

A PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON ASSESSMENT AND MANAGEMENT OF OSTEOPOROSIS AMONG MENOPAUSAL WOMEN IN SELECTED COMMUNITY AREAS OF PUNJAB.

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ABSTRACT

Osteoporosis affects roughly 200 million individuals annually worldwide. According to various research studies in India, the prevalence of osteoporosis among women was from 8 to 62%. Osteoporosis is called 'the silent disease' because it can progress without pain. One of the main health issues facing menopausal women is osteoporosis. METHODS AND MATERIALS: In the present study quantitative research approach and a pre-experimental, one-group pre-test post-test design was adopted in this study. A purposive convenient sampling technique was used (N=120). Tool used for the present study was socio-demographic data sheet and Self-structured questionnaire on assessment and management of osteoporosis among menopausal women. RESULT: The result showed that in the pre-test 43 (35.8%) subjects had inadequate knowledge, 77 (64.2%) subjects had moderate knowledge, whereas no subjects had adequate knowledge regarding osteoporosis. After administration of structured teaching programme, the post-test knowledge scores of the subjects were: 103 (85.5%) had adequate knowledge and 17 (14.2%) had moderate knowledge. The paired 't' test value is 40.417, which is significant at the level of 0.05. It reveals that one variable such as type of family had a significant association with knowledge. Whereas other variables are non-significant. CONCLUSION: The findings of the study indicated that the structured teaching programme is effective in improving knowledge on assessment and management of osteoporosis among menopausal women.

Keywords: Structured Teaching Programme, Osteoporosis, Menopausal women.

INTRODUCTION

The health status of women directly reflects the health status of the nation. Many disease conditions which affect the bone, among them is osteoporosis is very common. Osteoporosis is a systematic skeletal disorder which is characterized by low bone mass. It results in the deterioration of bones which makes the bones fragile and consequently leads to fracture of bones. Osteoporosis is usually associated with vitamin D deficiency. It is the most under-diagnosed and under-treated nutritional disorder in the world.¹ “Osteo” means bone and “Porosis” means porous and is characterized by a decreased mineral density of the bone. Bones become progressively porous, brittle and fragile due to osteoporosis. During menopause estrogen level become significantly lowered, Estrogen hormone helps to control the osteoclasts. When estrogen level decrease in peri menopausal women that can ultimately lead to osteoporosis.²

Osteoporosis takes place when the process of resorption of bones is more than the process of bone formation. Osteoporosis is a chronic disease that makes bone weak and fragile due to decreased bone mass. These alterations in the bone that result in an imbalance in bone remodeling, when breakdown of bone exceeds the rate at which bone is constructed. Osteoporosis can be classified into primary osteoporosis and secondary osteoporosis. Primary osteoporosis is one which is seen in postmenopausal women and secondary osteoporosis is the osteoporosis which is caused due to underlying disease and treatments or idiopathic. Systemic diseases, endocrine diseases and malignant neoplasms are the diseases which cause secondary osteoporosis.³

OBJECTIVES:

- To assess the pre-test knowledge regarding on assessment and management of osteoporosis among menopausal women.
- To develop and administer a structured teaching programme on knowledge regarding assessment and management of osteoporosis among menopausal women.
- To assess the post-test knowledge regarding on assessment and management of osteoporosis among menopausal women.
- To compare the relationship between pre-test and post-test score regarding assessment and management of osteoporosis among menopausal women.
- To find out the association between pre-test knowledge score with their selected demographic variables.

METHODS AND MATERIALS

The present study was conducted at community area of Punjab, Kurali. A quantitative research approach and pre-experimental one group pre-test and one group post-test design was used in this study. The target population includes menopausal women aged 45 years and above who were residing in community area of Punjab. Purposive Sampling Technique was employed to select subjects from the present study. A self-structured knowledge questionnaire was developed from the content of the study. It consisted of 30 multiple choice questions (one group pre-test and post-test) to assess the knowledge of osteoporosis among menopausal women. The knowledge question was scored so that every right answer received 1 mark and incorrect answer received 0 mark. The reliability of the tool score was 0.79, which was found to be reliable for the study. On day 1, a pre-test was conducted. it took the researcher 15-20 minutes to record the responses of the subjects. Followed by the pre-test the structured teaching program was administered. The researcher approached the subjects after seven days of pre-test again to assess the post-test knowledge using the same pre-test questionnaire.

RESULT

The result showed that in the pre-test 43 (35.8%) subjects had inadequate knowledge, 77 (64.2%) subjects had moderate knowledge, whereas no subjects had adequate knowledge regarding osteoporosis. After administration of structured teaching programme, the post-test knowledge scores of the subjects were: 103 (85.5%) had adequate knowledge and 17 (14.2%) had moderate knowledge. The paired ‘t’ test value is 40.417, which is significant at the level of 0.05. It reveals that one variable such as type of family had a significant association with knowledge. Whereas other variables are non-significant.

Table I: - Frequency and percentage distribution of subjects as per their Socio-demographic variables. N= 120

Socio-demographic Variables		%	f
Age	40-45 years	010.0	012
	46-50 years	037.5	045
	51-55 years	039.2	047
	56-60 years	013.3	016
Age during menopause	Below 40	005.8	007
	40 to 50	049.2	059
	Above 60	045.0	054
Marital status	Unmarried	00.0	000

	Married	100.0	120
Education of women	No formal education	051.7	062
	Primary education	030.8	037
	Higher secondary education	014.2	017
	Graduation and post-graduation	003.3	004
Occupation of women	Govt. employee	008.3	010
	Private employee	013.3	016
	Housewife	069.2	083
	Business women	009.2	011
Family income	<10000/month	066.7	080
	10001-20000	022.5	027
	20,001-30,000	003.3	004
	<30,001	007.5	009
Religion	Hindu	8.3	010
	Muslim	00.0	000
	Christian	00.0	000
	Sikh	091.7	110
Dietary life style	Vegetarian	070.0	084
	Non vegetarian	030.0	036
Source of information	Family and Friends	007.5	009
	Newspaper and Magazines	001.7	002
	Television and radio	010.0	012
	Health care professional	080.8	097
Type of family	Nuclear family	061.7	074
	Joint family	038.3	046

Table II: Frequency & Percentage distribution of pre-test and post-test level of knowledge scores on assessment and management of osteoporosis among menopausal women.

N=120

Level of knowledge	Pre-test	Post-test
	f (%)	f (%)
Inadequate	43 (35.8%)	0 (0%)
Moderate	77 (64.2%)	17(14.2%)
Adequate	0 (0%)	103 (85.8%)

Table II: The above table depicts the frequency and percentage distribution of participants. Before intervention majority of participants (64.2%) had moderate knowledge, while 35.8% had inadequate

knowledge. None of the participants had adequate knowledge before the intervention. After administration of the structured teaching programme, the majority of participants (85.8%) demonstrated adequate knowledge. A smaller portion (14.2%) had moderate knowledge, and none had inadequate knowledge.

Table III: Comparison between pre-test and post-test knowledge scores regarding assessment and management of osteoporosis among menopausal women. N=120

Knowledge scores	Mean ± S.D.	Mean Diff.	t-test	P value
Pre-test	11.08±2.034	12.810	40.417*	<0.001
Post-test	23.89±2.807			

Table III: The above table reveals that there was a significant difference between knowledge scores before and after the intervention. It was found that the mean score before intervention was 11.08±2.034, the mean score was high (23.89±2.807) after intervention. The mean difference was 12.810. The finding showed that H1 is accepted as there was a significant effect of structured teaching programme on assessment and management of osteoporosis among menopausal women. At the level of 0.001 level of significance.

Table IV: Association of the pre-test knowledge scores of the subjects with their selected Socio-demographic Variables. N=120

Socio-demographic Variables		Knowledge Scores			df	P value	X ²
		Adequate knowledge	Moderate knowledge	Inadequate knowledge			
Age in year	40-45 year	00	09	03	3	0.545	2.134 ^{NS}
	46-50 year	00	30	15			
	51-55 year	00	30	17			
	56-60 year	00	08	08			
Age during menopause	Below 40	00	07	00	2	0.104	4.521 ^{NS}
	40 to 50	00	35	19			
	Above 60	00	35	24			
Marital status	Unmarried	00	00	00		N.A	
	Married	00	77	43			
Education of women	No formal education	00	38	24	3	0.148	5.345 ^{NS}
	Primary education	00	24	13			
	Higher secondary education	00	14	03			
	Graduation and post-graduation	00	01	03			
Occupation of	Govt. employee	00	06	04	3	0.078	6.804 ^{NS}

women	Private employee	00	14	02			
	Housewife	00	48	35			
	Business women	00	09	02			
Family income	<10000/month	00	50	30	3	0.441	2.694 ^{NS}
	10001-20000	00	18	09			
	20,001-30,000	00	04	00			
	<30,001	00	05	04			
Religion	Hindu	00	08	02	1	0.275	1.189 ^{NS}
	Muslim	00	00	00			
	Christian	00	00	00			
	Sikh	00	69	41			
Dietary life style	Vegetarian	00	53	31	1	0.708	0.140 ^{NS}
	Non vegetarian	00	24	12			
Source of information	Family and Friends	00	08	01	3	0.271	3.912 ^{NS}
	Newspaper and Magazines	00	02	00			
	Television and radio	00	07	05			
	Health care professional	00	60	37			
Type of family	Nuclear family	00	41	33	1	0.011	6.445*
	Joint family	00	36	10			

Table IV: depicts that no significant association was found in any socio- demographic variables and pretest knowledge. A significant association was found between type of family and knowledge score ($p = 0.011$), suggesting that women from different family structures had differing levels of pretest knowledge.

DISCUSSION

In the present study the pre-test findings show that 43 (35.8 %) had inadequate knowledge, 77 (64.2%) had moderate knowledge, whereas no subjects had adequate knowledge regarding assessment and management of osteoporosis among the subjects. In similar study conducted by **S. Sumiya, Minu S.R et al. 2022** to assess the knowledge on management of osteoporosis among menopausal women. The results revealed that among 30 postmenopausal women, it indicates that 13.34% of the women had below adequate knowledge and 86.66% has average knowledge before structured teaching programme. The knowledge among menopausal women regarding osteoporosis was measured by a sample mean score 12.2 of with a standard deviation of 2.84.⁴

In the present study the post-test reveals that 103(85.8%) had adequate knowledge, 17 (14.2%) had

moderate knowledge whereas no one had inadequate knowledge on assessment and management of osteoporosis. The present study was supported **Adarsh Kumar, Manu Chacko et al 2022**, to assess the effectiveness of structured teaching programme on knowledge about osteoporosis among menopausal women. A total of 60 menopausal women were chosen as sample, a convenient sampling technique. The findings showed that in the post-test menopausal women 46.66% had reported average knowledge and remaining 53.34% reported above average knowledge regarding osteoporosis among menopausal women.⁵

The present study reveals that the comparison between the pre-test and post-test knowledge scores showed that the estimated 't' value was 40.417, with a mean difference of 12.81. The p-value was <0.001, indicating a highly significant result. The findings were supported by **Kale Amit, Shaki Omna et al. 2024** to assess the knowledge, attitude and practice of osteoporosis among menopausal women. A total of 983 samples were selected by using purposive sampling technique. A structured knowledge questionnaire was utilized to collect data. The result revealed that in the pre-test the mean knowledge score was 3.16 SD and after administration of the structured teaching programme the post-test knowledge score was 7.44 SD with the mean difference of 4.28 SD.⁶

CONCLUSION

The study findings concluded that the knowledge level regarding assessment and management of osteoporosis was poor prior to the administration of the structured teaching programme. The STP was effective in enhancing the knowledge on assessment and osteoporosis of management among menopausal women. Overall knowledge aspects, the post-score was high compared to the pre-test score. There was a significant association between the pre-test knowledge score and post-test knowledge score. Therefore, the hypothesis was accepted.

FINANCIAL SUPPORT AD AND SPONSORSHIP

Nil

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