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A study to create awareness on prevention of osteoporosis among pre and post-menopausal women

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Abstract

Osteoporosis is as the name implies porous or thin bones, due to the loss of bone strength and bone mass caused by ageing, genetic factors, nutritional factors, hormonal problems or certain medications. Aim of the study was to assess the knowledge and practice among pre and post-menopausal women attending OPD in Jubilee Memorial Hospital and to find the association between knowledge score and practice score with the selected demographic variable. A descriptive research design was used. The sample size of the study was 60 and convenient technique was applied. The setting of the study was Jubilee Memorial Hospital, Palayam, and Trivandrum. A self-instruction module was given for the awareness. A chi- square test was used for data analysis. There is average knowledge and practice score among pre and post-menopausal women. The study revealed that, there is significant association between age, education, previous knowledge level with the knowledge score and no association with religion, occupation (t-value lesser than 0.05) and knowledge score. There is significant association between age, occupation, with the practice score and no association with religion, education, previous knowledge level and practice score. The chi square value of each demographic variable for knowledge score is age (7.21), religion (0.723), education(10.45),occupation(2.943),previous knowledge level(234.3). The chi square value of each demographic variable for practice score are age(7.573) religion(1.799),occupation(1.086),education(5.421),previous knowledge level(1.711). There is also an association between knowledge score and practice score with socio demographic variable.

Keywords: Osteoporosis, Jubilee Memorial hospital (JMH), Knowledge and practice, descriptive research design

Introduction

Osteoporosis is a condition characterized by a decrease in the density of bone, decreasing its strength and resulting in fragile bone. It is a' silent killer' that millions of people around the world suffer from it and are unaware that they have the condition until they experience a fracture. Worldwide osteoporosis causes more than 8.9 million fractures annually, resulting in an osteoporotic fracture every 3seconds. Indian statistics reveal that about 6.1 crores of people in India are osteoporotic. Bones provide protection for vital organs. Skeleton

provides a study frame work to support body structures. There are many disease conditions which affect the bone, one among them is osteoporosis. “Osteo” means bone and “Porosis” means porous. Bones become progressively porous, brittle and fragile due to osteoporosis (Aspray,2006). Osteoporosis is defined as a “Disease characterized by low bone mass and micro-architectural deterioration of bone tissue leading to enhanced bone fragility and a consequent increase at fracture risk”. It is often referred as a “silent” disease because the first visible clinical sign of osteoporosis is often the fracture of the hip, spine or forearm. Osteoporosis ranks as one of the costliest diseases of aging after diabetes, hyperlipidemia, hypertension and heart diseases.

In India it is highly prevalent and has been estimated that among 61 million populations around, 30 million women are reported to be affected. Recent data indicate that Indians have lower bone density than north-American and European women and also it is reported that osteoporotic fractures occur 10-20 years earlier in Indian women as compared to Caucasians(Bauer, 2007).Osteoporosis is associated with ovarian hormone deficiency following menopause which is said to be the most common cause of age related bone loss. Post-menopausal osteoporosis has been considered to be a major problem with significant morbidity and mortality, being 8 times more common in women than in men.According to the information collected, osteoporosis is a major public health issue in India. Hence as nurses, it is our responsibility to create awareness regarding osteoporosis among Indian women.Osteoporosis is one of the major public health problem associated with aging (Ben, 2002). It is a silent killer that millions of people around the world suffer from it and unaware that they have the condition until they experience the fracture (Bolland, 2011).Worldwide osteoporosis causes more than 8.9 million fractures annually, resulting in osteoporotic fracture every 3 seconds. Indian statistics reveals that about 6.1 corers of people in India are osteoporotic (Brennan, 2003; Department of health, 2006).

Osteoporosis is an established and well defined disease that affects more than 75 million people in Europe, Japan and USA, and causes more than 2.3 million fractures annually in Europe and USA alone. Osteoporosis is a major health problem that is particularly prevalent among post-menopausal and older women. The UN Fourth World Women’s Conference (1995) reports that to the long term health prospects of women are influencedby changes at menopause, which is combination with poor nutrition and lack of physical activity may increase the risk of osteoporosis(Bauer,2007) .

The National Osteoporosis Foundation (2004) reports that about 8 million American Women currently have osteoporosis and an additional 14 million have low bone density and is likely to develop it in future. According to osteoporosis society in Canada (2000), the disease affects one in four women over the age of 50.Osteoporosis is a major cause of mortality, morbidity, and medical expense worldwide. 80% of those affected by osteoporosis are women. It is four times more common in women than in men (Cauley, 2007). In USA, one out of every two women and one in eight men over 50 years of age will have an osteoporosis related fracture in their life time. The Consensus Development Conference (1991) reports that osteoporosis because more than 13,00,000 fractures annually in US alone.

India is on the verge of an osteoporosis epidemic affecting 5 crores people. In this 60% are women. In India, one in four women, and one in eight men over the age of 40 as osteoporosis. But the disease can strike at any age. A 50 year old women has at least a 40% of risk of an osteoporotic

fracture during the rest of her life (Delaet, 2005).Women, in turn form the back bone of a home they are coming out of homes in large numbers to work in the modern era. This is increasing the physical and emotional stress on their health. Post-menopausal women are at a high risk of developing osteoporosis. The National Osteoporosis Risk Assessment (NORA) study found that half of the post-menopausal women studied had low bone mass, placing them at a risk of osteoporosis related fractures (Fraser, 2011).Osteoporosis is a major underlying cause of fractures in older people. It does not only cause fractures, also causes people to become bedridden with secondary complications that may be life-threatening in elderly. Since osteoporosis also causes back pain and loss of height, prevention of disease and its associated fractures is essential for maintaining health quality of life and independence among elderly (Hillier, 2007).Osteoporosis related fractures cause economic burden as well. The bulk of the cause of osteoporosis is attributed to more hospital bed days than stroke, MI, or cancer. Osteoporosis literally means porous bone.

The medical community defines osteoporosis is a skeletal is reduced as the result of loss of bone mass and through the deterioration of the bone architecture (Cauley, 2007).The consequences of these change is an increased fractures that occur as the result of low trauma are known as fragility fractures. Osteoporosis is the common condition and becomes more common with increasing age. One in two women over the age of 50 is likely to experience an osteoporotic fracture in their life time. For men this is less common and it is estimated that one in 5 males over the age of 50 will experience an osteoporotic fracture (Ito, 2009). Bone is not a dead tissue. It is constantly undergoing change throughout life. In this process some bites of bone are removed by bone removing cells known as osteoclasts. Now bone is formed by forming cells known as osteoblasts. Health personnel can help to create awareness among working women on activities to prevent osteoporosis in their life. This in turn helps to prevent the negative impact on the quality of life of working women .Also, educating women is equal to educating a family(Kanis, 2004). Thus, health of a family itself can be promoted through education of women. Hence a detailed awareness study is needed to create a society with improved health and lifestyle among the people. The present study focus on the Assessment on knowledge level regarding the prevention of osteoporosis among pre-menopausal women. Secondly, to assess the practice regarding the prevention of osteoporosis among pre-menopausal women. Thirdly, to find out the association between the knowledge score on prevention of osteoporosis and selected demographic variables. Finally, to identify the association between the practice score on prevention of osteopiorosis and selected demographic variables.

Materials and methods

For the present study, a quantitative approach was adopted to study the awareness of osteoporosis among pre and post-menopausal women attending OPD of JMH, Trivandrum district, Kerala. A descriptive research design was adopted for the current research. The target population in the present study includes pre and post-menopausal women less than 35-50 years of age (n=60) attending OPD in jubilee memorial hospital. A convenient sampling technique was applied on the data set. The inclusion criteria consists of Pre and post-menopausal women aged between 30-55 yrs of age, the pre and post-menopausal women those who are willing to participate in the study, the pre and post-menopausal women those who can read and write Malayalam

andthe pre and post- menopausal women who are present at the time of data collection. The women aged above 55yrs and below 30 yrs considered as exclusion criteria for the study.

Questionnaires offer the possibility of complete anonymity, which may be crucial in obtaining information, the absence of an interviewer assures that there will be no bias in the responses that reflect the respondent's reaction to the interviewer rather than to questions themselves. Hence for the present study the structured knowledge questionnaire was used for data collection.

Description of the tool

The tool consists of three sections: Section A: - Includes demographic variables like age, education of women, family monthly income in rupees, previous knowledge about osteoporosis and source of information. Section B: - A self-administered questionnaire to assess the awareness of pre and post-menopausal women regarding osteoporosis. A total of 25 questions were included. Section C:-A self-administered questionnaire to assess the knowledge regarding prevention of osteoporosis. A total of 15 questions were added.

Results

The data was collected from the pre and post-menopausal women with the help questionnaire were organized, analyzed using descriptive method. The analysis was done based as per the objective of the study.

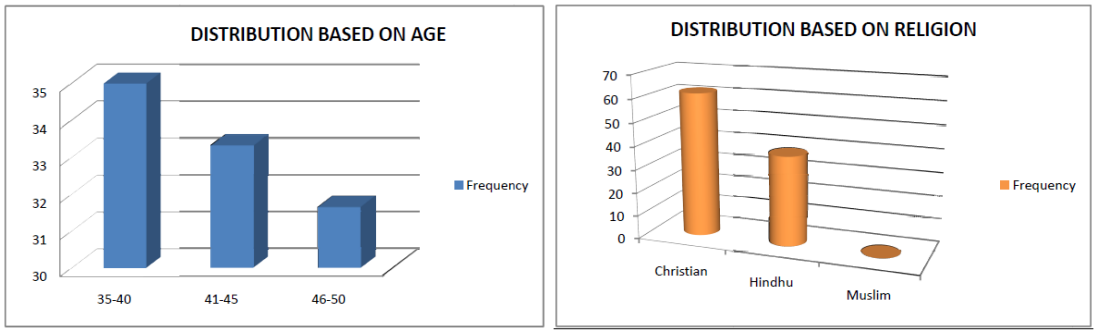
Table-1 Description of the sample characteristics

N=60			
SAMPLE	**INTERVALS**	**No: FREQUENCY**	**PERCENTAGE**
AGE	35-40	21	35%
	41-45	20	33.33%
	46-50	19	31.67%
	Hindu	23	38.33%
	Muslim	0	0%
EDUCATION	SSLC	25	41.67%
	Pre-Degree	12	20%
	Graduate	20	33.33%
	Post-Graduate	3	5%
OCCUPATION	House wife	46	76.67%
	Business	2	3.33%
	Others	12	20%
PREVIOUS KNOWLEDGE LEVEL	Yes	12	20%
	No	15	25%
	Some	33	55%

The data presented in Table-1 reveals that according to age group among 60 samples, 21(35%) samples comes under the age group of 35-40, 20(33.33%) samples comes under 41-45, 19(31.67%) samples in 46-50.According to religion 37 samples (61.67%) comes under Christians 23 samples (38.33%) comes under hindu. According to education, 25 samples (41.67%) are SSLC passed 12 samples (20%)are pre-degrees 20 samples (33.33%) are graduated and 3 samples (5%)are post graduated. According to occupation, 46 samples(76.67%) are housewife 2 samples (3.33%) are business and 12 samples (20%) are under other jobs. According to knowledge level 12 samples (20%) are having the knowledge, 15samples (25%) are not aware of the condition and 33 samples (55%) are having some knowledge.

Figure 1 Distribution based on Age and Religion

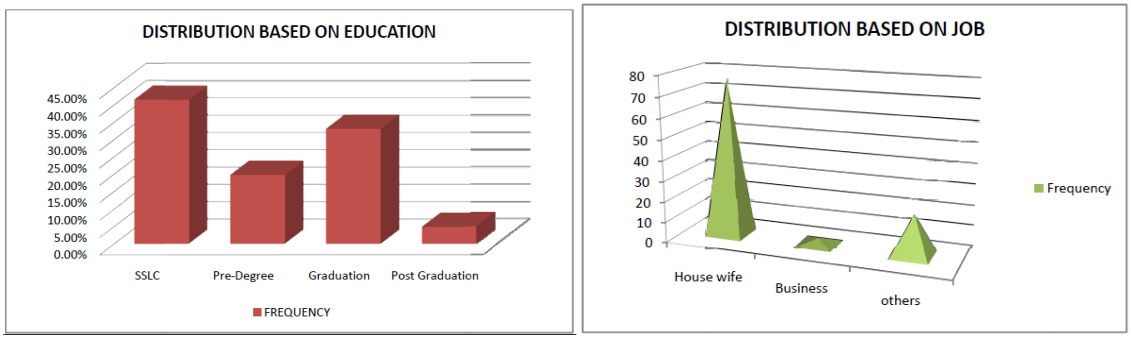
a) **b)**



Bar diagram (Figure 1a) showing the distribution of sample based on age show s that age group among 60 samples, 21(3 5%) samples comes under the age group of 35 -40, 20(33.33%) samples comes under 41-45, 19(31.67%) samples in 46-50.The cylindrical graph (Figure 1b) showing the distribution of sample based on religion shows that among 60 samples 37 samples (61.67%) comes under Christians 23 samples (38.33%) comes under Hindu.

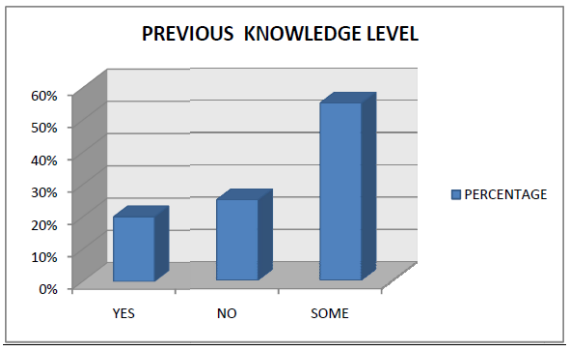
Figure-2 Distribution based on Education

a) **b)**



Distribution of sample based on education (Figure 2a) shows that among 60 samples 25 samples (41.67%) are SSLC passed 12 samples (20%) are pre-degrees 20 samples (33.33%) are graduated and 3 samples (5%) are post graduated. Distribution of sample based on occupation (Figure 2b) shows that among 60 samples 46 samples (76.67%) are housewife 2 samples (3.33%) are business and 12 samples (20%) are under other jobs.

Figure 3 Previous Knowledge level



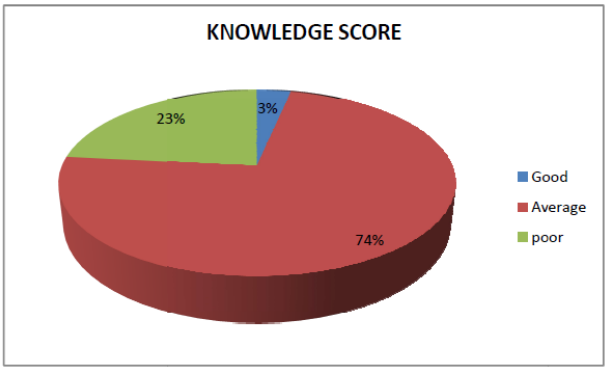
Distribution of sample based on previous knowledge level (Figure-3) shows that among 60 samples 12 samples (20%) are having the knowledge, 15 samples (25%)are not aware of the condition and 33 samples (55%) are having some knowledge.

Table-2 assess the knowledge score among pre and post-menopausal women

KNOWLEDGE SCORE	FREQUENCY	PERCENTAGE
GOOD	2	3.33%
AVERAGE	44	73.33%
POOR	14	23.33%

Table 2 denotes that among 60 samples only 2 samples (3.33%) are having good score and 44 samples (73.33%) are having average score and the remaining 14 samples (23.33%) having poor knowledge score.

Figure-4 Pie diagram shows the Knowledge score



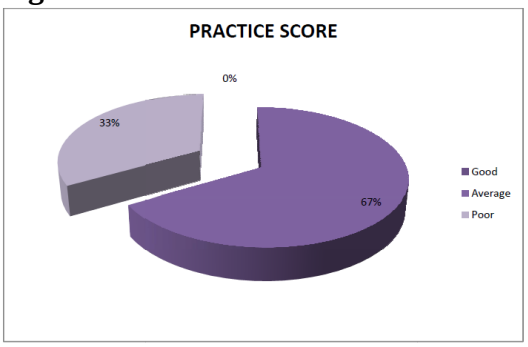
Pie diagram (Figure-4) shows that among 60 samples only 2 samples (3.33%) are having good score and 44 samples (73.33 %) have average score and the remaining 14 samples (23.33%) having poor knowledge score.

Table-3 Assess the practice score among pre and post-menopausal women

PRACTICE SCORE	FREQUENCY	PERCENTAGE
GOOD	0	0%
AVERAGE	40	66.67%
POOR	20	33.34%

Table 3 shows that among 60 samples there is no samples under good score. 40 samples (66.67%) having average score and remaining 20 samples (33.34%) having poor practice score.

Figure-5 Practice score



Pie diagram shows (Figure-5) that among 60 samples there were no samples unde r good score. 40 samples (66.67%) are having average score and remaining 20 samples (33.34%) having poor practice score.

Table 4: a descriptions of association between knowledge score and prevention of osteoporosis among selected demographic variables

Demographic variables	Chi square	T-value	Df	Inference
Age	7.271	3.36	4	S
Religion	0.723	3.36	4	NS
Education	10.45	5.35	6	S
Occupation	2.943	3.36	4	NS
Previous knowledge level	234.6	3.36	4	S

S=Significant NS=Not significant

Table 4 shows that age, education, previous knowledge level has significant association with knowledge score. Religion, occupation has no significant association with knowledge score

Table 5: A description of association between the practice score on prevention of osteoporosis and selected demographic variable

Demographic variable	Chi-square	T-value	Df	Inference
Age	7.573	3.36	4	S
Religion	1.799	3.36	4	NS
Education	1.086	5.35	6	NS
Occupation	5.421	3.36	4	S
Previous knowledge level	1.711	3.36	4	NS

S=Significant NS=Not significant

In table 4 explains that age and occupation has significant association with practice score. Religion, education, previous knowledge level has no significant association with practice score. Thus, the data table 4 and 5 shows that Chi square value computed between the knowledge level, practice and demographic variable was significant at 0.05 levels. So the null hypothesis is accepted.Hence result can be

interpreted that there is association between knowledge level, practice and selected demographic variable. So the result can be interpreted that there is association between knowledge level, practice and selected demographic variable.

Discussion

The research design adopted for the study is descriptive design. The population of the study was pre and post-menopausal women between 30-45 years and 45-55years attending outpatient department of Jubilee Memorial Hospital, Trivandrum. The sample size was 60. The distribution of subjects from socio demographic area revealed that out of 60 sample 35% are in the age group between 35-40 and 33.33% are in the age group between 41-45 and 31.67% are in the age group between 46-50. Out of 60 sample 61.67% are Christian, 38.33% are Hindus. Based on educational status 31.67% are SSLC, 20% are pre-degree 33.33% are graduate, 5% are graduate. According to occupation 76.67% are housewife, 3.33% are having business, 20% are having other occupation. According to knowledge level 20% are having knowledge, 25% are having no knowledge, and remaining 55% are having some knowledge.

In order to assess the knowledge scores among pre and post-menopausal women. The study shows that only 2 samples (3.33%) are having good score and 44 samples (73.33%) are having average score and the remaining 14 samples (23.33%) having poor knowledge score. Moreover, to assess the practice scores among pre and post-menopausal women. The study shows that there are no samples under good score. 40 samples (66.67%) are having average score and remaining 20 samples (33.34%) having poor practice score. Regarding the association of knowledge level and socio demographic variable.The study shows that only 2 samples (3.33%) are having good score and 44 samples (73.33%) are having average score and the remaining 14 samples (23.33%) having poor knowledge score. Finally to identify the association of practice score and socio demographic variable, the study shows that there are no samples under good score. 40 samples (66.67%) are having average score and remaining 20 samples (33.34%) having poor practice score. Thus, Osteoporosis is becoming an increasing important issue in pre and post-menopausal women. Nurse plays an important and vital role in creating major impact on the awareness regarding the prevention of osteoporosis. By providing awareness regarding osteoporosis, its help in both knowledge and practice level in pre and post-menopausal women. The present study can be replicated with the large samples so that the findings can be generalized and can increase the volume of data analysis in this particular field.

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