



# A Pre-experimental study to assess the effectiveness of computer assisted teaching regarding knowledge of prevention of osteoporosis among college teachers in selected college of Fardikot Punjab .”

Puneet Gill (Assist Professor ) Desh Bhagat University

Ms Shakshi Sharma (Assistant Professor) Desh Bhagat University

## ABSTRACT

Osteoporosis is one of the metabolic bone disorder and remains and increasingly significant problem, affecting 200 million individuals worldwide. It affects men as well as women. One out of every two women and out of every four men over 50 is prone to develop osteoporosis – related fracture of the hip To assess the pre-test knowledge score of the college teachers regarding the prevention of osteoporosis. It was concluded that mean knowledge was found to be 92.86% from Pre -test to Post- test. The statistical Paired ‘t’ test was found to be 25.607\* indicating significant enhancement of knowledge score from Pre- test to Post- test at  $P < 0.05$  revealing the effectiveness of computer assisted teaching program on knowledge regarding prevention of osteoporosis among College teachers key word computed assisted teaching , knowledge college, teachers

Data analysis is a systematic of research data and testing of research hypotheses using those data. The plan of data analysis will be based on the objectives and hypotheses of the study using descriptive and inferential statistics

## SUMMARY

This chapter dealt with the research methodology adopted for the study.

1. It includes research design, research setting, population, sample size, sampling technique, development of tool, method of data collection, pilot study, content validity and reliability, plan of data analysis, expected outcomes and policy relevance

2. To develop and administer computer assisted teaching regarding the prevention of osteoporosis.
3. To assess the post –test knowledge score of college teachers the prevention of osteoporosis.

4. To compare the pre and post -test knowledge score of college teachers regarding prevention of osteoporosis.
5. To determine the association of pre-test knowledge with selected demographic variables.

### **Introduction**

Osteoporosis is defined as a “Disease characterized by low bone mass and micro-architectural deterioration of bone tissue leading to enhanced bone fragility and a consequent increase at fracture risk. Causes of osteoporosis include lack of calcium, lack of vitamin D, sedentary life style, thyroid conditions, smoking. In women deficiency of estrogen and in men deficiency of testosterone causes osteoporosis. Symptoms include loss of height, back pain, stopped posture, bone fracture, weak and brittle fingernails, bone pain, decreased grip strength etc. Treatment includes Bio-phosphonate should be used as first line treatment for osteoporosis. All patients should be counselled on the importance of regular weight bearing exercise and adequate daily intake of calcium and vitamin D.

### **Need of Study**

Osteoporosis is one of the metabolic bone disorder and remains and increasingly significant problem, affecting 200 million individuals worldwide. It affects men as well as women. One out of every two women and out of every four men over 50 is prone to develop osteoporosis – related fracture of the hip, vertebrae or wrist in their life time. Now a day more females are suffering from osteoporosis. This present study helps to teach school teachers, the teachers will teach the students and community which will help to increase the knowledge regarding prevention of osteoporosis. Many of the school teachers are not having adequate knowledge regarding osteoporosis. So investigator felt that to do this study.

### **Objectives**

1. To assess the pre-test knowledge score of the college teachers regarding the prevention of osteoporosis.
2. To develop and administer computer assisted teaching regarding the prevention of osteoporosis.
3. To assess the post –test knowledge score of college teachers the prevention of osteoporosis.
4. To compare the pre and post -test knowledge score of college teachers regarding prevention of osteoporosis.
5. To determine the association of pre-test knowledge with selected demographic variables.

## Operation definitions

**Assess :**It refers to the evaluation of effective planned teaching programme on “prevention of osteoporosis”.

**Effectiveness:** It refers to the extent to which planned teaching programme has achieved the desired effect as measured by the subjects gain in knowledge scores.

**Computer Assisted Technology :** Computer assisted teaching usually includes multimedia instructional format. In Computer instruction material presented by means of a computer.

**Knowledge :** It refers to the level of understanding of school teachers regarding prevention of osteoporosis.

**Prevention :** It is action of stopping something from happening or arising.

**Osteoporosis:** A disorder characterized by loss of bone density and deterioration of bone tissue with an increased fracture risk.

**College Teachers:** A teacher who certifies in teaching BA,1 , BA2 BA3 BA4 MA MA.ED M.PHIL PHD grade students .

### **Purpose:**

.This research study will be helpful in implementing the further preventive measures. The findings of study will enhance the researcher to act as a catalyst to generalise the findings. Furthermore the finding will help researcher, health care professional and other professionals to understand the prevalence of osteoporosis.

### **Delimitation of the the Study :**

The study was limited to teachers who are

1. Working in college of Punjab.
2. Willing to participate in study.
3. Present during the period of data collection.

## Variables

### **Independent variable**

In this study the independent variable is computer assisted teaching on prevention of osteoporosis.

### **Dependent variable**

In this study, dependent variable refers to the knowledge gain by the teachers.

## Research question

- What will be the knowledge of prevention of osteoporosis among college teachers?
- What will be the effect of Computer assisted teaching on knowledge of college teachers?
- **Research Hypothesis**
- H1: There is significant difference between pre-test and post- test knowledge score of school teachers.
- H2: There is significant association between knowledge and selected demographic variables

## Methodology

### Research design

The research design adopted for the study was Non-experimental research design.

**Research Approach** Polit and Beck (2011) state that the physical location and conditions in which data collection takes place in a study. The study had been conducted in selected college teachers .

### Independent variable

- An independent variable is that which is believed to cause or influence the dependent variable.
- In this study, the independent variable is computer assisted teaching on prevention of osteoporosis.

### Dependent variable

- Dependent variable is the response due to the effect of the independent variable, which researcher wants to predict or explain.
- In this study, dependent variables refers to the knowledge gain by the teachers.

### Target population

Polit and Beck (2011) state that population is the entire set of individual or objects having some common characteristics. Population of the study consisted of teachers of selected college of education

### Sample and Sample Technique

The sample of study comprised of 60 teachers of selected college of Faridkot .

Convenience sampling technique was used to select the teachers

### Development of the tool and technique

Data collection tools are the devices that a researcher uses to collect data. A search for literature was made for the purpose of locating appropriate tool.

The present study aimed “A Pre-experimental study to assess the effectiveness of computer assisted teaching regarding knowledge of prevention of osteoporosis among Education college of Faridkot.”

The tool comprised of three sections:-

### 1. Demographic data Profile sheet:-

Demographic data profile sheet was developed by investigator for the purpose of collecting background information of sample such as Age, Gender, ,Qualification, Type of family, monthly income, Total Experience, place of residency source of information etc

### 2. Knowledge questionnaire:-

Questionnaire was used to assess the knowledge of prevention of osteoporosis among college teachers of FGS. This part consists of 30 questions.

#### Criterion Measures For Osteoporosis Prevention

Each correct answer was given 1 score and wrong answer 0:-which results in a total score Maximum score is 30

Minimum:-0

Knowledge	%
Inadequate knowledge	45%
Moderate knowledge	46- 75%
Adequate knowledge	76-100%

#### Reliability of tool

The reliability of an instrument is a major criterion for assessing its quality and adequacy. It is the ability of the data gathering device to obtain consistent result.

The reliability of the tool was established by split half method. The tool was found to be reliable i.e. (r=0.98).

#### Pilot study

Data from pilot testing intervention can shed light on a number of things, including the acceptability of the intervention to intended beneficiaries, intervention agent; the adequacy, comprehensiveness and clarity of intervention protocols; the appropriateness of the intervention: the extent to which intervention fidelity can be maintained; the rate of retention in intervention and safety of the intervention. The outcomes of the pilot study provide invaluable lessons that can inform subsequent efforts to generate valid evidence for nursing practice.

## **ETHICAL CONSIDERATION**

Ethical approval was obtained from ethical committee of Dasmesh Nursing college Faridkot for conducting the study. Written permission had been taken from the Principal of Selected college of education. Confidentiality and anonymity of the subject's information had been maintained.

## **PROCEDURE OF DATA COLLECTION**

A written permission was taken from Principal of Dasmesh College of Nursing Faridkot for conduction of research.

The main study was conducted on 60 teachers who were selected by convenience sampling technique. The demographic Performa sheet was given to teachers to assess their socio-economic status.

## **PLAN OF DATA ANALYSIS**

Data analysis is a systematic of research data and testing of research hypotheses using those data. The plan of data analysis will be based on the objectives and hypotheses of the study using descriptive and inferential statistics

## **SUMMARY**

This chapter dealt with the research methodology adopted for the study. It includes research design, research setting, population, sample size, sampling technique, development of tool, method of data collection, pilot study, content validity and reliability, plan of data analysis, expected outcomes and policy relevance.

**Table 1**

**Frequency and percentage distribution of selected socio demographic variables of School teachers in selected senior secondary schools of Fatehgarh Sahib.**

Sr. No.	Socio-demographic variable	Category	Frequency (f)	Percentage (%)
1	Age in year	25-30	20	33.0%
		31-35	22	36.0%
		36-40	10	16.0%
		41-50	5	8.0%
		51-60	3	5.0%
2	Gender	Male	9	15%
		Female	51	85%
3	Source of information	Books	10	17.0%
		Journal	25	44%
		Internet	5	9%
		Newspaper	20	34%
4	Qualification	Phd	10	17%
		M PHIL	15	25%
		MA BED	16	26%
		M.A	19	31%
5	Total experience	Less than 4 year	25	41%
		5-10 years	10	16%
		11-20 years	18	30.0%
		More than 20	7	11%
6	Place of resident	Rural	18	30%
		Urban	42	70%
7	Type of family	Nuclear	55	91%
		Joint	5	9%
		Extended	0	0%
		Separated	0	0.0%
8	Income per month	> 30000	45	75%
		31001-60000	15	25%
		61001-90000	0	0%
		<-90000	0	0%

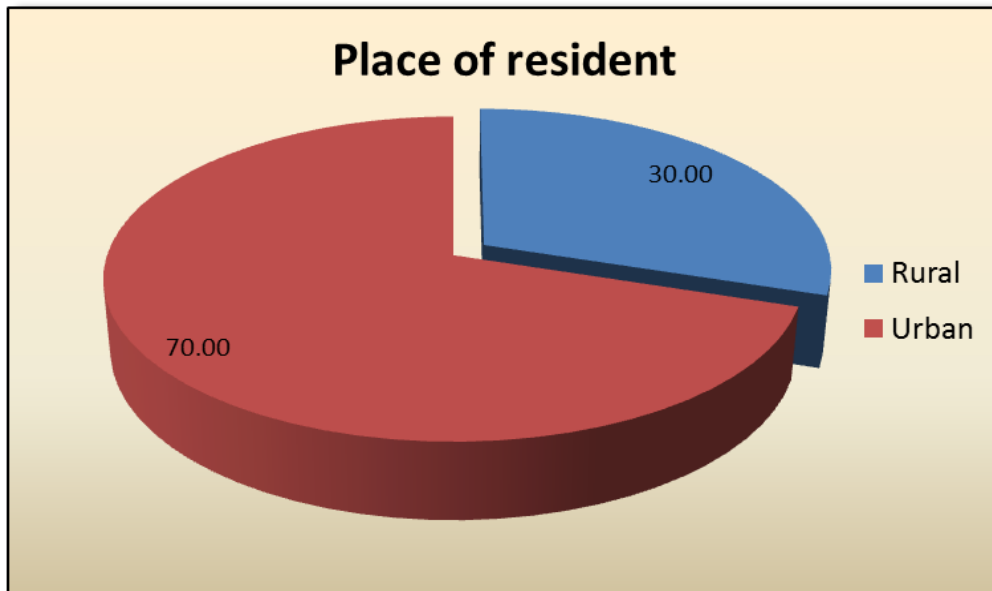


Figure 4: Percentage distribution of college teachers according to their resident

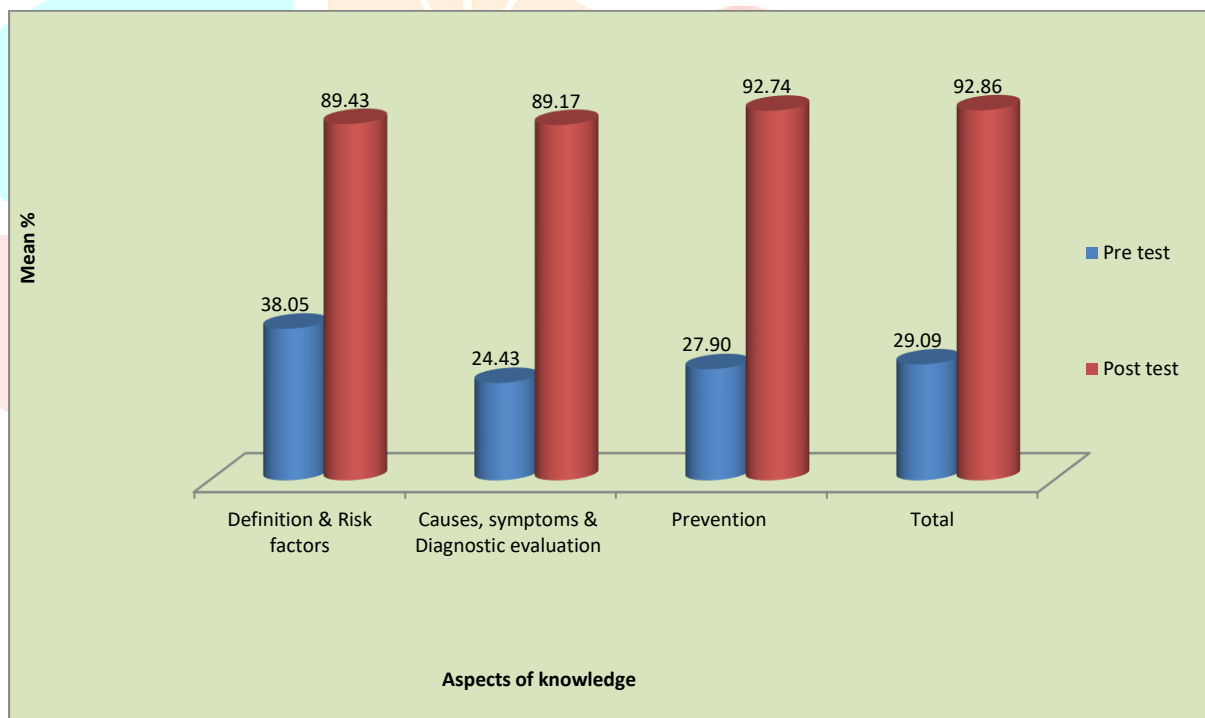


Figure 15: Comparison between Pre- test and Post- test Mean Knowledge scores on prevention of osteoporosis among college of education , Faridkot

**Conclusion**

It was concluded that mean knowledge was found to be 92.86% from Pre -test to Post- test. The statistical Paired ‘t’ test was found to be 25.607\* indicating significant enhancement of knowledge score from Pre- test to Post- test at P< 0.05 revealing the effectiveness of computer assisted teaching program on knowledge regarding prevention of osteoporosis among College teachers ,



## REFERENCES

1. International osteoporosis Foundation (IOF). Available from <http://www.iofbonehealth.org/patients-public/about-osteoporosis.html>
2. Katherine tucker, USDA Human Nutrition Research Center on Aging, Tufts university, 711 Washington Street. Boston.
3. Lin J T, Lane J M, Hospital for special surgery, 535 East 70th street Newyork, Ny10021, USA, Aug 2004 126 -134.
4. M.Jill. Gronholz, medical director, Bone density of North Idaho, 920 Iron wood, “prevention, diagnosis and management of osteoporosis” – related fracture; A multifactorial osteopathic approach.
5. Mac Donald HM, Nutritional associations with bone loss during the menopausal transition :evidence of a beneficial effect of calcium ,alcohol,and fruit and vegetable nutrients and of a detrimental effect og fatty acids .Am J ClinNuti 2004,79:155-165.
6. Mein AL,Briffa,NK,DhliwalSS,PriceRI.Lifestyle influences on nine year changes in bone density in young women.J Bone Miner Res 2004, 19:1092-1098.
7. Michael Grover, DO, Matthew Anderson, MD,etal, Department of Family Medicine, Mayoclinic Arizona, “Increased Osteoporosis Screening rates Associated with the Provision of a Preventive Health Examination, 2006 July (128) 268-275.
- 8 Murray TM, Division of Endocrinology and Medicine, University of Toronto, “ Prevention and management of Osteoporosis, 1996 Oct 155(7), 935-940