



ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAM ON KNOWLEDGE REGARDING OSTEOPOROSIS AND ITS PREVENTION AMONG MENOPAUSAL WOMEN

Chandni Manral¹, Shikha Arya², Sneha³

Nursing Tutor, Graphic Era Hill University College of Nursing, Bhimtal¹, Nursing Tutor, Graphic Era

Hill University College of Nursing, Bhimtal², Nursing Tutor, Graphic Era Hill University College of

Nursing, Bhimtal³,

ABSTRACT

Introduction: Osteoporosis is one of the emerging health issues worldwide. it is a multifactorial and slowly emerging global health problem. Osteoporosis is defined as a systemic skeletal disorder characterized by a compromised bone strength predisposing to an increased risk of fracture. **Aim:** assess the effectiveness of planned teaching program on knowledge regarding osteoporosis and its prevention among menopausal women in selected community of Uttarakhand. **Methods:** This study was a pre-experimental, one group pre-test post-test design. There were 30 samples selected by using simple random sampling technique from selected community and the data was collected by self-structured knowledge questionnaire. Total 25 questions were prepared for knowledge assessment. The data was analysed by descriptive and inferential statistics. **Results:** This study revealed that the pre-test mean, median and standard deviation was 5.6, 5 and 3.11 and post-test mean, median and standard deviation was 17.1, 16.5 and 3.08. Pre-test and post -test knowledge score comparison was done with the help of paired t-test and t-value was 11.55 and P value 2.05 at 0.05 level of significance respectively. The pre-test knowledge level 73% respondents were having inadequate knowledge and 26.67% were having moderate knowledge and the post-test knowledge level 50% respondents were having adequate knowledge and 50% were having moderate knowledge. that there was significant association found between selected demographic variable education with pre-test knowledge score related to osteoporosis and its prevention among menopausal women. **Conclusion:** This study concluded that planned teaching program was effective in enhancing knowledge of women regarding osteoporosis and its prevention

Key words: Assess, Osteoporosis, Planned Teaching Programme, Knowledge, Prevention

Introduction:

Bones have many functions. They support the body structurally, protect our vital organs, and allow us to move. Osteoporosis is defined as a systemic skeletal disorder characterized by a compromised bone strength predisposing to an increased risk of fracture. It is considered as the major health issue in many parts of the country and its occurrence increases as the population age advances. Both men and women are susceptible to osteoporosis as they age but women have significantly higher risk for manifestations and complications of osteoporosis because their peak bone mass is 10% to 15% less than that of man.¹

According to the International Osteoporosis Foundation, one in two women and one in four men over age 50 will have an osteoporosis related fracture in her/his lifetime. It is estimated that osteoporosis accounts for more than 1.5 million fracture each year. Before a woman reaches 30 her body gains more bone than its losses. Around age 30, this process balances out. If bone loss becomes severe, a woman may develop osteoporosis.²

According to International Osteoporosis Foundation, Osteoporosis cause more than 8.9 million fractures worldwide annually, resulting in an Osteoporosis fracture every 3 seconds. Osteoporosis is estimated to affect 200 million women worldwide, among these approximately 1/10th of women aged 60, 1/5th of women aged 70, 2/5th of women aged 80 and 2/3rd of women aged 90 years.³

Women have a higher risk for osteoporosis because they have smaller, thinner bones compared to men. Having smaller, thinner bones also means less bone mass. Another factor is that menopause has a greater effect on bone health. These differences mean women will have faster bone loss than men. Women can lose up to 20% of bone density during the five to seven years following menopause. And the quicker the bone loss is, the greater the risk is for developing osteoporosis.⁷

Menopause is a physiological process in life, not disease. It is a universal transition that most women normally experience. Natural menopause will occur in 25% of women by age 50, 73% by age 52 and 95% by age 55. After menopause osteoporosis is accelerated due to deficiency of estrogen. Menopause accelerates the bone loss to 2-5% per year, which may continue till 10 years. Prevalence of osteoporosis increases with age in women and not

in men. It is a major problem faced by most of the postmenopausal women in rural area.⁴ Osteoporosis is one of the emerging health issues worldwide. it is a multifactorial and slowly emerging global health problem.⁵

Going through menopause can increase a woman's risk of developing osteoporosis. A main reason for the increased risk is reduced estrogen, which can cause bone loss. Estrogen generally protects your bones, but when you reach menopause, your estrogen levels drop. That drop can lead to bone loss, and left untreated, bone loss can eventually lead to osteoporosis and osteoporotic fractures.⁶

Statement of the problem: A study to assess the effectiveness of planned teaching program on knowledge regarding osteoporosis and its prevention among menopausal women in selected community of Uttarakhand.

Objectives

1. To assess the pre-test knowledge regarding osteoporosis and its prevention among menopausal women
2. To assess the post-test knowledge regarding osteoporosis and its prevention among menopausal women
3. To compare the pre-test knowledge score with post-test knowledge score regarding osteoporosis and its prevention among menopausal women
4. To find out the association between pre-test knowledge of osteoporosis and its prevention with selected socio demographic variables.

Hypothesis

H^1 - There will be significant difference between pre-test and post-test knowledge score.

H^2 - There will be significant association between pre-test knowledge score of osteoporosis and its prevention with selected demographic variables.

Methods-

This study was a quantitative research approach, Pre-Experimental, one group pre-test post-test research design. There were 30 samples selected by using simple random sampling technique from selected community and the data was collected by self-structured knowledge questionnaire. It was consist of two sections: socio demographic performa and structured knowledge questionnaire. Socio demographic performa consists of age, marital status, religion, education, family history and previous source of information. Self-structured knowledge questionnaire consists of 25 questions related to osteoporosis which was prepared for knowledge assessment. Each right answer

carry one mark and wrong answer carry 0 mark. Pre-test was conducted on first day followed by planned teaching program. Post- test was conducted after one week of pre-test. The data was analysed by descriptive and inferential statistics.

Results-

Section I: Distribution of respondents according to sociodemographic variables

Table 1 showed that among 30 samples 33.33% belongs to 61-65 years age group, 26.66% belongs to 51-55 years age group, 23.33% belongs to 56-60 years age group and 16.66% belongs to 45-50 years age group. Majority of the samples were married 90%, only 10% were widow. Samples religion were 83.33% hindu, 30% muslim and 6.66% sikh. Majority of the samples 43.33% had their primary education, whereas 36.66% had no formal education and 20% had completed their secondary education. 66.66% had no any family history of osteoporosis and 33.33% had family history of osteoporosis. Majority of the samples 63.33% had no previous source of information regarding osteoporosis and 36.66% had previous source of information regarding osteoporosis.

Table 1: Frequency, percentage, and distribution of socio demographic variables (n=30)

S. No.	Socio-demographic characteristics	F	%
1	Age in year		
1.1	45-50 years	5	16.66%
1.2	51-55 years	8	26.66%
1.3	56-60 years	7	23.33%
1.4	61-65 years	10	33.33%
2	Marital status		
2.1	Married	27	90%
2.2	Widow	3	10%
3	Religion		
3.1	Hindu	25	83.33%
3.2	Muslim	3	30%

3.3	Sikh	2	6.66%
4	Education		
4.1	No formal education	11	36.66%
4.2	Primary education	13	43.33%
4.3	Secondary education	6	20%
5	Family history		
5.1	Yes	10	33.33%
5.2	No	20	66.66%
6	Previous source of information regarding osteoporosis		
6.1	No	19	63.33%
6.2	Yes	11	36.66%

Section II: Distribution of respondents according to pre-test score and post-test score

The pre-test mean, median, mode and standard deviation was 5.6, 5, 3 and 3.11. and the post-test mean, median, mode and standard deviation was 17.1, 16.5, 15 and 3.08.

Section III: Comparison of pre-test and post-test level of knowledge score regarding selected aspect of predetermined knowledge of osteoporosis and its prevention

Table 2 showed the comparison of overall knowledge score of menopausal women regarding osteoporosis and its prevention. The findings were suggested that calculated “t” value is more than tabulated “t” value at the level of 0.05 level of significant.

Table 2: Comparison of pre- and post-test knowledge score of respondents (n=30)

	N	mean	SD	Standard error mean	df	Calculated t value	Tabulated t value	P value	Inference
Pre-test	30	5.5	3.83	0.70	29	11.55	2.05	0.05	S
Post-test	30	16.07	3.14	0.57					

Section IV: Level of pre-test and post-test knowledge

Table 3 represents that in pre-test 73% had inadequate knowledge and 26.67% had moderate knowledge level. In post-test 50% had moderate and 50% adequate knowledge level. The results revealed that planned teaching program was effective to enhance the knowledge level of menopausal women.

Table 3: Distribution of respondents according to knowledge level

Knowledge Level	Pre-test	Post-test
Inadequate	73%	0%
Moderate	26.67%	50%
Adequate	0%	50%

Section V: Association of knowledge of osteoporosis and its prevention with the demographic variables among menopausal women

Table 4 showed that the obtained chi square value for age ($X^2= 3.116$), marital status ($X^2=0.075$), religion ($X^2=0.818$), family history($X^2=0.085$) and previous source of information ($X^2=3.135$) the obtained p value for these variable is more than the P value (0.05), which indicates that there is no significant association between pre-test knowledge level with the selected demographic variables among menopausal women. Hence the research hypothesis H_2 is rejected and null hypothesis is accepted for this.

The obtained chi square value for education ($X^2=6.73$), the obtained p value for this variable is less than the P value (0.05), which indicates that there is significant association between pre-test knowledge level with the

selected demographic variables among menopausal women. Hence the research hypothesis H_2 is accepted and null hypothesis is rejected for this.

Table 4: Association between pre-test knowledge level with the selected demographic variables among menopausal women

S.no	Variable	Inadequate	Moderate	Test & df	t-value	P value	Inference
1	Age in year						
1.1	45-50 years	4	1	χ^2 3.116 df=3	7.82	0.373	NS
1.2	51-55 years	4	4				
1.3	56-60 years	6	1				
1.4	61-65 years	8	2				
2	Marital status						
2.1	Married	20	7	χ^2 0.075 df=1	3.84	0.783	NS
2.2	Widow	2	1				
3	Religion						
3.1	Hindu	18	7	χ^2 0.818 df=2	5.99	0.66	NS
3.2	Muslim	2	1				
3.3	Sikh	2	0				
4	Education						
4.1	No formal education	10	1	χ^2 6.73 df=2	5.99	0.034	S
4.2	Primary education	10	3				
4.3	Secondary education	2	4				
5	Family history						
5.1	Yes	7	3	χ^2 0.085 df=1	3.84	0.770	NS

5.2	No	15	5				
6	Previous source of information						
6.1	No	16	3	X ² 3.135 df=1	3.84	0.076	NS
6.2	Yes	6	5				
Significant at 0.05 level.		S = Significant		NS = Not Significant			
X ² = Chi-square							

Discussion

This study showed that the pre-test knowledge level regarding osteoporosis and its prevention, 73% (22) respondents were having inadequate knowledge and 26.67% (8) were having moderate knowledge and the post-test knowledge level regarding osteoporosis and its prevention, 50% (15) respondents were having adequate knowledge and 50% (15) were having moderate knowledge. The result showed that there was significant difference between the mean pre-test and post-test ($P < 0.05$) So the planned teaching program was effective to enhance the knowledge of menopausal women. Hence the H₁ hypothesis is accepted.

The results revealed that there was significant association found between selected demographic variable education with pre-test knowledge score related to osteoporosis and its prevention among menopausal women of selected community Uttarakhand. Hence the H₂ hypothesis is accepted.

This result was supported by a pre-experimental study done by Keerat evaluate the effectiveness of Structured Teaching Programme on knowledge of women (between the age group of 30-75 years) regarding prevention and management of Osteoporosis living in the selected community of Sangati, District Shimla, Himachal Pradesh. frequency, percentage and distribution, mean, median, standard deviation, t value and chi square. Results: The study results revealed that the in the pre-test the mean knowledge score (7.35 ± 3.861) of women was less than the post-test mean knowledge score (23.05 ± 3.422). The calculated t value was 32.142 which was more than the table value at $p \leq 0.05$. it showed that teaching program was effective to enhance the knowledge.¹

John Anisha Mary, Sr. Alphonsa, Roselin Mathew conducted a study on effectiveness of structured teaching programme on knowledge regarding prevention of osteoporosis among post-menopausal women. This was a Pre-experimental one group pre-test post-test design and 30 post-menopausal women were selected by purposive sampling from Enadimangalam PHC. Structured knowledge questionnaire was adopted to assess the existing

level of knowledge of post-menopausal women regarding prevention of osteoporosis, followed by structured teaching programme was given, after 5 days post test was conducted by using same knowledge questionnaire. The results revealed that pre test mean was 9.63 and post test mean was 18.27. Mean difference of pre-test and post-test is 9.34. The S.D value for pretest is 3.3315 and the post-test value is 2.60106. The 't' value is 15.569 and table value is 2.05. It revealed that structured teaching programme was effective.⁴

Conclusion

This study assessed the knowledge on osteoporosis and its prevention among the menopausal women. This study evidenced that the level of knowledge was inadequate before intervention. After intervention half of the respondents have adequate knowledge and half of the respondents have moderate knowledge. The mean post-test knowledge score was higher than the mean pre-test knowledge score. So, this study concluded that planned teaching program was effective in enhancing knowledge of women regarding osteoporosis and its prevention.

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