

A Pre-Experimental Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge regarding Osteoporosis and its Prevention among Pre-Menopausal Women Residing in Selected Areas of District Solan, (H.P.)

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Abstract: ***Background:** Osteoporosis is the most common bone disease in humans, representing a major public health problem. It has been estimated that more than 200 million people are suffering from osteoporosis. According to recent statistics from the International Osteoporosis Foundation, worldwide, 1 in 3 women over the age of 50 years and 1 in 5 men will experience osteoporotic fractures in their lifetime. **Objectives:** to assess the knowledge and effectiveness of structured teaching programme regarding osteoporosis among pre-menopausal women, aged 30-45 years. **Methodology:** A pre-experimental study was conducted in 2021 in selected areas of district, Solan, H.P. sample of 80 pre-menopausal women were selected using non-probability purposive sampling technique. Pre-test was conducted and same day, structured teaching programme was administered. After relapse of seven days, post-test was conducted using self-structured questionnaire. **Result:** the findings showed that mean pretest knowledge score was 15.58 ± 4.5 and posttest mean knowledge score was 27.1 ± 4.096 with mean difference of 11.520. paired 't' test was applied and the value of 't' was 19.039, P is <0.001 which was found to be significant and effectiveness seen in knowledge level of 32.93%, which interpreted that majority of pre-menopausal has gained knowledge to adequate level regarding osteoporosis and its prevention.*

Keywords: Effectiveness, Structured Teaching Programme, Knowledge, Pre-menopause

1. Introduction

Osteoporosis can be defined as musculoskeletal disorder. The musculoskeletal system is made of bones, cartilage, ligaments, tendons and muscles, which form a framework for the body. Around the world, it is estimated that an osteoporotic fracture occurs every 3 seconds.^[1] Women are more at risk of developing osteoporosis and broken bones than men because of the hormone changes that occurs at the time of menopause which directly affect the bone density and a woman can lose up to 20% of her bone density during the five – seven years following menopause.^[2] As one out of 4 women above the age of 50 has osteoporosis. World health organization states; one in eight men above 50 years has been encountered with this disease, but it can happen to anyone at any age. The contribution of osteoporosis to mortality results in more deaths due to osteoporotic fracture rather than ovarian and breast cancer.^[3] The department of health research and the government of India recently included osteoporosis as one of the priority areas in the non-communicable diseases among community.^[4]

Objectives

- To assess the pretest knowledge level regarding osteoporosis and its prevention among pre-menopausal women.
- To assess the posttest knowledge level regarding osteoporosis and its prevention among pre-menopausal women.
- To determine the effectiveness of structured teaching programme regarding osteoporosis and its prevention.

- To find out the association of post-test knowledge level with their selected socio-demographic variables.

2. Methodology

A pre-experimental (one group pre-test post-test) design was used and data was collected from 80 pre-menopausal women of age group 30-45 years, who were available at the time of study and willing to participate. The study was conducted in selected area (sunny side) of district Solan (H.P.).

Non-probability purposive sampling technique was used and self-structured questionnaire was prepared to collect data. The tool comprised of three sections: section A included questions regarding socio-demographic variables of pre-menopausal women like, age, marital status, educational status, occupation, family type, religion, number of children, monthly income, dietary pattern, any orthopedic diseases, previous knowledge regarding osteoporosis, Body Mass Index. Section B included self-structured questionnaire which consists of 35 knowledge and prevention items regarding osteoporosis. Section C was structured teaching programme.

To ensure the validity of tool, it was submitted to 10 experts. The reliability of tool was assessed by using test-retest method and was calculated by Karl Pearson correlation coefficient. Where 'r' value is 0.87.

Ethical approval was taken from Director of Health Services, Shimla, Himachal Pradesh to conduct the research study. Written and informed consent was obtained from the

subjects before data collection and assurance was given and maintained regarding confidentiality of results.

3. Results

Frequency and percentage wise distribution of subject according to their socio demographic variables revealed the major findings that out of 80 premenopausal women, 45% of them were between age of 36 to 40 years. 96.3% of premenopausal women were married and majority of them

were having two children with a percentage of 66.3%. Only 31.3 % of women had completed their middle school and majority of women are homemaker with 30%. Most of them belonging to nuclear family with 67.5% and follows Hindu religion with 88.8%. Majority 98.8% of pre-menopausal women were not having any family history of osteoporosis and 87.5% of women were not aware about osteoporosis. 65% of them were having body mass index within healthy range.

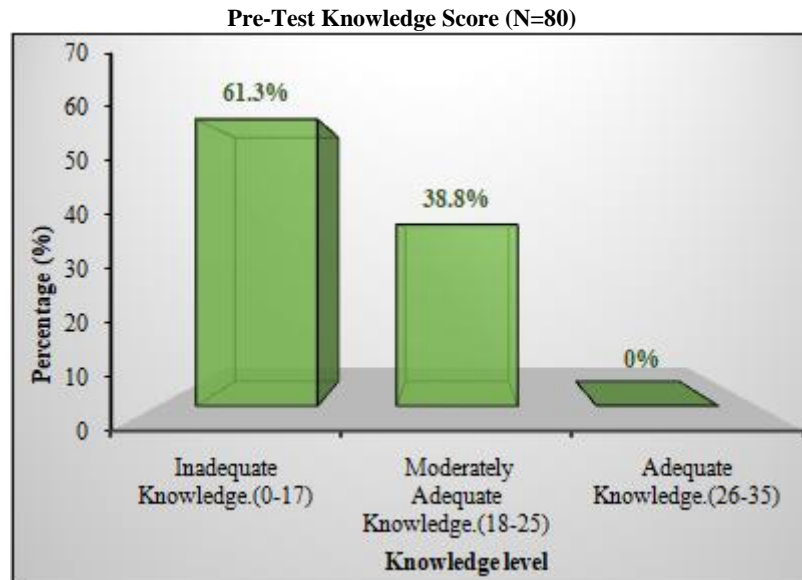


Figure 1: Percentage distribution of premenopausal women according to their knowledge level in pre-test

As per the mentioned figure, majority of premenopausal women were having inadequate knowledge level of 61.3% leading by 38.8% of premenopausal women with moderately adequate knowledge level regarding osteoporosis and its prevention. None of the sample lies under adequate knowledge level.

Table 1 depicts that pre-test mean knowledge level 15.58, \pm 4.500 which is 44.50% of total mean percentage. Hence it can be interpreted that knowledge of majority of premenopausal women regarding osteoporosis and its prevention was inadequate.

Table 1: Mean, standard deviation and mean percentage of pre-test knowledge level of premenopausal woman regarding osteoporosis and its prevention, (N=80)

Descriptive Statistics	Mean	S.D.	Mean%
Pretest Knowledge	15.58	\pm 4.500	44.50

Maximum= 35

Minimum=0

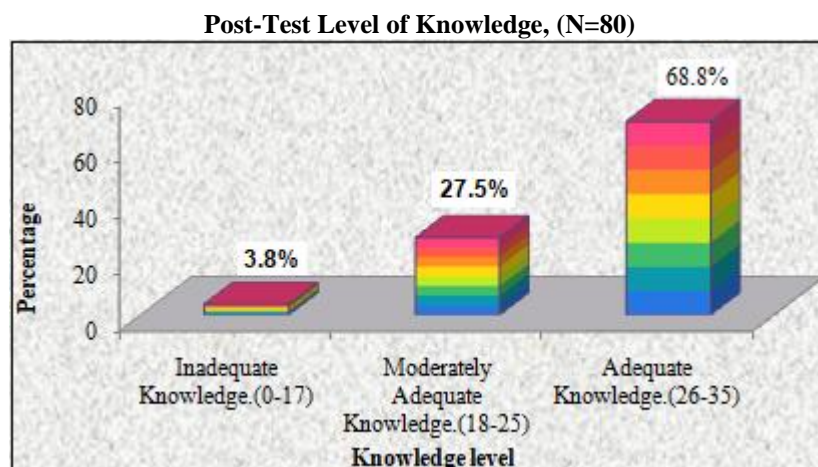


Figure 2: Percentage distribution of premenopausal women according to their knowledge level in post-test

Above mentioned figure shows that majority of women has adequate knowledge with 68.8% following by 27.5% having moderately adequate knowledge level and only 3.8% were falling under inadequate knowledge level regarding osteoporosis and its prevention.

Table 2: Mean, standard deviation and mean percentage of post-test knowledge level of premenopausal woman regarding osteoporosis and its prevention, (N= 80)

Descriptive Statistics	Mean	S.D.	Mean%
Posttest Knowledge	27.10	4.096	77.40

Maximum= 35

Minimum=0

Effectiveness of Structure Teaching Programme, (N= 80)

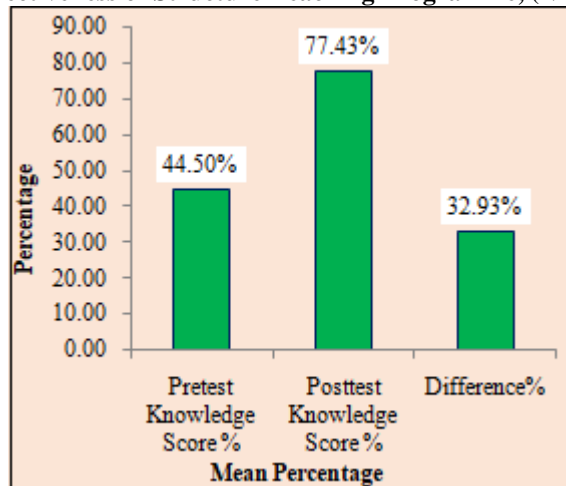


Figure 3: Percentage wise distribution of pre-menopausal women according to mean percentage of pretest, posttest and their differences

Above mentioned figure shows distribution of pre-menopausal women according to mean percentage of pre-test 44.50% and after implementation of structure teaching program, the mean percentage of post-test was 77.43% with the mean percentage difference of 32.93%.

Hence it can be concluded that there is an increase in knowledge level of a pre-menopausal woman by 32.93% which shows that structured teaching programme was effective to enhance the knowledge of premenopausal women.

Table 3: Comparison of mean, mean percentage and standard deviation between pre-test and posttest knowledge level, (N=80)

Paired 't' Test	Mean \pm S.D.	Mean Diff.	Paired 't' Test	P value	Table value
Pretest Knowledge	15.58 \pm 4.5	11.520	19.039 *	<0.001	1.99
Posttest Knowledge	27.1 \pm 4.096				

* Significance Level <0.05

Maximum=35

Minimum=0

Above mentioned table shows that mean pretest knowledge score is 15.58 \pm 4.5 and posttest mean knowledge score is 27.1 \pm 4.096 to find the difference, paired 't' test was applied.

The value of 't' was 19.039, mean difference is 11.520, and P is <0.001 which was found to be significant. Hence it can be inferred that after implementation of structure teaching programme to the group, the mean post-test was statistically significant that is higher than pre-test score. Thus, it can be concluded that the structured teaching programme was effective as it increases the level of knowledge among premenopausal women regarding osteoporosis and its prevention.

Association of post-test knowledge level with selected socio-demographic variables of the subjects, N=80

There was no significant association found between the knowledge regarding osteoporosis and its prevention among premenopausal women with age, marital status, educational status, occupation, the type of family, religion from which they belong, their number of children, monthly income, dietary pattern, whether they have any orthopedic disease, any family history of orthopedic disease, previous knowledge regarding osteoporosis, source of information and the BMI of premenopausal women.

4. Conclusion

This study was mainly focused on assessing the effectiveness of structured teaching programme on knowledge regarding osteoporosis and its prevention among pre-menopausal women residing in selected area (sunny side) of district Solan, (H.P). As stated by WHO that 1:3 females suffer from osteoporosis, and according to International Osteoporosis Foundation, 1:2 female above 50 years of age suffers from osteoporotic fracture; there is a great significance of imparting knowledge in such group of women who in their future have chances to face such problems. So, attention can be paid to community people regarding increase in knowledge and prevention of future complications.

Hence, findings of the study revealed that majority of premenopausal women were having inadequate knowledge level of 61.3% leading by 38.8% with moderately adequate knowledge level. Then structured teaching programme was administered to them which resulted in increase of knowledge level. As a result, there was increase in knowledge level of pre-menopausal women with 68.8% majority has adequate knowledge, following by 27.5% with moderately adequate knowledge level and only 3.8% still lies under inadequate knowledge.

5. Future Scope

Nursing Education

- The nursing students should be able to give education to the women who are pre- menopausal, yet to attain menopause, knowledge regarding osteoporosis and its prevention whether they are posted in the clinicals or in the community area.
- Nursing student should be aware of their responsibility to focus on enhancing women knowledge regarding osteoporosis and its prevention.
- The present study helps the community health nurse to plan for the health education programmes and to aware the general public regarding importance of maintaining

healthy life style and intake of proper nutrition for osteoporosis and its prevention.

Nursing Practice

- Nurses working in the community, play a vital role in providing health awareness regarding osteoporosis and its prevention among pre-menopausal women. The nursing personnel should identify the pre-menopausal women and find out their problems, and according to that conduct health teaching programs especially imparting knowledge regarding osteoporosis and its prevention.
- The study shows that there was lack of knowledge regarding osteoporosis and its prevention among pre-menopausal women in the urban area, for which a health care provider needs to have adequate knowledge by herself regarding osteoporosis and its prevention so that she can enhance the knowledge of people who comes in contact with them.

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