% had fair and 41% had poor knowledge according to the modified FOOQ devised by Ailinger et al. Respondents showed variable response on different aspects of osteoporosis. All of the respondents (100%) knew that bone loss speeds up after menopause and they recognized early menopause as a risk factor for osteoporosis. However, only 2.25% correctly responded that the statement 'walking has a great impact on bone health' is false and 11% of respondent knew that lower weight women have osteoporosis more than heavy women.

Characteristics of participants	
Staff Nurses	93
Head Nurses	21
Deputy Nursing Superintendent	9
Nursing Superintendent	13
Senior Medical Officer	26
Consultant	10
Administration	15

94.4% of doctors/clinicians had good knowledge, whereas majority of doctors working in hospital administration (86.6) were found to have fair knowledge. On the other hand 52.9% of nurses were found to have poor knowledge about osteoporosis.

### DISCUSSION

In prevention and treatment of osteoporosis, education of healthcare professionals has been shown to be the most important element.<sup>10</sup> It is least likely that general population of a developing countries like Pakistan will have a good knowledge of osteoporosis when their health care providers have a deficient knowledge. Education about the prevention and treatment of the disease can decrease the incidence of fragility fractures and will definitely change the quality of life of geriatric age group.

The mean osteoporosis knowledge score of 14.7 in our study of *Health Care Providers* was lower than the finding of 15 reported by Ailinger et al in the American *General Population !!* However, it is higher than Hannon's finding of 13.86 among nurses and midwives in North West Ireland<sup>8</sup>

Our study produced a drastic result as not a single respondent gave 100% correct answers to the questions of the quiz which were made more simplified by eliminating the negativity in the

questions present in the original Ailinger's questionnaire. More dramatic point was the fact that this study also included a couple of respondents who were working in orthopedic department at consultant posts.

Although osteoporosis historically has been perceived as a disease of aging women, in 1992, the Framingham study indicated that loss of femoral neck bone density was linear with age and equivalent in men and women.<sup>11</sup> About one quarter of our respondents (25.9%) either did not know that osteoporosis affects both men and women or they believed that it only effects women. All of the respondents correctly believed that osteoporosis speeds up after menopause and early menopause is a risk factor for osteoporosis but their knowledge about HRT (Hormone Replacement Therapy) was poor.

Lifestyle choices can have a profound impact on bone health. Chronic alcohol use (>7 oz/wk) directly suppresses osteoblast activity. Smoking lowers BMD and increases the risk of hip and vertebral fracture. Smoking also increases the risk of hip fracture by 40%.<sup>12-13</sup> Some respondents in our study were unaware of these facts. When asked whether alcoholism is linked to the occurrence of osteoporosis, 28% of the respondents stated that they did not know and 12% of the respondents failed to recognize any link between smoking and osteoporosis.

In adulthood, men require calcium 1,000 mg/day to 1,500 mg/day and vitamin D 400 IU/day to 800 IU/day.<sup>14</sup> Oral supplementation is necessary because only 60% of older adults receive these levels from their diets<sup>15</sup> and intestinal calcium and vitamin D metabolism are impaired with age.<sup>16</sup> Nearly all respondents believed that calcium supplementation is necessary for prevention of osteoporosis but probably majority of them were unaware of the calcium content in one glass of milk. When asked: 'After menopause, women not on estrogen need about 1,500 mg of calcium (for example, 5 glasses of milk) daily' or not, 45% of the respondents gave the right answer. This study also suggested that respondents are not familiar with the recommended daily calcium intake for adolescents as 62.7% of the respondents believed that 1 glass of milk is sufficient in providing enough calcium to children 9 to 17 years of age.

When asked whether walking has a great effect on bone health or not, out of 177 respondents, only 4 (2.3%) correctly answered that it does not and 97.7% believed the other way

round that it does. At the same time 79.6% of them also believed that high impact exercise like weight training improves bone health. This suggests that most health care providers do not understand that although walking has an obvious cardiovascular benefit, there is little evidence to suggest that it has a beneficial effect on bone density. It also suggests that the respondents failed to differentiate between the effects of high impact exercise and walking. Another least understood factor regarding osteoporosis was the fact that lower weight women have osteoporosis more than heavy women. Majority of the respondents did not know about it and only 10.7% acknowledged this fact to be true.

Even though this was a very small study but it exposed certain deficiencies and misunderstandings towards osteoporosis. This disease is a rapidly assuming epidemic in the fast growing aging populations of Asia<sup>17</sup> but at the same time it is potentially a preventable disease. Therefore, lack of awareness among the health care providers, particularly among the nurses, must be taken seriously. Active steps are required to address these deficiencies for prevention of osteoporosis and reduction of human sufferings through education.

## CONCLUSION

The findings from this study indicate that the knowledge of osteoporosis among health professionals in Lahore may be inadequate and that there are considerable gaps in the existing knowledge, especially in the preventive and treatment aspects. There is an urgent need for re-education of the health care providers about osteoporosis. This can be done with seminars, workshops and interactive sessions discussing gravity and the magnitude of the disease.

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