Awareness of Osteoporosis in the Parsi Community

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Abstract

Background: Osteoporosis is a medical condition in which the bone becomes brittle due to hormonal changes or deficiency of calcium or vitamin D. The Parsi community is a micro-minority community. The Parsi community showed strong association with osteoporosis.

Objectives: The objective of this study is to assess awareness level about osteoporosis in Parsi community and to identify risk factors of osteoporosis and awareness related to it in Parsi community.

Methods: This is a community based cross sectional survey done in the Parsi community in the age group of 16 years and above on 50 subjects. The data was collected by direct method with the help of a self-prepared and validated questionnaire and simple percentage has been used for calculating the awareness level in the study.

Results: In the study it was found that younger and middle aged population were more aware about the term osteoporosis and females had better knowledge about it comparatively. Questions related to risk factors of osteoporosis, important components of building bones, sources of calcium and vitamin D to assess the awareness of subjects and it was observed that subjects had a good knowledge about the term osteoporosis, important risk factors, calcium and vitamin D being important components of bones and about sources of calcium.

Conclusion: The study revealed that there is an overall good knowledge about osteoporosis in the Parsi community. The high literacy rate in this micro community plays an important role in the awareness level about osteoporosis.

Keywords: Osteoporosis, Parsi community, Awareness.

I. INTRODUCTION

Bone is an amazing tissue and has the ability to remodel itself. It can change not only change its density but also change its internal architecture accordingly as we exercise, as it is stressed by muscles & tendons, & as our diet & health status changes. [1]

Osteoporosis is a medical condition in which the bones become brittle and fragile from loss of tissue, as a result of hormonal changes, or deficiency of calcium or vitamin D. Osteoporosis can either be due to lower than normal peak bone mass or greater than normal bone loss. Bone loss increases after menopause due to decrease in estrogen levels in the body. Osteoporosis may also occur due to a number of diseases or treatments including alcoholism, anorexia, hyperthyroidism, hysterectomy, and kidney disease. Not enough exercise and smoking are also important risk factors of osteoporosis. Osteoporosis is also defined as a bone density of 2.5 standard deviations below that of a normal young adult. Typically this is measured by Dual energy X-ray Absorptiometry at the hip.[2]The Parsi Community is a micro-minority community. There are various health related issues faced by this community. The Parsi community showed strong association with Osteoporosis. In the Parsi community, family history, smoking, rheumatoid arthritis, Vitamin D deficiency and lack of exercise are found to be potent risk factors.[3]The rationale behind this study is to assess the awareness of Osteoporosis and the associated risk factors in the Parsi community.

II. MATERIAL & METHODS

Institutional ethics committee approval was taken. The data for this study was collected by the direct method with the help of a self-prepared and validated questionnaire and simple percentage has been used for calculating the awareness in the study.Parsi community participants in the age group of 16 years and above were included in the study.(Table 1)

Tools and materials used: A questionnaire was prepared to incorporate the level of awareness of osteoporosis in the Parsi community. Based on the pilot study on 5 subjects, new questions from their feedback were included and the questionnaire was reframed and administered to 50 subjects.

Statistical Analysis: Questionnaire was presented in descriptive manner in the form of percentages, bar charts and pie diagrams.

III. RESULTS

TABLE 1:Demographic of study population.

Age Grouping	n	%
16-20 years	14	28%
21-30 years	7	14%
31-40 years	1	2%
41-50 years	12	24%
51-60 years	7	14%
61-70 years	8	16%
71- 80 years	1	2%
Gender Distribution		
Males	22	44%
Females	28	56%
Level of Education		
10th Pass	1	2%
12th Pass	11	22%
Graduate	26	52%
Postgraduate	12	24%

Graph 1: Graph showing occurrence of misconceptions in the society.
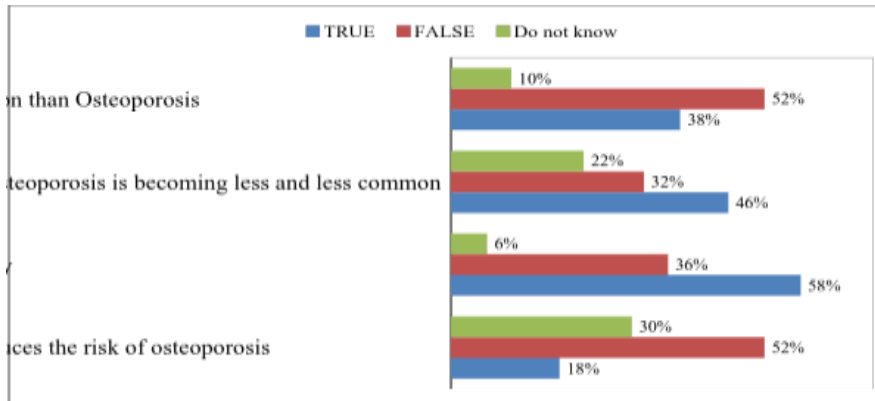
Graph 2: Awareness of subjects about the risk factors of Osteoporosis
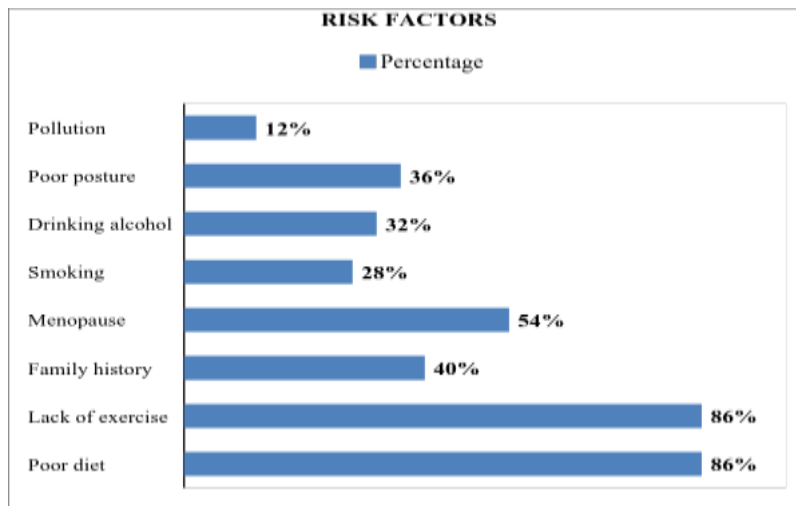
Graph 3: Awareness of subjects about the sources of Calcium.
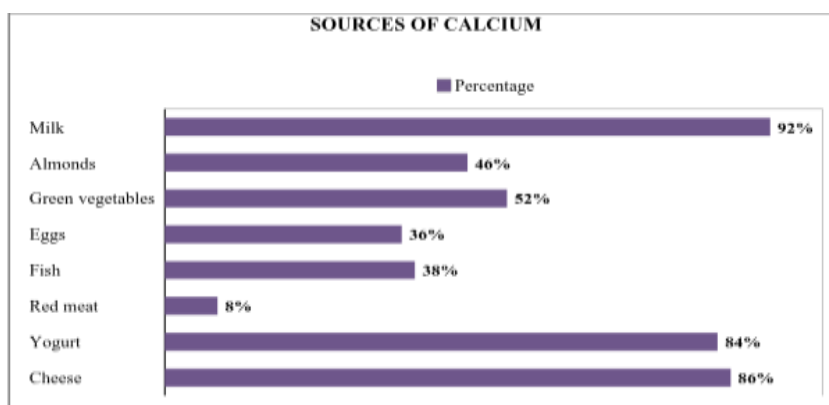
IV. DISCUSSION

The purpose of this study was to assess the awareness of knowledge about Osteoporosis including the risk factors, preventive measures and its consequences in the Parsi community. We have used a locally prepared questionnaire. In our study we have found that younger & middle aged population are more aware about the term osteoporosis. The study conducted has more number of females than males & it is observed that they have a better knowledge about osteoporosis compared to male. We have found that maximum subjects (78%) are aware (graph2) about the term osteoporosis and also they know the difference between osteoporosis & osteoarthritis. There was a lack of knowledge about the strongest bone age, as maximum subjects (53%) had a misconception that bones are strongest below 20 years of age(graph 1). It was also found that 68% of the subjects did not have family history of osteoporosis. We had also asked the subjects how likely they are to develop osteoporosis according to them and only 34% of the subjects said they are most likely to develop osteoporosis in their life. They were also asked a few questions in true & false format to access common misconceptions observed (graph 1). It was seen that most subjects (46%) had a misconception that with modern medical care osteoporosis is becoming less common.

We had asked questions related to risk factors of osteoporosis, important components of building bones, sources of calcium & vitamin D to access the awareness of subjects. It was seen that subjects had good knowledge about poor diet, lack of exercise & menopause being important risk factors of osteoporosis, calcium & vitamin D being important components for building bones and about sources of calcium(graph 3). It was observed that there is lack of knowledge regarding smoking, drinking alcohol & family history being an important risk factor of osteoporosis, protein being important component for building bones & cod liver oil, fish & eggs being good sources of vitamin D.

Calcium is a mineral that helps bones to stay strong. Our bodies continuously remove small amounts of calcium from our bones & replace it with new calcium; this process is called as "remodeling process". If the body removes more calcium from bones than it replaces, bones slowly become weaker & become more prone to breaking.[4] It is very important to have a diet rich in calcium allows the body to deposit calcium in bones. Vitamin D & protein also helps to stimulate the absorption of calcium therefore they are important components of building bones.

Smoking releases toxins in the body such as nicotine & carbon monoxide which causes imbalance of estrogen which in return triggers hormone cortisol which then leads to bone breakdown & inhibits calcitonin hormone which helps in building bones. In the first 5 years of menopause women lose up to 10% of bone mass. Estrogen is an important hormone which helps in maintaining bone strength.[5]

There was a lack of knowledge observed regarding exercise regime of osteoporosis; maximum subjects were unaware that swimming does not strengthen bones & about hyperthyroidism being a risk factor of osteoporosis. Swimming is not a weight bearing activity. To produce bones density, an exercise must overload the bone therefore weight bearing exercises strengthen bones in osteoporosis.[6] Hyperthyroidism causes increased excretion of calcium in urine in return causing weakening of bones.

The present study has identified that there is an overall good knowledge about osteoporosis in the Parsi community. The Parsi community being a micro minority community has a good literacy rate. In our study we have seen that maximum subjects are graduates & post graduates. Education plays a very important role in the awareness of an individual. As the education level is high in Parsi community, it is observed that they have high awareness level. Parsi community is small in population, interactions within the community members are frequent & therefore knowledge is shared & spread easily. This also leads to high awareness level in the Parsi community.

V. CONCLUSION

The conclusion of this study is that there is an overall good knowledge about osteoporosis in the Parsi community. The high literacy rate in this micro community plays a very important role in the awareness level about osteoporosis. The risk factors except for the non-modifiable ones should be tackled well in advance through health education and interventions. The goal should be mainly to evaluate the modifiable risk factors causing osteoporosis & implement prevention to reduce the occurrences of this silent killer. Events can be organized on World Osteoporosis Day, 20th October where messages on timely detection & primary prevention can be spread.

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