

## A Retrospective Study to assess the factors associated with osteoporosis among geriatric males residing at kalitheerthalkuppam, Puducherry.

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### ABSTRACT

Osteoporosis is a disease that weakens bones, increasing the risk of sudden and unexpected fractures. The study was conducted to assess the factors associated with osteoporosis among geriatric males residing at kalitheerthalkuppam, Puducherry. A total of 50 geriatric males were selected by using a purposive sampling technique and the study was carried out at kalitheerthalkuppam, Puducherry, This is 1 km far away from Sri Manakula Vinayagar Nursing College Puducherry. The data was collected by using the 20 questionnaire check list questions comprises of 4 factors with 5 questions on each for factors associated with osteoporosis. The study results showed that among all 4 factors the mean value is high in clinical factor with the mean value of 2.7 and standard deviation of 1.54. Whereas in medical factor the mean score is 2.4 with the standard deviation of 1.47. The least mean score of 2.1 and 2.2 is under lifestyle and nutritional factor. However their standard deviation is 1.92 and 1.12 respectively. The conducting inservice and continuing nursing education to promote knowledge regarding risk for osteoporosis among geriatric males.

### I. INTRODUCTION

*“The art of being wise is the art of knowing what to overlook”*

**-William James.**

Osteoporosis is a disease that weakens bones, increasing the risk of sudden and unexpected fractures. Literally meaning "porous bone," osteoporosis results in an increased loss of bone mass and strength. The disease often progresses without any symptoms or pain. Many times, osteoporosis is not discovered until weakened bones cause painful fractures usually in the back or hips. Unfortunately, once a woman has a broken bone due to osteoporosis, she is at high risk of having another. And these fractures can be debilitating. Fortunately, there are steps that can be taken to help prevent osteoporosis from ever occurring. And treatments can slow the rate of bone loss if a woman already has osteoporosis. Osteoporosis causes more than 8.9 million fractures annually worldwide, resulting in an osteoporotic fracture every 3 seconds.

Osteoporosis is a skeletal condition characterized by decreased density (mass/volume) of normally mineralized bone. Reduced bone density leads to decreased mechanical strength, thus making the skeleton more likely to fracture. Osteoporosis in men is now recognized as an increasingly important public health issue. About 30 percent of fractures occur in men, and one in eight men older than 50 years will have an osteoporotic fracture. Osteoporosis can be divided into primary osteoporosis, which includes age-related and idiopathic osteoporosis, and secondary osteoporosis. The causes of secondary osteoporosis include but are not restricted to hypogonadism such as arises from hormonal treatment of prostate cancer, lifestyle choices such as a sedentary lifestyle, alcohol and cigarette consumption, gastrointestinal disorders, systemic illnesses and medications such as glucocorticoids.

### II. REVIEW OF LITERATURE

Dalibor Stajic, et al. (2018) had conducted a cross sectional study on Prevalence of Risk Factors Among Male With osteoporosis. A cross-sectional study has been conducted with the aim to assess the prevalence of risk factors as well as to identify the possible causes of improvement of the disease. The study population consisted of 97 male older than 35 who had previously been diagnosed with osteoporosis. Dual energy X-ray Absorptiometry (DXA) scan was used to determine bone mineral density (BMD) in order to assess the current state of the disease. The participants were asked to complete a standardized IOF (International Osteoporosis Foundation) questionnaire. According to BMD measurements, 24.7% of male had normal bone density while 18.6% had T-score lower than -2.5. There was a statistically significant correlation between T-score and the history of previous bone fractures.

**STATEMENT OF THE PROBLEM:**

A retrospective study to assess the factors associated with osteoporosis among geriatric males residing at kalitheerthalkuppam, Puducherry.

**OBJECTIVES:**

- To assess the factors associated with osteoporosis among geriatric males.
- To determine the correlation between factors associated with osteoporosis among geriatric males.

**ASSUMPTIONS:**

- The level of osteoporosis may vary according to factors involved among geriatric males.
- The geriatric males may have various factors on developing osteoporosis.

**III. MATERIALS AND METHODS**

This chapter describes the research methodology followed to assess the factors associated with osteoporosis among geriatric males residing at kalitheerthalkuppam, Puducherry. It deals with research approach, research design, setting of the study, population, sample, sample size, sampling technique, criteria for sample selection, plan for data collection and tools and instruments.

**SECTION A:** This section consist of demographic variables such as age, gender, religion, educational status, marital status, dietary habit etc.

**SECTION B:** This section consist of 20 questionnaire check list questions comprises of 4 factors with 5 questions on each for factors associated with osteoporosis. Each question consists of 1 mark. And scoring interpretation as,

**SCORING INTERPRETATION:**

LEVEL OF KNOWLEDGE	SCORING
Low risk	1-8.
Moderate Risk	9-16.
High risk	>16.

**RESEARCH APPROACH:**

A quantitative research approach was selected for the present study.

**RESEARCH DESIGN:**

A retrospective research design was adapted for this study.

**SETTING OF THE STUDY:**

The study was conducted at kalitheerthalkuppam, Puducherry. This is 1 km far away from Sri Manakula Vinayagar Nursing College Puducherry. The geographic area comprises of 547.62 acres with a total population of 8,862 peoples, out of which male population is 4,357 while female population is 4,505.

**SAMPLE:**

Sample of the study comprises all the geriatric males who are all residing at Kalitheerthalkuppam.

**SAMPLING TECHNIQUE:**

Purposive sampling technique was used for the present study.

**SAMPLE SIZE:**

Sample size is the number of subjects involved in the study. Sample size consists of 50 geriatric males.

**CRITERIA FOR SAMPLE SELECTION:**

**Inclusion criteria:**

- Geriatric male who are all available at the period of data collection.
- Geriatric male who are all residing at kalitheerthalkuppam.

**Exclusion criteria:**

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

**IV. RESULTS:**

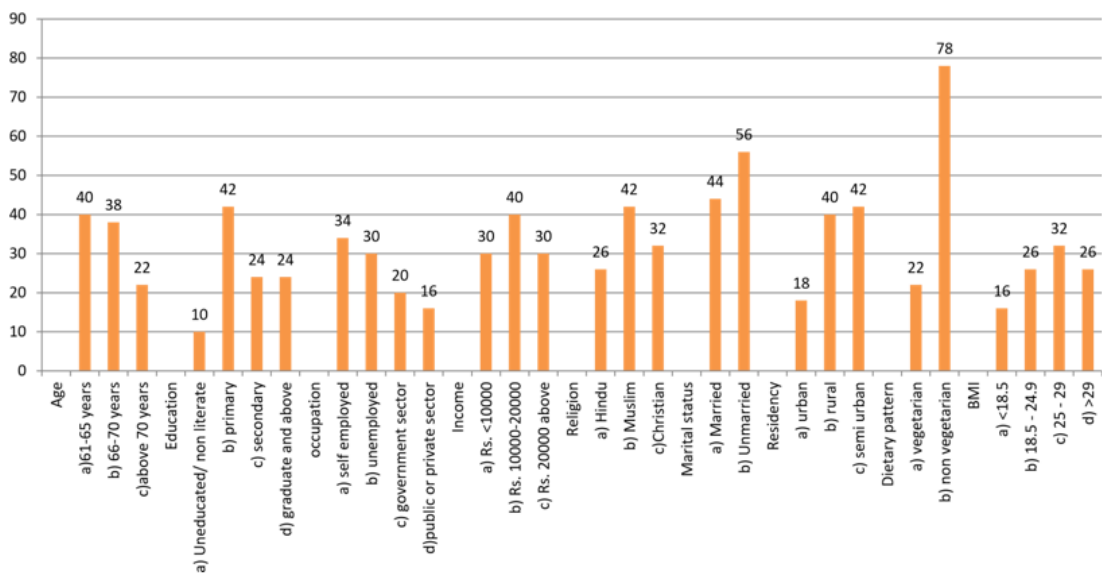
The findings reveals that out of 50 samples. Mean and standard deviation .The regarding factors associated with osteoporosis among geriatric males residing at kalitheerthalkuppam, Puducherry. Among all 4 factors the mean value is high in clinical factor with the mean value of 2.7 and standard deviation of 1.54. Whereas in medical factor the mean score is 2.4 with the standard deviation of 1.47. The least mean score of 2.1 and 2.2 is under lifestyle and nutritional factor respectively. However their standard deviation is 1.92 and 1.12 respectively. Findings shows that the factors associated with osteoporosis among geriatric males with their selected demographic variables. There was no significant association between Age, Gender, Religion, Educational status, marital status, Dietary habit etc.

**Frequency and percentage wise distribution of demographic variables among geriatric males residing at kalitheerthalkuppam, Puducherry.**

(N=50)

S. NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
1	Age		
	a)61-65 years	20	40.0
	b) 66-70 years	19	38.0
	c)above 70 years	11	22.0
2	Education		
	a) Uneducated/ non literate	5	10.0
	b) primary	21	42.0
	c) secondary	12	24.0
	d) graduate and above	12	24.0
3	Occupation		
	a) self employed	17	34.0
	b) unemployed	15	30.0
	c) government sector	10	20.0
	d)public or private sector	8	16.0
4	Income		
	a) Rs. <10000	15	30.0
	b) Rs. 10000-20000	20	40.0
	c) Rs. 20000 above	15	30.0
5	Religion		
	a) Hindu	13	26.0
	b) Muslim	21	42.0
	c)Christian	16	32.0
6	Marital status		
	a) Married	22	44.0
	b) Unmarried	28	56.0
7	Residency		

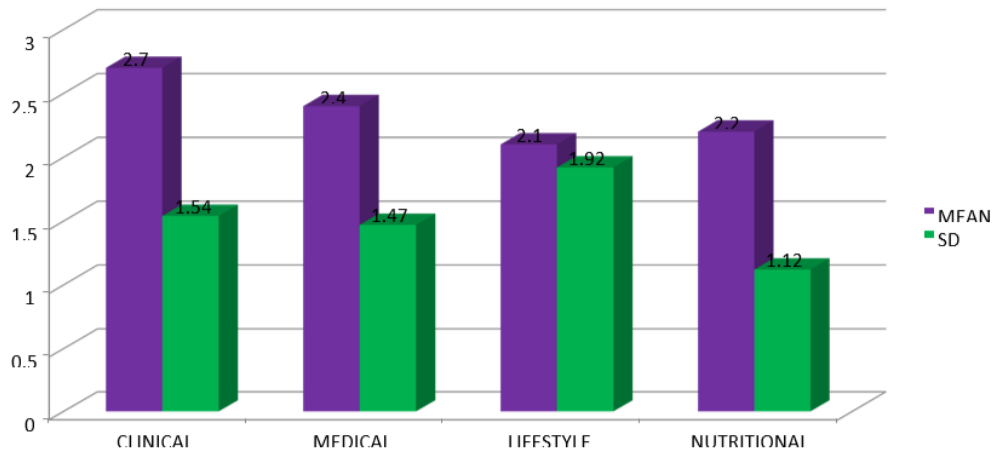
	a) urban	9	18.0
	b) rural	20	40.0
	c) semi urban	21	42.0
8	Dietary pattern		
	a) vegetarian	11	22.0
	b) non vegetarian	39	78.0
9	BMI		
	a) <18.5	8	16.0
	b) 18.5 - 24.9	13	26.0
	c) 25 - 29	16	32.0
	d) >29	13	26.0



Percentage wise distribution of demographic variables among geriatric males residing at kalitheerthalkuppam, Puducherry.

FACTORS ASSOCIATED	MEAN	SD
Clinical	2.7	1.54
Medical	2.4	1.47
Lifestyle	2.1	1.92
Nutritional	2.2	1.12

Mean and standard deviation regarding factors associated with osteoporosis among geriatric males residing at kalitheerthalkuppam, Puducherry.



Co-relation of factors associated with osteoporosis among geriatric males residing at kalitheerthalkuppam, Puducherry.

(N=50)

		CLINICAL	MEDICAL	LIFESTYLE	NUTRITIONAL
CLINICAL	<i>Pearson Correlation</i>	1	0.123	0.071	-0.122
	<i>Sig. (2-tailed)</i>		0.396	0.623	0.399
MEDICAL	<i>Pearson Correlation</i>	0.123	1	-0.140	-0.208
	<i>Sig. (2-tailed)</i>	0.396		0.333	0.147
LIFESTYLE	<i>Pearson Correlation</i>	0.071	-0.140	1	.370**
	<i>Sig. (2-tailed)</i>	0.623	0.333		0.008**
NUTRITIONAL	<i>Pearson Correlation</i>	-0.122	-0.208	.370**	1
	<i>Sig. (2-tailed)</i>	0.399	0.147	0.008**	

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 3 reveals that co-relation of factors associated with osteoporosis among geriatric males residing at kalitheerthalkuppam, Puducherry. Based on the Pearson correlation value of all 4 factors it is significantly positively correlated between nutritional and lifestyle factors at the level of  $p < 0.001$  with the correlation value of 0.370. In contrast, the medical with lifestyle and nutritional factor is negatively correlated with the value - 0.140 & -0.208 respectively. But it is found not significant.

### V. CONCLUSION AND RECOMMENDATIONS:

This study implies that among the major factors which is associated with osteoporosis among geriatric males the nutritional and life style factors plays a vital role on developing osteoporosis among geriatric males. Whereas the remaining factor also plays an important role but the impact is much low and which doesn't affect the bone minerals much more comparing with other 2 factors.

### NURSING IMPLICATIONS:

The investigator has drawn the following implication 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 the risk factors for osteoporosis among geriatric males with the appropriate tools and criteria.

### **NURSING EDUCATION:**

Nursing educator motivates and encourages the students to take their conditions of medical, clinical, life-style and nutritional factor affect geriatric males.

The Nursing management of patient with osteoporosis and its risk factor should be included in detail in nursing curriculum.

### **NURSING ADMINISTRATION:**

As a nurse administer, encourage to conducting inservice and continuing nursing education to promote knowledge regarding risk for osteoporosis among geriatric males.

### **NURSING RESEARCH:**

The investigator needs a lot of review materials 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 not able to participate in this study.

The findings of the study can be utilized for conducting further study on find out the prevalence and factors related to osteoporosis among geriatric males. Further research articles should be carried out in improving health status and to prevent the osteoporosis among geriatric males.

### **RECOMMENDATIONS FOR THE STUDY:**

Based on the findings of the study, following recommendation have been made for future study.

- Replication of the study may be done with large sample.
- A case study can be undertaken to identify the risk of osteoporosis among geriatric males on high density of people who are with co-morbidities.
- Same study can be done in old age home for assessing risk factors for osteoporosis.

## **BIBLIOGRAPHY**

### **BOOK REFERENCE:**

- [1]. "De Dutta's" A Textbook of Obstetrics, Jaypee brothers, 9<sup>th</sup> edition.
- [2]. "Magowan" A Textbook of Clinical Obstetrics and Gynaecology International, 2<sup>nd</sup> edition.
- [3]. "Sadhana Gupta" A Comprehensive Textbook of Obstetrics and Genecology, 4<sup>th</sup> edition.
- [4]. "RK Sachdeva" A Guide to Obstetrics and Gynaecology, 5<sup>th</sup> edition.
- [5]. "HP Pattanaik, PC Mahapatra" A Text book of update on menopause, 2<sup>nd</sup> edition.
- [6]. "Bavasantappaa BT" A Textbook of nursing research New Delhi; Jaypee brother's medical publishers (p) Ltd.
- [7]. "Brunner and Sudarth", A textbook of Medical Surgical Nursing 12<sup>th</sup> Edition.
- [8]. "Kothari CR" A Textbook of Research Methodology-methods and techniques 2<sup>nd</sup> edition.
- [9]. "Suresh K Sharma" A Textbook of Nursing Research and statistics, published by Elsevier.
- [10]. "K Sembulingam" A Textbook of Essentials of Medical Physiology, Jaypee brother's medical publishers (p) Ltd 5<sup>th</sup> edition.
- [11]. "Jessica" A Textbook of Townsend Strengthening Research in Academic OB/GYN Departments.

### **JOURNAL REFERENCE:**

- [12]. Journal of Nightingale Nursing Times
- [13]. Journal of Obstetrics and Gynecology of India
- [14]. American Journal of Epidemiology
- [15]. Journal of Rural Health
- [16]. South med Journal,
- [17]. Journal of mid-Life health
- [18]. The European Menopause Journal
- [19]. International Journal of Research in Medical Sciences

### **NET REFERENCE:**

- [20]. [www.medline.in](http://www.medline.in)
- [21]. [www.nursesindia.org](http://www.nursesindia.org)
- [22]. [www.diseasewiz.com/osteoporosis](http://www.diseasewiz.com/osteoporosis)
- [23]. [www.nof.org](http://www.nof.org)
- [24]. [www.iofbonehealth.org](http://www.iofbonehealth.org)
- [25]. [www.cureosteoporosistoday.com](http://www.cureosteoporosistoday.com)
- [26]. [www.medicinechannel.pk](http://www.medicinechannel.pk)
- [27]. [www.educademic.org](http://www.educademic.org)