

A true-experimental study to assess the effectiveness of structured teaching programme on prevention of osteoporosis among postmenopausal women in selected rural areas, Guntur, A.P.

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Abstract

A true- experimental study was undertaken to assess the Effectiveness of structured teaching programme on prevention of osteoporosis among postmenopausal women in selected rural areas, Guntur, A.P. The Objectives of the study were – 1.To assess the pre and posttest level of knowledge regarding prevention of osteoporosis among postmenopausal women in experimental and control group. 2. To evaluate the effectiveness of structured teaching programme on prevention of osteoporosis among postmenopausal women in experimental group.3To compare the posttest level of knowledge on prevention of osteoporosis among postmenopausal women in experimental and control group.4To find out the association between the post test scores on prevention of osteoporosis and selected demographical variables of postmenopausal women in experimental. The conceptual frame work adopted for the study was based on Dorothy Orem's supportive educative System Theory. The design adopted for the study was true-experimental with two group pretest and post test design. 60 postmenopausal women were included in this study. Samples were selected by using probability, simple random sampling technique. The structured questionnaire was developed by the investigator to assess the level of knowledge of the postmenopausal women before and after the intervention of structured teaching programme on prevention of osteoporosis. Data collection was done by structured questionnaire. The data was analyzed with the help of descriptive and inferential statistics and findings were interpreted. Data analysis showed that posttest level of knowledge in experimental group 30 postmenopausal women 1(3.34%) were with inadequate knowledge, 6(20%) were with moderately knowledge, 23(76.66%) were with adequate knowledge. The results have shown over all experimental group pretest mean 9.30, standard deviation 3.69, and posttest mean 23.33, standard deviation 4.53, paired 't' test value 23.176. This was significant at $p > 0.05$ level. Which proved that there was a significant difference between pretest and post test level of knowledge on osteoporosis among menopausal women. Thus research hypothesis is accepted. This indicates that structured teaching programme was effective mainly to improve the knowledge of postmenopausal women regarding prevention of osteoporosis.

Keywords: Effectiveness, Structured teaching programme, osteoporosis, Prevention, Postmenopausal women

Introduction

A Woman has been the multi task person of the society for centuries. She is responsible for the miracle of birth. She is the image of the society and considered the guardian of the respect and corner stone of a family. As life goes on, there are lot of changes occur in women's life cycle. Major concern in woman's life is reproductive health, and needs much attention than the counter parts. Women need to know what to expect, why it happens and what measures will help the women with menopause achieve high level functioning at this time in her life. They can understand and provide support for the women's views and feeling and prepare them for menopause by providing adequate knowledge about it [1].

Menarche and menopause are the turning point in the life of a woman. "Menopause is a stage of life not a disease". The menopause is the time of women's life when reproductive capacity ceases. The postmenopausal period is the time following menopause and peri menopausal is a term used to denote the period during which menopausal changes are occurring. The age range at which natural menopause occurs is wide, between the age of 40- 55years [1].

Menopause is the physiological cessation of menstrual cycles associated with advancing age in any woman. It occurs as the ovaries stop producing estrogen, causing the reproductive system to gradually shut down. Women may go through a lot

of anxiety, tension, worry, emotional, suppression and a lot of physical and mental stress before and during menopause even if they are aware of its eventuality [2].

Osteoporosis, or porous bone, is a chronic, progressive metabolic bone disease characterized by low bone mass and structural deterioration of bone tissue, leading to increased bone fragility. Osteoporosis is 8 times more common in women than in men for several reasons: women tend to have lower calcium intake than men throughout their lives, women have less bone mass because of the small frame, bone resorption begins at an earlier age in women and is accelerated at menopause, pregnancy and breastfeeding deplete a women's skeletal reserve unless calcium intake is adequate, longevity increases the likelihood of osteoporosis [3].

Ramanadhan, 2000 a study was conducted on women knowledge on osteoporosis. In this study of 247 women, their knowledge of osteoporosis was assessed with the Facts on Osteoporosis Quiz. The instrument measured their responses to questions about self-care practices related to risk factors and preventive behaviour associated with osteoporosis. Respondents came from occupational and primary health care settings and a health fair. The women ranged in age from 22 to 84 years. Findings indicated that the majority of women had inadequate knowledge of osteoporosis risk factors and

preventive behaviour [5].

October 20, World Osteoporosis Day provides an all-important focal point for informing and educating the general public and policy makers about the prevention of a disease which still suffers from poor general awareness. With the number of participating countries and scheduled events increasing steadily year by year, the impact of WOD has grown significantly [4]

Women are unaware of the risk factors and the consequences of osteoporosis. Therefore, the women have inadequate knowledge regarding menopause changes, especially hormonal imbalance, decrease bone mass density fractures related to osteoporosis.

Materials and Methods

In the present study Evaluative Approach was used, because the present study was aimed to assess the effectiveness of Structured teaching Programme on prevention of osteoporosis among postmenopausal women in selected rural areas in Guntur district, A.P. True Experimental design with pre- test and post -test control group was selected to evaluate the effectiveness of structured teaching programme on prevention of osteoporosis among postmenopausal women. The study was carried out among 60 women resides in rural areas (Numburu and Pedakakani) were selected by using probability, simple random sampling technique after obtaining permission from the authorities. Informed consent was obtained from participants after explaining the purpose of the study and confidentiality was assured, which allowed the researcher to select the participants who are willing to participate and present during the period of data collection. The structured questionnaire was developed by the investigator to collect demographic data and assess the level of knowledge of the postmenopausal women before and after the intervention of structured teaching programme on prevention of osteoporosis. Obtained data was analyzed by using descriptive and inferential statistics.

Results

The analysis of the data was based on the objectives and hypothesis. Both descriptive and inferential statistics were used for data analysis. Distribution of postmenopausal women of experimental and control group according to their age group reveals that the majority percentage of 14 (46.66%) and 10 (33.33%) in control group postmenopausal women were in the age group of 51- 55 years. Distribution of postmenopausal women according to their religion reveals that the majority percentage of 11 (36.66%) in experimental group and 12 (40%) in control group postmenopausal women were under the religion of Hindu's. Distribution of

postmenopausal women according to their educational status reveals that majority percentage 12 (40%) in experimental group postmenopausal women were illiterates 17 (56.66%) in control group postmenopausal women were having primary education. Distribution of postmenopausal women according to their occupation reveals that the majority percentage 11 (36.66%) in experimental group postmenopausal women, 15 (50%) in control group postmenopausal women were unemployed. Distribution of postmenopausal women according to their income reveals that the majority percentage of 13 (43.33%) were in experimental postmenopausal women, 22 (73.33%) were in control group postmenopausal women having monthly income of 1803-5386 Rupees. Distribution of postmenopausal women according to their marital status reveals that the majority percentage 23 (76.66%) in experimental postmenopausal women, and 26 (86.66%) in control group postmenopausal women were married. Distribution of postmenopausal women according their food pattern reveals that the majority percentage 14 (46.66%) in experimental group, 18 (60%) in control group postmenopausal women were both (vegetarian and non-vegetarian). Distribution of postmenopausal women according to their age of attaining menopause depicts that the majority percentage 13 (43.33%) in experimental group postmenopausal women, 10 (33.33%) in control group postmenopausal women were attained their menopause at the age of 35-40 years. Distribution of postmenopausal women according to their family history of osteoporosis reveals that the majority percentage 17 (56.66%) in experimental postmenopausal women, 23 (76.66%) in control group postmenopausal were having family history osteoporosis. Distribution of postmenopausal women according to their source of health information reveals that the majority percentage 15 (50%), 13 (43.33%) were getting health information through health care personnel.

Assess the pre and posttest level of knowledge on prevention of osteoporosis among postmenopausal women in experimental and control group.

Frequency and percentage distribution of pre test and post test level of knowledge on prevention of osteoporosis among postmenopausal women in experimental group, shows that the majority 24 (80%) of them had inadequate knowledge, 5 (16.66%) of them had moderately adequate knowledge and 1(3.34%)of them had adequate knowledge in pretest. whereas after intervention in posttest level of knowledge, only one (3.34%) had inadequate knowledge, 6(20%) of the postmenopausal women were had moderately adequate knowledge, 23(76.66%) of the postmenopausal women were had adequate knowledge.

Table 1: Frequency and percentage distribution of pre test and post test level of knowledge on prevention of osteoporosis among postmenopausal women in experimental. (n=30+30)

Level of knowledge	Experimental group Pre Test n=30		Experimental group Post Test n=30	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Inadequate knowledge (0-33.4%)	24	80	01	3.34
Moderately adequate (33.4-66.6%)	05	16.66	06	20.00
Adequate knowledge (66.7-100%)	01	3.34	23	76.66
Total	30	100	30	100

Frequency and percentage distribution of pre and post test level of knowledge on prevention of osteoporosis among

postmenopausal women in control group. Shows that themajority,21(70.00%) of them had inadequate knowledge,

7 (23.33%) of them had moderately adequate knowledge and 2 (6.67%) of them had adequate knowledge in pretest. whereas 22(73.33%) of the postmenopausal women were had inadequate knowledge 5(16.67%) of the them had moderately

adequate knowledge, 3(10.00%) of the postmenopausal women were had adequate knowledge. There is no significant difference in pre and posttest level of knowledge among postmenopausal women in control group.

Table 2: Frequency and percentage distribution of pre and post test level of knowledge on prevention of osteoporosis among postmenopausal women in control group. (n=30+30)

Level of knowledge	Control group pre test n=30		Control group post test n=30	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
In adequate knowledge (1-10)	21	70.00	22	73.33
Moderate knowledge (11-20)	07	23.33	05	16.67
Adequate knowledge (21-30)	02	6.67	03	10.00
Total	30	100	30	100

Evaluate the effectiveness of structured teaching programme on prevention of osteoporosis among postmenopausal women in experimental group.

Data analysis shows that the mean, standard deviation, paired test values of the experimental and control group. Experimental group pretest mean 9.30, standard deviation

3.69, and posttest mean 23.33, standard deviation 4.53, paired ‘t’ test value 23.176. This was significant at p> 0.05 level. Control group pretest mean 9.5, standard deviation 2.3, posttest mean 10.3, standard deviation 3.41 and paired ‘t’ test value 2.261.

Table 3: Mean, standard deviation and paired ‘t’ test values of pre and post test level of knowledge on prevention of osteoporosis among postmenopausal women in experimental group and control group. (n=30+30)

Group	Pre test		Post test		Paired ‘t’ test
	Mean	Standard deviation	Mean	Standard deviation	
Experimental group (n=30)	9.30	3.697	23.33	4.53	23.176* df =29
Control group (n=30)	9.53	2.315	10.36	3.419	2.261 df=29

* Significant at Level of P<0.05

Compare the pre and post test level of knowledge on prevention of osteoporosis among postmenopausal women in experimental and control group.

Data analysis shows that the Mean, standard deviation, independent ‘t’ test values of the experimental and control group. Experimental group pretest mean 9.30 standard

deviation 3.2, and posttest mean 23.33, standard deviation 4.53. Control group pretest mean 9.53, standard deviation 2.3, post-test mean 10.3, standard deviation 3.41 and pre-test Independent ‘t’ test value 0.293, Post-test Independent ‘t’ test value was 12.504 which was significant at p>0.05 level.

Table 4: Mean, standard deviation and independent ‘t’ test values of pre and post test level of knowledge on prevention of osteoporosis among postmenopausal women in experimental group and control group. (n=30+30)

Group	Experimental group (n=30)		Control group (n=30)		Independent ‘t’ test
	Mean	Standard deviation	Mean	Standard deviation	
Pre test	9.30	3.697	9.53	2.3	0.293 df =58
Post test	23.33	4.53	10.37	3.42	12.504* df=58

* Significant at level of p<0.05

Association between post test levels of knowledge on prevention of osteoporosis among postmenopausal women with their demographic variables in experimental and control group.

Data analysis shows that there is a significant association between levels of knowledge of postmenopausal women with their marital status $\chi^2=13.2$, $P<0.039^*$, age of attaining menopause $\chi^2= 15.9$, $P<0.014^*$. Demographic variables such as age, religion, education, occupation, monthly income, food pattern, history of osteoporosis, Source of health information, had no association among postmenopausal women with their knowledge in experimental group.

Data analysis shows there is significant association between level of knowledge of postmenopausal women with their

education $\chi^2=22.1$, $P<0.001^*$, occupation $\chi^2= 22.1$, $P<0.001$ monthly income $\chi^2= 17.3$, $P<0.008^*$. Demographical variables such as age, religion, marital status, food pattern, age of attaining menopause, history of osteoporosis, had no association among postmenopausal women with level of knowledge in control group.

Conclusion

The findings revealed that the majority of the subjects were not aware about prevention of osteoporosis. Experimental group pre test mean 9.30, standard deviation ± 3.69 , and post test mean 23.33, standard deviation ± 4.53 , paired ‘t’ test value 23.176. This was significant at p> 0.05 level. Control group pre test mean 9.5, standard deviation 2.3, post test

mean 10.3, standard deviation 3.41 and paired 't' test value 2.261. So it concluded that Structured teaching programme was effective in improving the knowledge levels of postmenopausal women on prevention of osteoporosis among postmenopausal women and teaching programme is necessary for postmenopausal women to improve their knowledge regarding osteoporosis. So for that study recommended a longer duration of time and further a comparative study can be carried out on premenopausal women and perimenopausal women.

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