International Journal of Recent Advances in Multidisciplinary Topics
Volume 7, Issue 7, July 2026
www.ijramt.com | E-ISSN: 2582-7839 | RESAIM Publishing | www.resaim.com

A Pre-Experimental Study to Assess the Effectiveness of Planned Teaching Program on Knowledge Regarding Post Menopausal Osteoporosis and its Prevention Among Perimenopausal Women (45-50 Years) Residing at Selected Rural Areas of Bhilai, Durg, Chhattisgarh

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***Abstract*: Background: Osteoporosis is a systemic skeletal ailment attributed by compromised bone strength predisposing to an increased risk of bone fracture. The normal homeostatic mechanism is disturbed. The rate of bone re absorption is more than the bone turnover is altered. In osteoporosis the bone became progressively porous, brittle and fragile they fracture easily under stresses that would not break normal bone. Menopause is one of women's most important life stages. Menopause also known as "the change" or "change of life" is a normal part of women's life. The word menopause is derived from the Greek word 'men' meaning month and 'pauses' meaning cessation, The average age of menopause is 52 but it can happen anytime between the ages 42 and 56. Women can say she has entered menopause when she has not had periods for a full year. Therefore this, study was under taken to assess the effectiveness of planned teaching program on knowledge regarding menopausal osteoporosis and its prevention among perimenopausal women (40-50 years) residing at selected rural areas of Bhilai, Durg, C.G. Aim: to assess the effectiveness of planned teaching program on knowledge regarding menopausal osteoporosis and its prevention among perimenopausal women. Setting and Design: The study was conducted in the Supela rural area of Bhilai (C.G.) Material and Method: 40 perimenopausal women. were selected through Convenient sampling technique. The data were collected using self-structured knowledge questionnaire. The data were analyzed by using descriptive and inferential statistics. Results: The study findings revealed that the planned teaching program was effective in improving knowledge of perimenopausal women. The finding shows, in pre-test, maximum 25 (62.5%) subjects had Poor knowledge, 11 (27.5%) had average knowledge and only 4 (10%) subjects had good knowledge regarding Menopausal osteoporosis. Whereas in post-test, maximum 22 (55%) subjects had average knowledge and 18 (45%) subjects had good knowledge and 0 (0%) subjects had poor knowledge. The comparison between pretest and posttest knowledge score of subjects depicts that in pre-test mean was 8.09, mean percentage was 32.80%, SD was 6.493 and in post-test mean was 16.84, and mean percentage was 76.50%, SD was 4.183. paired t-test analysis showed a significant difference between pre-test and post-test score of subjects (t = 8.845, df = 39) Which was found statically significant at "t-test table value" was = 2.023 at p>0.05 level. This result indicates that the post knowledge score was higher than pretest knowledge score at 0.05 level, so that (H_1) hypothesis was accepted. The association done between pretest levels of knowledge among perimenopausal women with their socio demographic characteristics such as Age, Marital status, Religion, Education Status, Occupation, Family Monthly Income, Types of Family, Family history of osteoporosis, Previous Knowledge and Sources of Previous Knowledge Regarding Menopausal osteoporosis and found statistically significant with age, marital status, religion, educational status and previous knowledge. Hence this state there is a significant association between pre-test level of knowledge regarding menopausal osteoporosis and its prevention among perimenopausal women with their socio demographic variables so that (H_2) hypothesis was accepted.**

***Keywords*: assess, effectiveness, knowledge, menopausal osteoporosis and its prevention, plan teaching programme, perimenopausal women.**

1. Introduction

Menopause is one of women's most important life stages. Menopause also known as "the change" or "change of life" is a normal part of women's life. The word menopause is derived from the Greek word 'men' meaning month and 'pauses' meaning cessation, The average age of menopause is 52 but it can happen anytime between the ages 42 and 56. Women can say she has entered menopause when she has not had periods for a full year. According to International Osteoporosis Foundation (2009), Osteoporosis is a systemic skeletal disorder characterized by compromised bone strength predisposing to an increased risk of bone fracture. The normal homeostatic mechanism is altered. The rate of bone re absorption is greater than the bone turnover is altered. In osteoporosis the bone became progressively porous, brittle and fragile they fracture

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easily under stresses that would not break normal bone**.** The osteoporosis and Menopause both are interrelated because many studies have shown that due to massive physiological alterations, especially in hormones, before and during menopause, make women prone for Osteoporosis.

2. Objectives

1. To assess the pre test and post test level of knowledge regarding menopausal osteoporosis and its prevention among perimenopausal women (40-50 years) residing at selected rural areas of Bhilai, Durg, Chhattisgarh".
2. To assess the effectiveness of planned teaching program on knowledge regarding menopausal osteoporosis and its prevention among perimenopausal women.
3. To associate the pre test level of knowledge regarding menopausal osteoporosis and its prevention among perimenopausal women with their selected socio demographic variables.

3. Material and Methods

A Quantitative approach was adopted where 40 perimenopausal women (40-50 years) were selected using non probability sampling technique. The self-structured knowledge questionnaire was used to assess the knowledge of perimenopausal women regarding menopausal osteoporosis and its prevention. Frequency and percentage analysis was done for description of socio demographic variables, Paired t-test was done to compare and to find effectiveness of planned teaching programme among perimenopausal women regarding menopausal osteoporosis and its prevention. Chi-square analysis was done to establish association between pre test level of knowledge of perimenopausal women regarding menopausal osteoporosis and its prevention with their selected socio demographic variables.

4. Results and Discussion

A. Distribution of Perimenopausal Women with Regards to Sociodemographic Variables

In this study socio demographic data draw out that majority of the perimenopausal women n= 21 (52.5%) belong to age group of 40-45 years, and only n=19(47.5%) belongs to age group of 46-50 years of age group. Analysis according to the marital status shows that maximum n=37 (92.5%) of subjects were married, n= 2 (5%) were widow, and only n=1 (2.5%) was unmarried, according to the religion n= 22 (55%) of subjects were Hindus, n= 10 (25%) were Christian, n=5 (12.5%) was belonged to any other religion such as Sikh and n=3 (7.5%) were Muslims. Analysis according to the educational qualification maximum subjects n=19 (47.5%) had higher education, n=10 (25%) had graduate and above education, n=6 (15%) had middle level education, n=4 (10%) had primary education and only n=1 (2.5%) had no formal education. Distribution of subjects according to the area of living shows that more than half of the subjects n=22 (55%) were residing at urban area and n=18 (45%) were residing at rural area. According to the occupation**,** maximum n=17 (42.5%) women had a job, n=12 (30%) were housewives, and n=8 (20%) women were labor and only 3 (7.5%) women had business. Analysis according to the family monthly income shows that n=16 (40%) had a monthly income of Rs 10,001-20,000, n=11 (27.5%) had a monthly income of below Rs 10,000, n= 9 (22.5%) had Rs 20,001-30,000 and only n=4 (10%) had a monthly income of more than Rs 30,000, Analysis of according to the type of family shows that n=27 (67.5%) was from nuclear families and n=13 (32.5%) was from joint families. According to the history of Osteoporosis majority of the subjects n=95 (95%) had no family history of osteoporosis and only n=2 (5%) had family history of osteoporosis. The analysis of previous knowledge regarding Menopausal osteoporosis shows that maximum n=38 (95%) subjects had previous knowledge regarding Menopausal osteoporosis and only n=2 (5%) subject don't have previous knowledge regarding Menopausal osteoporosis. The analysis of subjects according to the source of previous regarding Menopausal osteoporosis, shows n=16 (42.10%) subjects had knowledge from health care professional , n= 9 (23.68%) subjects had knowledge from family and friends, n=7 (18.42%) subjects had knowledge from mass media, and n=6 (15.78%) subjects had received knowledge from magazine.

B. The first objective was to assess the pre test and post test level of knowledge regarding menopausal osteoporosis and its prevention among perimenopausal women (40-50 years) residing at selected rural areas of Bhilai, Durg, Chhattisgarh

The analysis of overall analysis of knowledge of perimenopausal women regarding menopausal osteoporosis and its prevention depicts that in pre-test, n= 25 (62.5%) subjects had Poor knowledge, n=11 (27.5%) had average knowledge and only n=4 (10%) subjects had good knowledge. Whereas in post-test, n=22 (55%) subjects had average knowledge and n=18 (45%) subjects had good knowledge and n=0 (0%) subjects had poor knowledge.

Area wise Analysis of pre test and post test knowledge score of subjects regarding Menopausal osteoporosis and its prevention by using mean, mean percentage and standard division showed that In pre test in General aspect of menopause and osteoporosis the mean score was 2.83 and mean % was 35.4% whereas in post test it was 6.18 and 77.3%r respectively .In the area of Risk Factor, Signs &Symptoms, Diagnostic Evaluation the mean score was 2.17 and mean % was 30% whereas in post test it was 5.40 and .90 respectively. The Scores regarding prevention and treatment in pre test, the mean score was 3.09 and mean % was 30.9% whereas in post test it was 5.17 and Mean % was 73.9 %.

C. The second objective was to assess the effectiveness of planned teaching program on knowledge regarding menopausal osteoporosis and its prevention among perimenopausal women

It depicts that the comparison between pre test and post test knowledge score of subjects for t test analysis. The pre-test mean was 8.09, mean percentage was 32.80%, SD was 6.493 and in post-test mean was 16.84, and mean percentage was 76.50%, SD was 4.183. There was a significant difference between pre test and post test score of subjects "calculated

paired t-test value" = 8.845, df = 39. Which was found statically significant at "t-test table value" was = 2.023 at 0.05 level. This result indicates that the post knowledge score was higher than pre test knowledge score at 0.05 levels

D. The third objective was associate the pre test level of knowledge regarding menopausal osteoporosis and its prevention among perimenopausal women with their selected socio demographic variables

Chi-square test for Association between pre test levels of knowledge with selected socio demographic variables. There was highly significant association found between knowledge and Marital status as chi square value was 31.76, df=4, and the table values 9.49. There was highly significant association found between knowledge and educational status as the calculated value of chi square for education status was 30.64, df= 12, and the table value= 21.03. The calculated value of chi square for religion was 3.60, df= 9, and the table values 16.92 was not significant. There was highly significant association found between knowledge and previous knowledge, the calculated value of chi square for previous knowledge regarding menopausal osteoporosis and its prevention was 25.96, df= 3, and the table values 7.81 was highly significant. There were no significant association found between knowledge and area of living ($x2 = 0.29, df = 3$, table values 7.81), occupation (x2=13.71, df= 9, and the table values = 16.92), family income (the calculated value of chi square = 17.15, df= 9, and the table =16.92, So alternative H_2 hypothesis was accepted.

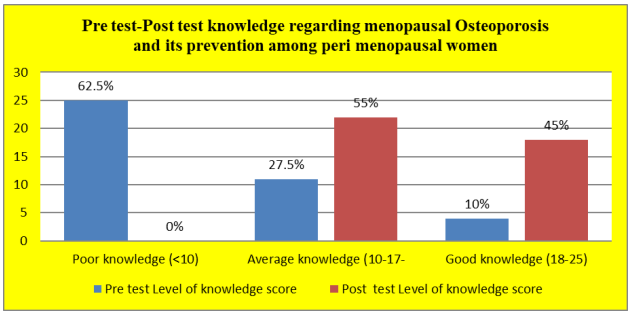

Fig. 1. Pre test-Post test knowledge regarding menopausal Osteoporosis and its prevention among peri menopausal women

5. Implications

The findings of the study have implication in various areas of nursing practice, nursing education, nursing administration, and nursing research.

A. Nursing Practice

Several implications can be drawn from the present study for nursing practice.

The nursing personnel are in best position to provide information and influence the perimenopausal women in the community as well as in the hospital setting. Education programme conducted by the nursing personnel both in the hospital and community areas helps in managing perimenopausal problems.

The community has a little knowledge about the perimenopausal problems, so education can be given to the all the females irrespective of age. This will create more awareness among the premenopausal women.

Any teaching strategy which is simple, clear and attractive allows the learner to follow instruction easily. Health information can be imparted through lecture cum method. Charts, power point and booklets were used as visual aids. Hence, nurses should take keen interest in preparing different strategies suitable for the community.

B. Nursing Education

The nursing curriculum should consist of knowledge and attitude related to management of perimenopausal problems using different methods of teaching. Nursing students should be made aware of their role in health promotion and managing menopausal problems in the present and future year which may help in achieving the goal of health for all. The students need to be emphasizing on teaching various community groups on management of perimenopausal problems.

Nurses at postgraduate level have to develop their skill in preparing health teaching material according to the community's level of understanding. Improved and never techniques have to be used for motivating public participation in management of perimenopausal problems education programme by conducting workshops and seminars.

C. Nursing Administration

`Nursing administrator should take interest in providing information on management of perimenopausal problems to the public and community.

Nursing personnel should be given in-service education to update the knowledge regarding the signs and symptoms and its management of perimenopausal problems among premenopausal working women. The nurse as an administrator should plan and motivate nursing personnel in conducting structured teaching programme in public.

Nursing administration should take interest in motivating the nursing personnel to improve the education in the urban and rural areas.

D. Nursing Research

There is a need of extensive and intensive research in this area, so the strategies need to be developed for educating nurses in management of perimenopausal problems. The researcher

Table 1
Overall Analysis of pre test – Post test knowledge score of subjects regarding Menopausal osteoporosis

S.No.	Level of knowledge	Pre test		Post test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Poor knowledge (<10)	25	62.5	0	0
2.	Average knowledge (10-17)	11	27.5	22	55
3.	Good knowledge (18-25)	4	10	18	45
Total		**40**	**100**	**40**	**100**

N=40

should conduct research on various aspects of perimenopausal problems and its management, which provides more scientific body of information to the nursing profession. She should also encourage and depute nurses to conduct longitudinal study regarding various measures available to managing perimenopausal problems among premenopausal working women.

6. Recommendations

1. Similar study can be replicated to a large sample for wider generalization.
2. Similar study can be conducted in different settings.
3. A comparative study can be conducted among samples in different setting.

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