



Research Paper

## **“A Study To Assess The Effectiveness Of Structured Teaching Programme Regarding Dietary Management For Osteoporosis Among Geriatric Clients Residing At Kalitheerthalkuppam Puducherry”.**

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### **I. INTRODUCTION**

**“Love your bones, protect your future “**

**-Marry Ann Liebert**

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 easily under stresses that would not break normal bone.

According to public health, there are three steps to prevention: primary, second and tertiary. The prevention of osteoporosis is made up of general life style preferences and other more specific treatments. Keeping strong bone is the key to primary prevention and calcium build strong and health bones. Others include vitamin D, weight bearing exercise and hormonal therapy. During the growing year of adolescence and teen years, attention must be paid to dietary calcium if peak bone mass is to be achieved. Specific attention to dietary calcium intake may also be warranted beyond age 60 which may come in the form of increased food calcium or form specific calcium and vitamin D supplements. The main dietary sources of calcium include milk and other daily products such as cottage cheese, yogurt or hard cheese and green vegetable. Milk is the primary source of vitamin D.

Dietary habits can increase your risk of developing osteoporosis. This is a risk factor that can be managed. A diet without enough calcium and vitamin D can contribute to weak bones. Calcium helps build bone, and vitamin D aids in maintaining bone strength and health. The safest strategy is eating a diet that's low in salt and rich in fresh and minimally processed whole grains, fruits, and vegetables. Include enough calcium and vitamin D from foods, and supplements if necessary, and be sure to limit caffeine and carbonated drinks.

### **II. REVIEW OF LITERATURE:**

**Nancy, J et. Al, (2017)** A study to assess the effectiveness of structured teaching programme on knowledge regarding prevention of osteoporosis among health care personnel working in Rajiv Gandhi Government General Hospital, Chennai. A quantitative approach of one group pre-test and post-test pre experimental design, was used. There were 60 samples selected by using with non-probability sampling purposive sampling technique was used. Semi structured questionnaire was used to collect the data before and after the structured teaching programme. Results: The study results showed that there was a significant differences between the values of pre test 40.71% and post test 80.07% level of knowledge regarding the prevention of osteoporosis.

**Ms. Priteeka Toppo et. Al, (2021)** A study to assess the effectiveness of structured teaching programme on knowledge regarding osteoporosis among women in selected community of New Delhi. A pre-experimental research approach with pre-test and post-test research design was used to assess the knowledge regarding osteoporosis among women of age group 35-50 years in Badarpur community area. Purposive sampling technique was used for data collection. The subjects were given structured questionnaires form to fill and give the responses with 15 multiple choice questions were used. This study concludes that women residing in the rural areas do not have 100% knowledge regarding osteoporosis.

## **STATEMENT OF THE PROBLEM**

A study to assess the effectiveness of structured teaching programme regarding dietary management for osteoporosis among geriatric clients residing at kalitheerthalkuppam Puducherry.

## **OBJECTIVES OF THE STUDY:**

- To assess the level of knowledge regarding dietary management for osteoporosis among geriatric clients
- To determine the effectiveness of structured teaching programme regarding dietary management for osteoporosis among geriatric clients
- To associate the post test level of knowledge regarding dietary management for osteoporosis among geriatric clients with their selected demographic variables

## **ASSUMPTIONS**

- There will be a significant difference between the pretest test and post test knowledge regarding dietary management for osteoporosis among geriatric client.
- There will be a significant association between the knowledge of structured teaching programme regarding dietary management for osteoporosis among geriatric clients with their selected demographic variables.

## **III. MATERIALS AND METHODS**

**Section a:** demographic variables

**Section b:** Assessment of knowledge regarding osteoporosis diet among geriatrics residing at kalitheerthalkuppam Puducherry.

## **RESEARCH APPROACH**

A quantitative research approach is appropriate for the present study.

## **RESEARCH DESIGN:**

The research design is pre- experimental (one group pretest and post test design).

## **STUDY VARIABLES:**

An abstract concept when defined in terms that can be measured is called a variable.

**Independent variable:** Structured Teaching Programme.

**Dependent variable:** Knowledge of the geriatric clients

## **SETTING OF THE STUDY:**

The study was conducted at kalitheerthalkuppam, Puducherry.

## **POPULATION:**

The population for the present study comprises geriatric clients present in kalitheerthalkuppam at Puducherry.

## **SAMPLE:**

The sample for the study is geriatric clients at kalitheerthalkuppam Puducherry who are fulfilling the inclusion criteria during the period of study.

## **SAMPLE SIZE:**

The sample size of the study consists of 50 geriatric clients.

## **SAMPLING TECHNIQUE:**

In this study, convenient sampling technique is used. Subjects are chosen to be part of the sample with a specific purpose in mind. (Dr. Suresh K Sharma 2011).

## **SAMPLING CRITERIA**

### **INCLUSION CRITERIA**

- Geriatrics who are all available at the period of data collection
- Geriatrics who are all residing at kalitheerthalkuppam

### **EXCLUSION CRITERIA**

- Geriatrics who are all not willing to participate in the study
- Geriatrics who are all under co-morbid disease treatment

## **IV. RESULTS:**

The findings of the study revealed that out of 50 geriatric clients. In post- test, Majority of geriatric clients 37(74%) had Moderate and 13(26%) had adequate level of knowledge and the mean and standard deviation of the level of knowledge regarding dietary management for osteoporosis among geriatric clients residing at kalitheerthalkuppam Puducherry is  $17.56 \pm 2.392$ .The demographic variable, Educational Status,

Dietary status and Previous Source of Information had shown statistically significant association between the post-test level of knowledge regarding dietary management for osteoporosis among geriatric clients with selected demographic variables at kalitheerthalkuppam Puducherry. The other demographic variable had not shown statistically significant association between the post-test level of knowledge regarding dietary management for osteoporosis among geriatric clients with selected demographic variables at kalitheerthalkuppam Puducherry respectively.

Assessment of the pretest and post test level of knowledge regarding dietary management among geriatric clients at kalitheerthalkuppam Puducherry.

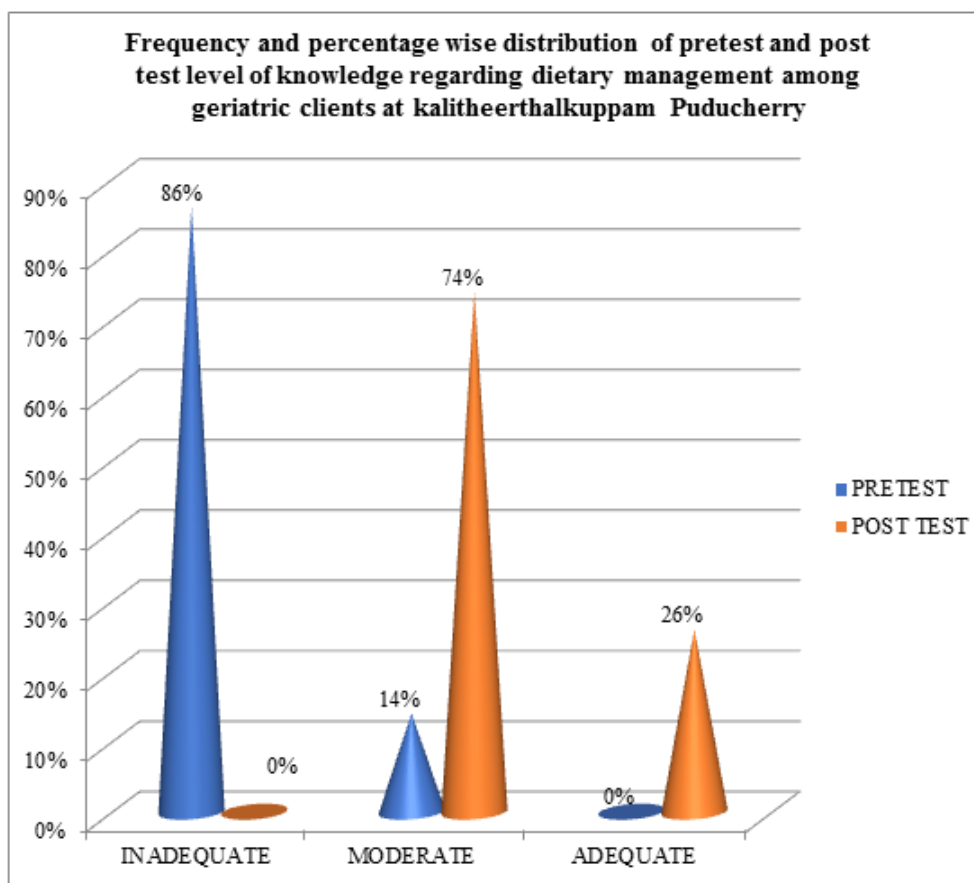
**(N=50)**

LEVEL OF KNOWLEDGE	PRETEST		POST TEST	
	N	%	N	%
INADEQUATE	43	86	0	0
MODERATE	7	14	37	74
ADEQUATE	0	0	13	26
<b>Mean Standard deviation</b>	6.86 ± 2.441		17.56 ± 2.392	

**Frequency and percentage wise distribution of pretest and post test level of knowledge regarding dietary management among geriatric clients at kalitheerthalkuppam Puducherry.**

**In pretest,** Majority of geriatric clients 43(86%) had inadequate and 7(14%) had moderate level of knowledge and the mean and standard deviation of the level of knowledge regarding dietary management among geriatric clients at kalitheerthalkuppam Puducherry is  $6.86 \pm 2.441$ .

**In post- test,** Majority of geriatric clients 37(74%) had Moderate and 13(26%) had adequate level of knowledge and the mean and standard deviation of the level of knowledge regarding dietary management among geriatric clients at kalitheerthalkuppam Puducherry is  $17.56 \pm 2.392$ .

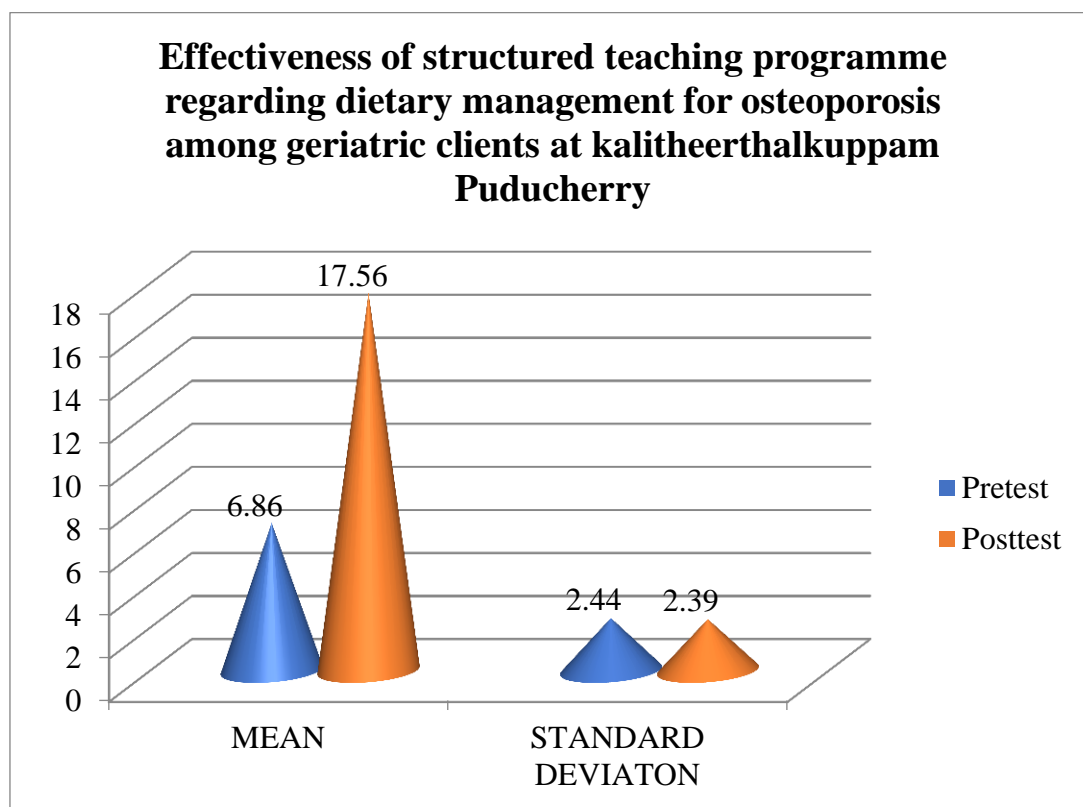


**Effectiveness of structured teaching programme regarding dietary management for osteoporosis among geriatric clients at kalitheerthalkuppam Puducherry. (N=50)**

GROUP	TEST	MEAN	STANDARD DEVIATION	MEAN DIFFERENCE	't' VALUE Paired -t test	df	'p' VALUE
LEVEL OF KNOWLEDGE OF STRUCTURED TEACHING PROGRAMME REGARDING DIETARY MANAGEMENT FOR OSTEOPOROSIS AMONG GERIATRIC CLIENTS	Pretest	6.86	2.44	10.70	20.27	49	0.001** HS
	Posttest	17.56	2.39				

\*\**p* < 0.001 highly significant , NS-Non Significant.

The mean score of effectiveness of the level of knowledge of structured teaching programme regarding dietary management for osteoporosis among geriatric clients in the pre-test was  $6.86 \pm 2.44$  and the mean score in the post- test was  $17.56 \pm 2.39$ . The calculated *paired 't' test* value of  $t = 20.27$  shows **statistically highly significant** difference of effectiveness of the level of knowledge of structured teaching programme regarding dietary management for osteoporosis among geriatric clients at kalitheerthalkuppam Puducherry.



**Association between the post-test level of knowledge regarding dietary management among geriatric clients with selected demographic variables at kalitheerthalkuppam Puducherry. (N=50)**

SL. NO	DEMOGRAPHIC VARIABLES	LEVEL OF KNOWLEDGE				Chi-square X <sup>2</sup> and P-Value
		MODERATE		ADEQUATE		
		N	%	N	%	
1	Age in years					X <sup>2</sup> =0.013 Df=2 p =0.994 NS
	60- 69 years	14	37.8	5	38.5	
	70- 79 years.	12	32.4	4	30.8	
	Above 79	11	29.7	4	30.9	

<b>2</b>	<b>Gender</b>					$X^2=0.936$ Df=1 p =0.333 NS
	Male	17	45.9	8	61.5	
	Female	20	54.1	5	38.5	
<b>3</b>	<b>Marital status</b>					$X^2=3.052$ Df=2 p =0.217 NS
	Married	18	48.6	4	30.8	
	Unmarried	16	43.2	9	69.2	
	Widower	3	8.1	0	0	
	Divorced	0	0	0	0	
<b>4</b>	<b>Religion</b>					$X^2=2.85$ Df=3 p =0.415 NS
	Hindu	26	70.3	7	53.8	
	Christian	5	13.5	1	7.7	
	Muslim	5	13.5	4	30.8	
	Others.	1	2.7	1	7.7	
<b>5</b>	<b>Educational status</b>					$X^2=8.79$ Df=3 p =0.025 *S
	Non- illiterate	11	29.7	4	30.8	
	Primary school	9	24.3	6	46.2	
	High school	11	29.7	2	15.4	
	Graduate and above	6	16.3	1	7.6	
<b>6</b>	<b>Occupational status</b>					$X^2=2.12$ Df=3 p =0.547 NS
	Home maker	11	29.7	2	15.4	
	Sedentary worker	11	29.7	6	46.1	
	Moderate worker	6	16.3	3	23.1	
	Heavy worker	9	24.3	2	15.4	
<b>7</b>	<b>Type of family</b>					$X^2=0.211$ Df=1 p =0.646 NS
	Nuclear family	11	29.7	3	23.1	
	Joint family	26	70.3	10	76.9	
<b>8</b>	<b>Dietary status</b>					$X^2=6.11$ Df=2 p =0.047 *S
	Vegetarian.	2	5.4	2	15.4	
	Non vegetarian.	35	94.6	11	84.6	
<b>9</b>	<b>Socio economic status</b>					$X^2=2.23$ Df=2 p =0.327 NS
	Low class.	5	13.5	3	23.1	
	Middle class	28	75.7	7	53.8	
	High class	4	10.8	3	23.1	
<b>10</b>	<b>Bad Habits</b>					$X^2=1.02$ Df=3 p =0.796 NS
	Alcoholic	5	13.5	3	23.1	
	Smoker\tobacco.	11	29.7	4	30.8	
	Substance abuse.	1	2.7	0	0	
	None	20	54.1	6	46.1	
<b>11</b>	<b>Area of residence</b>					$X^2=1.11$ Df=2 p =0.572 NS
	Rural	26	70.3	11	84.6	
	Urban	7	18.9	1	7.7	
	Semi urban.	4	10.8	1	7.7	
<b>12</b>	<b>Family history of osteoporosis</b>					$X^2=1.02$

	Yes.	11	29.7	2	15.4	Df=1 p =0.310 NS
	No.	26	70.3	11	84.6	
<b>13</b>	<b>Previous source of information</b>					<b>X<sup>2</sup>=7.95</b> <b>Df=1</b> <b>p =0.016</b> <b>*S</b>
	Yes	5	13.5	0	0	
	No	32	86.5	13	100	

**\*-p < 0.05 significant, \*-p < 0.001highly significant, NS-Non significan**

The demographic variable, **Educational Status, Dietary status and Previous Source of Information** had shown statistically significant association between the post-test level of knowledge regarding dietary management among geriatric clients with selected demographic variables at kalitheerthalkuppam Puducherry. The other demographic variable had not shown statistically significant association between the post-test level of knowledge regarding dietary management among geriatric clients with selected demographic variables at kalitheerthalkuppam Puducherry respectively.

### V. CONCLUSION:

The study implies and the data proves that modification of dietary pattern were found to be an effective strategy in reducing and preventing the osteoporosis among geriatric population. Following regular dietary management of osteoporosis will help to strengthen the bone mineral density among geriatric clients.

#### **NURSING IMPLICATIONS:**

The study had implications for nursing practice, nursing education, nursing administration and nursing research.

#### **NURSING PRACTICE:**

The investigator has drawn the following implications from the study that are vital concerns for nursing services, nursing education, nursing administration and nursing research.

#### **NURSING SERVICES:**

We can improve the knowledge of the nursing students regarding dietary management of osteoporosis among geriatrics with the appropriate tools and criteria.

#### **NURSING EDUCATION:**

Nursing educator motivates and encouragement the students to take the condition of medical, clinical life style and nutritional factor affect geriatrics by osteoporosis. The nursing management of patients with osteoporosis and its risk factor should be included in detail in nursing curriculum.

#### **NURSING ADMINISTRATION:**

The nursing administration should take on active role in organizing and implementing programme and also conduction a structured teaching regarding dietary management for osteoporosis among geriatric clients. The nurse administrator plays a vital role for on going educational programme to promote the awareness regarding dietary management for osteoporosis among geriatric clients.

#### **NURSING RESEARCH:**

The effectiveness of the research study is verified by its utility by the nurses in the practice field. The findings of the study also help the professional nurses and students to develop enquiry by proverbs by provide a base. This helps the nurse researchers to provide knowledge dietary management for osteoporosis among geriatric clients.

The investigator needs a lot of review material and one obtained by using the study report. Various methods may be used to strengthen the knowledge of the people by the researcher, which should be published for the benefits of those who are all not able to participate in this study.

#### **RECOMMENDATIONS:**

- Health facilities need to have nursing officer to provide appropriate health education to community peoples regarding dietary management for osteoporosis
- Similar study can be conducted in other parts of the country with large sample.
- The study can be replicated with larger study participants for better generalization
- The study can be implemented in various states of India.
- The study was conducted in hospital setting.

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