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Prevalence of menopausal osteoporosis among perimenopausal women in Rayapalem Village, Nellore

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Abstract
Background: Osteoporosis is a systemic skeletal disease characterized by low bone mass and micro architecture deterioration of bone tissue with a consequent increase in bone fragility and susceptibility to fracture. The estimated number of hip fracture worldwide will raise from 1.66 million in 1999, to 6.26 million in fractures in the developed cities in Asia to 2016, 12.1 million women. Osteoporosis is more common problem in menopausal women.
Objectives: 1.To assess the prevalence of menopausal osteoporosis among peri-menopausal women. 2. To find the association between prevalence of menopausal osteoporosis and selected demographic variables.
Methods: Survey research with descriptive design was used. 100 menopausal women were selected from Rayapalem village, Nellore.
Results: The prevalence of menopausal osteoporosis, 44(44%) are having mild level, 48(48%) are having moderate level and 8(8%) are having severe level.

Keywords: Prevalence, menopausal osteoporosis, Peri-menopausal women

Introduction
Osteoporosis is a systemic skeletal disease characterized by low bone mass and micro architecture deterioration of bone tissue with a consequent increase in bone fragility and susceptibility to fracture. In India, one in four women and one in eight men over the age of forty has osteoporosis [1].
Osteoporosis has been estimated that in 1970, 1.7 million people globally suffered from osteoporotic hip fractures that number might increase to 6.3 million by 2050. Currently it is estimated that over 200 million people worldwide suffer from this disease by 2050. The worldwide incidence of hip fracture is projected to increase by 40% in women. The estimated number of hip fracture worldwide will raise from 1.66 million in 1999 to 6.26 million in fractures in the developed cities in Asia to 2016, 12.1 million women [2].

Need for the study
International Osteoporosis Foundation (2013) The menopausal women to affect osteoporosis from 80% in 2014 and 74% in 2015. The age of women 45-60 years suffer from osteoporosis. 80% disease was reported in 2015. According to World Health Organization (WHO), medical studies show that osteoporosis is the second global health problem in work. India is one of the largest affected country expert groups in India at approximately 26 million in 2013 with the numbers projected to increase to 36 million by 2015 [3].
The state level incidence of osteoporosis fractures approximately 50,00,000 and osteoporotic become and leading problem. In the menopausal women at the age of 45-65 years. The risk of osteoporosis 6-8 times more common in women than men. In district level prevalence is 3% of males and 8% females. ICMR annual report 2007 however other studies show women of low socio economic 29% report of 2007. Rural areas 28.2% males 44% in females and urban areas 48% at the number 16.71% at the femoral neck. Study from south India of post menopausal women are osteoporosis vitamin D influences [4].
Kadam and Kadilkar (2017) conducted a study to assess the prevalence and the relative importance of risk factors for low bone mass in Indian pre and post menopausal women. Data were collected on anthropometry and life style factors in apparently healthy 80 per and 92 post menopausal women of 40-75 years.

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Prevalence of osteoporosis was the highest at the number spine (25.8%) in post menopausal women. The major risk factors contributing to bone loss in India women above 40 years of age observed were age, weight, height, menopause, low intake of calcium and low 254 (OH) D along with poor sunlight [5].

Problem Statement
A Study to Assess the Prevalence of Menopausal Osteoporosis among Perimenopausal Women in Rayapalem Village, Nellore.

Objectives
- To assess the prevalence of menopausal osteoporosis among perimenopausal women
- To find the association between prevalence of menopausal osteoporosis and selected demographic variables

Delimitations
- Women aged 45-65 years and attained menarchy
- Menopausal women living in a selected village of Nellore
- Sample size is 50

Materials and Methods
Research Approach: Quantitative Research Approach

Research Design: Descriptive Research Design

Setting of the Study
The Study Was Conducted in Rayapalem village, Nellore.

Target Population
The population of the present study was menopausal women aged between 45-65 years of age.

Accessible Population
Menopausal women living in Rayapalem village, Nellore who fulfill in the inclusion criteria.

Sampling Technique
Purposive sampling technique was used to select the samples.

Sample Size
The sample size was 100 menopausal women aged between 45-65years

Sample Criteria
Inclusion criteria
- Menopausal women aged between 45- 65 years of age.
- The women who are suffering with menopausal osteoporosis.
- Menopausal women living in a Rayapalem at Nellore.

Exclusion criteria
- The women who are not interested to participate in the study.
- The women who are not attained menopause.

Description of the Tool
The tools consist of two parts.

Part-I: It deals with demographic variables.

Part-II: A Checklist to assess the menopausal symptoms among menopausal women.

Score Interpretation

Level of Osteoporosis	Score
Mild	1-4
Moderate	5-8
Severe	9-12

Results & Discussion

Table 1: Frequency and percentage distribution of prevalence of menopausal osteoporosis among peri-menopausal women. (N=100)

Level of osteoporosis	Frequency (F)	Percentage (%)
Mild	44	44
Moderate	48	48
Severe	8	8
Total	100	100

Regarding the prevalence of menopausal osteoporosis, 44(44%) are having mild level, 48(48%) are having moderate level and 8(8%) are having severe level.
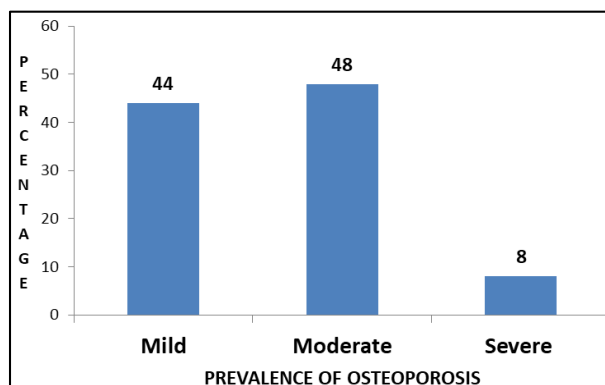

Fig 1: Percentage distribution of peri-menopausal women based on prevalence of menopausal osteoporosis.

Table 2: Mean and standard deviation of prevalence of menopausal osteoporosis among peri-menopausal women. (N=100)

Sample category	Mean	Standard deviation
Peri-menopausal women	5.01	2.18

Table 3: Association between prevalence of menopausal osteoporosis and selected socio demographic variables of peri-menopausal women. (N=100)

S. No.	Demographic variables	Mild		Moderate		Severe		Chi square (x^2)
		F	%	F	%	F	%	
1.	Age a. 45-50 years b. 51-55 years c. 56-60 years d. 61-65 years	 24 9 7 4	 24 9 7 4	 13 16 12 7	 13 16 12 7	 1 - 1 6	 1 - 1 6	C=28.49 T=22.46 df=6 P<0.001 S***
2.	Income a. <5000/- b. 5001-7000/- c. 7001-9000/- d. 9001-11000/- e. >11000/-	 21 7 6 6 4	 21 7 6 6 4	 8 13 13 11 3	 8 13 13 11 3	 2 1 1 3 1	 2 1 1 3 1	C=36.37 T=16.13 df=8 P<0.001 S***
3.	Type of diet a. Vegetarian b. Non vegetarian c. Mixed	 4 14 26	 4 14 26	 6 4 38	 6 4 38	 2 1 5	 2 1 5	C=9.65 T=9.49 df=4 P<0.05 S*
4.	Calcium supplementation a. Receiving b. Non receiving	 38 6	 38 6	 31 17	 31 17	 5 3	 5 3	C=6.22 T=5.99 df=2 P<0.05 S*

Results and Discussion

- Regarding the prevalence of menopausal osteoporosis, 44(44%) are having mild level, 48(48%) are having moderate level and 8(8%) are having severe level.
- The menopausal osteoporosis mean prevalence score was 5.01 and standard deviation was 218.
- Among all the demographic variables age, family income, type of diet and calcium supplementation had significant association with prevalence of menopausal osteoporosis.

Conclusion

The study concluded that a significant no of menopausal women (48%) having moderate level of osteoporosis. Since the osteoporosis is common among menopausal women, the care must be taken to educate the menopausal women regarding the symptoms, prevention and effective management of osteoporosis. Thereby the mortality and morbidity related to menopausal osteoporosis can be minimized.

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