Effectiveness of educational programme on osteoporosis among the women in selected community area in Chengalpattu district.

Section A-Research paper

EFFECTIVENESS OF EDUCATIONAL PROGRAMME ON OSTEOPOROSIS AMONG THE WOMEN IN SELECTED COMMUNITY AREA IN CHENGALPATTU DISTRICT.

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Abstract

Introduction: Osteoporosis is a metabolic bone disorder characterized by progressive decline of bone mass and bone quality, leading to bone fragility and an increased risk of fracture. Osteoporosis occurs when bone resorption outpaces bone formation during bone remodeling. Mostly women's are affected with osteoporosis. Improving knowledge about osteoporosis raises awareness among women. The aim of the study was to assess the level of knowledge on osteoporosis among women, to evaluate the effectiveness of educational programme on osteoporosis among women and to associate the post-test level of knowledge score with their demographic variables

Methods: Quantitative approach to identify the effectiveness of educational programme on knowledge regarding Osteoporosis among women was used for this study. Research design was pre experimental one group pretest and post test. The study was conducted in Maraimalai Nagar. The Sample size was 50 and Convenient Sampling technique was used to select the samples who satisfy the sampling criteria from the selected setting. The data was analyzed using descriptive and inferential statistics.

Results: There was a significant improvement in post-test knowledge scores of the women regarding osteoporosis (M=15.22, SD=2.31) compared to the pre test scores(M=7.08,SD=2.39) with the 't ' value of 24.340 at p=0.000. The study concluded that educational programme for effective.

Keywords : Effectiveness, Educational Programme, Osteoporosis, Women.

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1.   Introduction

Osteoporosis is characterized by low bone mass and is associated with deterioration of bone microarchitecture. Osteoporosis causes the bones to be fragile and increases susceptibility to fracture even with trivial trauma. (1) Bone loss starts from the age of 30–40 years in both men and women. In women, it has been postulated that menopause is followed by an immediate decrease in bone mass and density within a year. (2) Osteoporosis causes a great deal of morbidity and mortality worldwide. The International Osteoporosis Foundation claims that osteoporosis affects 1 in 3 women and 1 in 12 men over 50 years of age. More than 200 million women worldwide have osteoporosis. Osteoporosis is a slowly progressive disease and becoming public health problem in Asian countries, including India. (3) .Osteoporosis is often known as the silent thief because bone loss occurs without symptoms. The disease can strike at any age. (7) Risk factors for osteoporosis include increasing age, bodyweight of under 128 pounds, smoking, family history of osteoporosis, white or Asian race, early menopause, low levels of physical activity, and a personal history of a fracture from a ground-level fall or minor trauma after the age of forty.(4) Patients without symptoms incorrectly assume that they must not have osteoporosis. On the other hand, many patients with achy hips or feet assume that their complaints are due to osteoporosis.(5) The management are multiple pharmacologic treatments, Weight-bearing physical activity and exercise that improves balance, such as yoga and recommend calcium and Vitamin D3 to all patients.(4)

There is need for early diagnosis, identification of high-risk groups and prevention and treatment of osteoporosis in the community.(6) At the present situation many women affected with osteoporosis. An awareness programme is needed for the women to known about osteoporosis.

2.   Materials and Methods

Quantitative approach to identify the effectiveness of educational programme on knowledge regarding Osteoporosis among women was used for this study. Research design- pre experimental one group pretest and post test design was used. Research setting - The study was conducted in Maraimalai Nagar. The Sample size was 50 and convenient Sampling technique was used to select the samples who satisfy the sampling criteria from the selected setting. Knowledge questionnaire was used to assess their knowledge regarding Osteoporosis and assess the effectiveness of educational programme. The tool consists of two sections: Section 1- Demographic data including age, religion, education status, occupation, marital status, source of information monthly income. Section 2- structured knowledge questionnaire to assess the knowledge and effectiveness of educational program regarding osteoporosis. The data was analyzed using descriptive and inferential statistics. Structured knowledge questionnaire composed of 20 items to assess the knowledge regarding Osteoporosis. The multiple choice question had four alternatives each with one right answer which was allotted a score of one and zero for every wrong answer has given. The total score in knowledge questionnaire was 20. The total score will be converted into following ranges: Inadequate Knowledge ($\leq$50%), Moderately Adequate Knowledge (51 – 75%), Adequate Knowledge (>75%).

3.   Results

The aims of the study is to assess the level of knowledge regarding osteoporosis , to evaluate the effectiveness of educational programme on the knowledge regarding osteoporosis, to find the association between the selected demographic variables with the level of knowledge regarding osteoporosis among the women

Table 1 - Frequency and percentage distribution of pretest and post test level of knowledge on osteoporosis among women in a selected community. N = 50

Level of Knowledge	Pretest		Post Test	
	No.	%	No.	%
Inadequate Knowledge ($\leq$50%)	41	82.0	-	-
Moderately Adequate Knowledge (51 – 75%)	9	18.0	23	46.0
Adequate Knowledge (>75%)	-	-	27	54.0

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The data presented in table 1 In the pretest , among 50 women 9 (18.0%) had moderately adequate knowledge, 41 (82.0 %) women had inadequate knowledge. In the post test , majority of the women 27(54%) had adequate knowledge, 23(46 percent) women had moderately adequate knowledge.
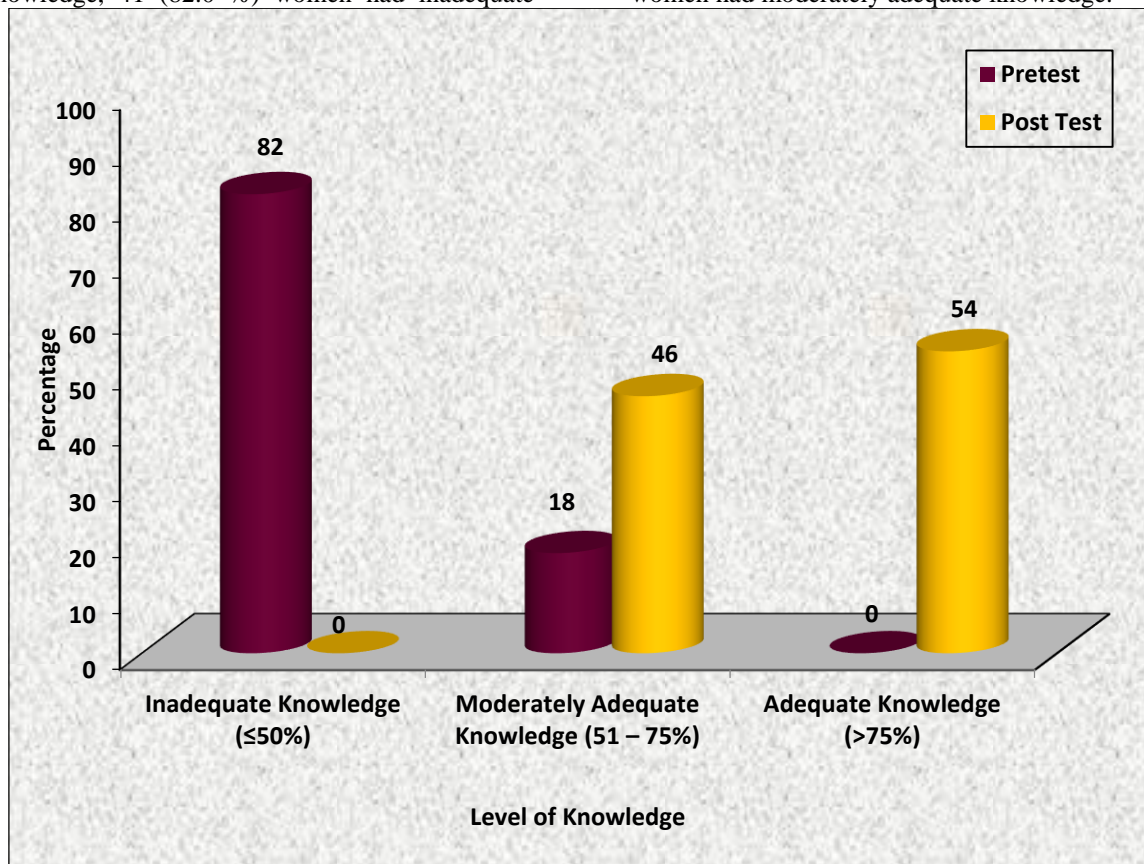
Percentage distribution of pretest and post test level of knowledge on osteoporosis among women in a selected community
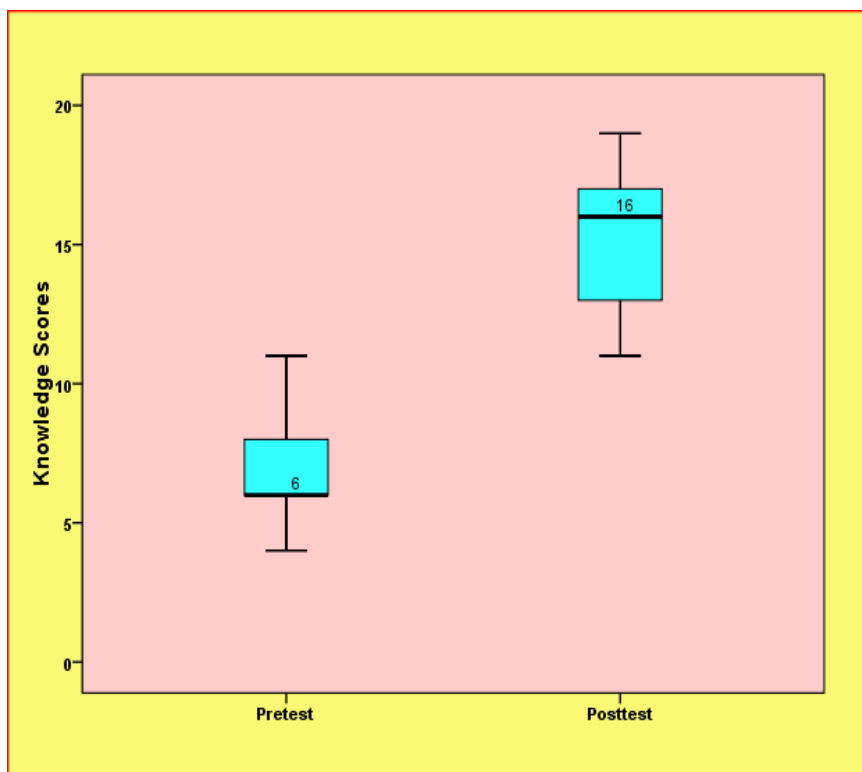
Table 2: Effectiveness of educational programme on osteoporosis among women in a selected community.
N = 50

Knowledge	Median	Mean	S.D	Mean Difference Score	Paired 't' Test & p-Value
Pretest	6.0	7.08	2.39	8.14	t = 24.340 p=0.000 S***
Post Test	16.0	15.22	2.31		

***p<0.001, S – Significant

The data presented in table 2 shows that the mean post test score15.22 with standard deviation 2.31 which was higher than that of pretest score 14.11 with standard deviation 4.74. The mean difference score was 8.14. Statistical differences were computed and the t value is 24.340.

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Boxplot showing the Effectiveness of educational programme on osteoporosis among women in a selected community

Table 3: Association of post test level of knowledge on osteoporosis among women in a selected community with their selected demographic variables. N = 50

Demographic Variables	Inadequate		Moderately Adequate		Adequate		Chi-Square Value
	No.	%	No.	%	No.	%	
Age in years							χ^2=1.108 d.f=3 p = 0.775 N.S
21 – 30	-	-	10	20.0	13	26.0	
31 – 40	-	-	7	14.0	10	20.0	
41 – 50	-	-	5	10.0	3	6.0	
Above 50	-	-	1	2.0	1	2.0	
Religion							χ^2=0.054 d.f=2 p = 0.973 N.S
Hindu	-	-	18	36.0	21	42.0	
Muslim	-	-	2	4.0	2	4.0	
Christian	-	-	3	6.0	4	8.0	
Others	-	-	-	-	-	-	
Education							**χ^2=6.746 d.f=2 p = 0.034 S***
Illiterate	-	-	1	2.0	0	0	
Primary	-	-	22	44.0	21	42.0	
Higher secondary education	-	-	0	0	6	12.0	
Graduate	-	-					
Occupation							**χ^2=6.105 d.f=2 p = 0.047 S***
Unemployed	-	-	3	6.0	4	8.0	
Daily labour	-	-	20	40.0	17	34.0	
Government	-	-	-	-	-	-	
Private	-	-	0	0	6	12.0	

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Demographic Variables	Inadequate		Moderately Adequate		Adequate		Chi-Square Value
	No.	%	No.	%	No.	%	
Other	-	-	-	-	-	-	
Marital status							
Married	-	-	23	46.0	27	54.0	
Unmarried	-	-	-	-	-	-	
Widower	-	-	-	-	-	-	
Divorced	-	-	-	-	-	-	
Source of information							$\chi^2=0.402$ d.f=1 p = 0.526 N.S
No	-	-	-	-	-	-	
Newspaper	-	-	-	-	-	-	
Friends	-	-	5	10.0	8	16.0	
Television	-	-	18	36.0	19	38.0	
Income							$\chi^2=2.362$ d.f=1 p = 0.124 N.S
Upto Rs.5,000	-	-	-	-	-	-	
Rs.5000 – 10000	-	-	22	44.0	22	44.0	
More than Rs.10000	-	-	1	2.0	5	10.0	

*p<0.05, S – Significant, N.S – Not Significant

There was significant association between the post test level of knowledge regarding the osteoporosis and demographic variables such as education and occupation and no significant association with other demographic variables.

Table 4: Frequency and percentage distribution of demographic variables of women in selected community.
N = 50

Demographic Variables	Frequency (f)	Percentage (%)
Age in years		
21 – 30	23	46.0
31 – 40	17	34.0
41 – 50	8	16.0
Above 50	2	4.0
Religion		
Hindu	39	78.0
Muslim	4	8.0
Christian	7	14.0
Others	-	-
Education		
Illiterate	1	2.0
Primary	43	86.0
Higher secondary education	6	12.0
Graduate	-	-
Occupation		
Unemployed	7	14.0
Daily labour	37	74.0
Government	-	-
Private	6	12.0

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Demographic Variables	Frequency (f)	Percentage (%)
Other	-	-
Marital status		
Married	50	100.0
Unmarried	-	-
Widower	-	-
Divorced	-	-
Source of information		
No	-	-
Newspaper	-	-
Friends	13	26.0
Television	37	74.0
Income		
Upto Rs.5,000	-	-
Rs.5000 – 10000	44	88.0
More than Rs.10000	6	12.0

With regard to age, majority of the sample 23(46%) belong the age group 21 – 30 years. Majority of the sample 39(78%) belong to Hindu. 43(86) sample completed primary level education. Regarding occupation, 37(74.0) sample go for daily labour. All the samples were married. The majority of the sample received information about osteoporosis from television.44 sample received salary between Rs.5000 – 10000.
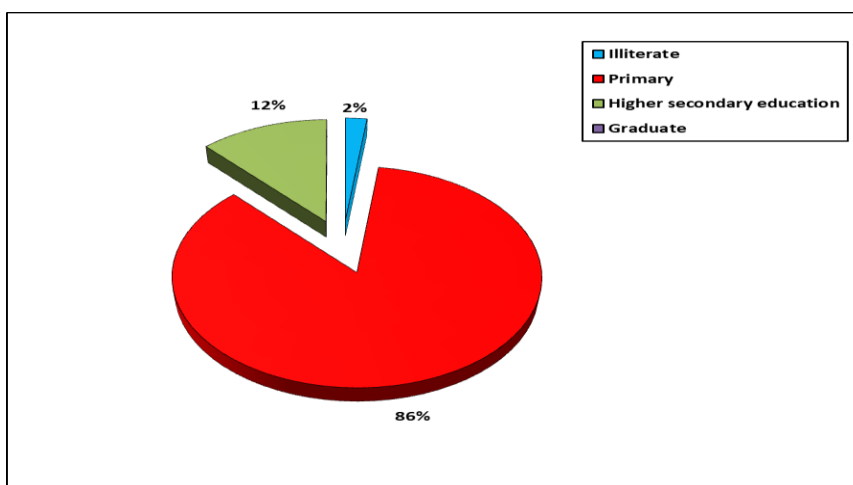
Percentage distribution of education of women in a selected community

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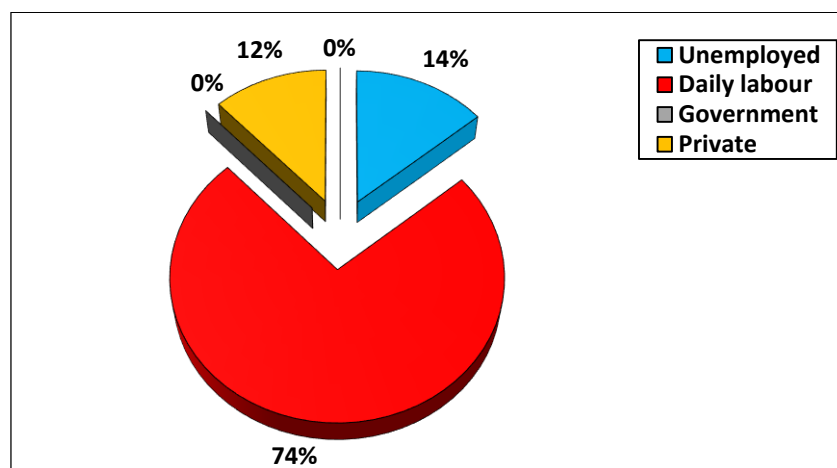
Percentage distribution of occupation of women in a selected community

4.   Discussion

The first objective of the study was to assess the level of knowledge on osteoporosis among women. In the pretest , among 50 women 9 (18.0%) had moderately adequate knowledge, 41 (82.0 %) women had inadequate knowledge. In the post test , majority of the women 27(54%) had adequate knowledge, 23(46 percent) women had moderately adequate knowledge. The second objective of the study was to evaluate the effectiveness of educational programme on osteoporosis among women. The mean post test score 15.22 with standard deviation was 2.31which was higher than that of pretest score 14.11 with standard deviation 4.74. The mean difference score was 8.14. Statistical differences were computed and the t value is 24.340.

The third objective of the study was to associate the post-test level of knowledge score with their demographic variables There was significant association between the post test level of knowledge regarding the osteoporosis and demographic variables such as education and occupation and no significant association with other demographic variables.

5.   Conclusion

The findings of the study revealed that educational programme regarding osteoporosis was effective in enhancing the knowledge of the women.

Conflict Of Interest: The authors had no condition/circumstances that present a potential conflict of interest.

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