

Assessment of Knowledge regarding Prevention of Osteoporosis among Middle Aged Women in Mamandur

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Abstract

Introduction: Osteoporosis is characterized by low bone mass with micro architectural deterioration of bone tissue leading to enhance bone fragility, thus increasing the susceptibility to fracture. *Objective:* The aim of this study was to assess the knowledge regarding prevention of Osteoporosis among middle aged women in Mamandur and to associate it with their demographic variables. *Methods:* Quantitative approach and non-experimental descriptive research design was used. The data collection tool included two parts: Part A: Demographic variables, Part B: A Structured questionnaire to assess knowledge regarding prevention of osteoporosis among middle aged women in Mamandur. 130 middle aged woman who fulfilled the inclusion criteria were selected as samples using non probability Purposive sampling technique. The study was conducted at Mamandur, Kancheepuramdt. *Results:* The data were analyzed and interpreted based on the objectives using descriptive and inferential statistics. Among 130 middle aged woman, 68 (52%) middle aged woman had moderately adequate knowledge, 54 (42%) middle aged woman had inadequate knowledge, 8 (6%) middle aged woman had adequate knowledge. There is a significant association between age and type of family with Knowledge levels at 95% ($P < 0.05$). There is no association with respect to other variables. *Conclusion:* Osteoporosis is 8 times more common in women than in men for several reasons such as lower calcium intake, early bone resorption, pregnancy and breast feeding also increases the likelihood of osteoporosis.

Keywords: Osteoporosis; Prevention; Middle Aged Women.

Introduction

Osteoporosis is characterized by low bone mass with micro architectural deterioration of bone tissue leading to enhance bone fragility, thus increasing the susceptibility to fracture. Osteoporosis is an important public health problem leading to an increased risk of developing spontaneous and traumatic fractures. In India osteoporotic fractures

occur more commonly in both sexes, and may occur at a younger age than in the western countries. Although exact numbers are not available, based on available data and clinical experience, 36 million Indians may be affected by osteoporosis by 2013 [1].

Before a woman reaches 30 years of age her body gains more bone than it loses. Around age 30, this process balances out. However, the onset of menopause around 50 years of age may speed up the rate of bone loss. If bone loss becomes severe, a

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woman may develop osteoporosis. The condition can be prevented by exercising regularly and making some lifestyle changes [2].

According to estimates, there are about 300 million people with osteoporosis in India and suspect it may be more over double the population of Australia. The evidence based on ageing population indicates that there may be a 50 per cent increase in the number of people with osteoporosis in India in the next 10 years. So, this is a huge problem in India [3].

The World Health organization reveals that one out of three adult females in India suffers from osteoporosis, making India one of the worst affected countries in the world. The Arthritis Foundation of India says there has been an estimated 200 per thousand cases across Asia in 10 years. In India at the end of 2000, there were an estimated 9 million new osteoporotic fractures, of which 1.6 million were at the hip, 1.7 million were at the forearm and 1.4 million were clinical vertebral fractures. By 2050, the worldwide incidence of hip fracture in men is projected to increase. The combined lifetime risk for hip, forearm and vertebral fractures coming to clinical attention is around 40%, equivalent to the risk for cardiovascular disease [4].

Because of the morbid consequences of osteoporosis, the prevention of this disease and its associated fractures is considered essential to the maintenance of health, quality of life, and independence in our population.

Methods and Materials

Quantitative approach and non-experimental descriptive research design was used. A total of 130 middle aged women who fulfilled the inclusion criteria were chosen as samples by using non-probability purposive sampling technique. The study was conducted at Mamandur, Kancheepuram dt. The data collection tool included two parts. Part A: Demographic variables, Part B: Structured questionnaire to assess the knowledge regarding prevention of osteoporosis. The study variable was Knowledge regarding prevention of osteoporosis and the demographic variables were age, religion, education, occupation, family monthly income, socio-economic status, type of family and place of residence.

Criteria for sample selection

The inclusion criteria adopted by investigator were women who were between the age group of 35–45 years, residing in selected villages, willing to

participate in the study and able to read, write, & speak Tamil or English. Women who were physically ill during the time of data collection were excluded from the study.

Ethical consideration

Formal approval was obtained from the Institutional Review Board and Institutional Ethical Committee of SRM University, Head of the Department of community medicine, Kattankulathur, Chennai, Tamil Nadu, India. In addition, the participants were informed of their right to withdraw anytime during the study.

Instruments

The Demographic and the Structured Questionnaire was developed by the investigator based on the review of literature, discussion with experts and investigators personal experience. The tool consisted of 2 sections. Part -A dealt with demographic variables and Part-B consisted of 30 questions to assess the knowledge regarding prevention of osteoporosis among middle aged women. Each question was given 4 options. Each correct answer was awarded score "1". Each incorrect answer was awarded score "0".

Scoring interpretation

Level of knowledge	Score	Percentage %
Inadequate knowledge	1 to 10	1 to 33
Moderately adequate knowledge	11 to 20	34 to 67
Adequate knowledge	21 to 30	68 to 100

Method of Data Collection

The formal permission was obtained from the head of the Department of community medicine. The investigator explained the objectives and method of data collection to the clients and verbal consent was obtained from them. The main study was carried out at Mamandur within the period from 09.03.2017 to 17.03.2017.

The samples were chosen through non probability purposive sampling technique. A total number of 130 clients who met the inclusion criteria were selected. The investigator explained the purpose of conducting the study and consent was obtained and confidentiality of the response was assured. On selection of the subject, a self-introduction was given.

The investigator collected information regarding section-A [demographic data] and section-B

[knowledge assessment tools] and the responses marked simultaneously. In case of any doubts the investigators clarified the doubts. It took around 15 minutes from each sample to obtain the necessary data. The investigator thanked the participants for extending their fullest co-operation.

Statistical Analysis

The information collected from the study participants was scored and tabulated. The data were entered into the master coding sheet and saved in Microsoft Excel. Statistical analysis was conducted

using Statistical Package for Social Sciences-16. Mean, percentage, and standard deviation were used to explain the demographic variables, and Chi-square test was used to associate the demographic variables with Knowledge regarding prevention of Osteoporosis.

Results

The study revealed the following mentioned details about the socio-demographic variables of the samples:

Table 1: Frequency and Percentage Distribution of Demographic Variable among the Middle Aged Women in Mamandur
N = 130

Demographic Variable		Frequency(n)	Percentage (%)
Age	35-40 Years	77	59
	41-45 Years	53	41
Religion	Hindu	113	87
	Muslim	17	13
Education	Graduate or Post Graduate	2	2
	High School Certificate	23	18
	Middle School Certificate	29	22
	Primary School Certificate	38	29
	Illiterate	38	29
Occupation	Un Skilled Worker	105	81
	Unemployed	25	19
Family Income	Rs.1596 - Rs.4726	75	58
	Rs.4722 -Rs. 7877	24	19
	Rs.7877 - Rs.11876	5	4
	Rs. 11876 - Rs.15753	21	16
	Rs.15753 And Above	5	4
Type of Family	Nuclear Family	90	69
	Joint Family	40	31
Type of Diet	Vegetarian	8	6
	Non Vegetarian	122	94

Table 2: Frequency and percentage distribution of level of knowledge regarding prevention of Osteoporosis
N=130

Level of knowledge	Frequency	Percentage[%]
Inadequate Knowledge	54	42
Moderately adequate Knowledge	68	52
Adequate Knowledge	8	6

Inference

Table 2 shows assessment of level of knowledge regarding prevention of Osteoporosis among 130 middle aged woman. 68 (52%) middle aged woman have moderately adequate knowledge, 54 (42%) have

inadequate knowledge and 8 (6%) have adequate knowledge. There was a significant association between age and type of family with Knowledge levels at 95% ($p < 0.05$). There was no association with respect to other variables.

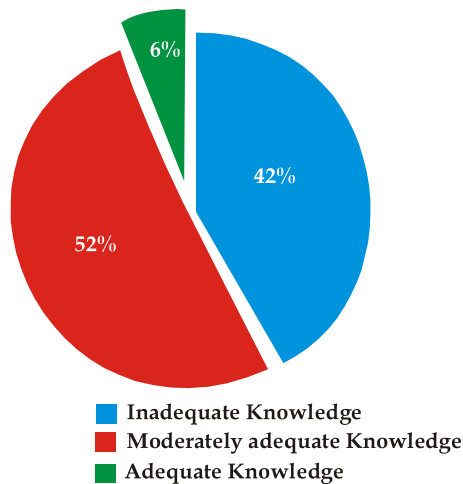


Fig. 1: Shows percentage distribution of level of knowledge regarding prevention of Osteoporosis

Discussion

Osteoporosis is one of the major disorders of our time and is increasing at an alarming rate. It affects over 10 million women in the United States and is expected to affect 14 million by the year 2020 [5].

Worldwide osteoporosis cause more than 8.9 million fractures annually resulting in an osteoporotic fracture every 3 seconds. Osteoporosis is estimated to affect 200 million women worldwide approximately one tenth of women aged 60, one fifth of women aged 70, two fifth of women aged 80 and two third of women aged 90. The number of osteoporosis patients reported in India is approximately 26 million; the numbers projected to increase is 36 million by 2013. It is revealed that 4,895 patients in various cities of India, 80% of women and 50% of men of them, suffer from low bone mass, 73.9% of women and 26.2% of men of above 60 years of age among them have been suffering from osteoporosis. Almost all osteoporosis fractures the person's risk of death doubles compared to that of a non-osteoporosis person of the same age and similar circumstances. So the current situation is alarming [6].

Osteoporosis is a disease that threatens the people slowly and insidiously over many years. Bones can eventually become so fragile that they cannot with stand normal mechanical stress. Osteoporosis is 8 times more common in women than in men for several reasons such as lower calcium intake, early bone resorption, pregnancy and breast feeding also increases the likelihood of osteoporosis [7].

A descriptive survey was conducted to investigate the knowledge and health beliefs regarding

osteoporosis risk factors of women aged 20-49 years. Sample size of 622 women was recruited by email. The result interpreted that there was a moderate level of knowledge about osteoporosis risk factors among the women who attended the survey [8].

A cross-sectional study was conducted to explore knowledge of osteoporosis and locally available calcium-rich foods among 1,151 urban women in the Philippines of the total, 80.3% of the women had heard about osteoporosis; a higher educational background independently predicted this awareness. For knowledge about locally available calcium-rich foods, older age was a positive predictor, whereas higher educational background was a negative predictor. They researcher believed that more emphasis should be placed on locally available foods as part of nutritional education for young urban Filipinos [9].

A telephone interview was conducted to evaluate osteoporosis knowledge among patients with fractures and to evaluate factors associated with osteoporosis knowledge. Many patients with fractures are unaware of important risk factors. Education initiatives aimed at improving osteoporosis knowledge should be directed at individuals at high risk of fracture [10].

For this reason the investigator has observed many middle aged women who are prone to get osteoporosis Hence the investigator felt the need to assess the Knowledge regarding prevention of osteoporosis among middle aged women which will be helpful to enhance the health related knowledge to the public in general, educated women in specific.

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