



A COMMUNITY BASED STUDY ON KNOWLEDGE ATTITUDES AND PRACTICES OF OSTEOPOROSIS IN WOMEN

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ABSTRACT

BACKGROUND: Osteoporosis is a disease characterized by low bone mass and micro-architectural deterioration of bone tissue, leading to enhanced bone fragility and a consequent increase in fracture risk. It is the most common metabolic bone disease and can result in devastating physical, psychosocial, and economic consequences. It is often overlooked and undertreated, however, in large part because it is so

often clinically silent before manifesting in the form of fracture. **METHODOLOGY:** It is a cross sectional study involving 500 subjects. The knowledge, attitude and practices (KAP) were assessed along with the risk factors which includes modifiable and non-modifiable risk factors based on OPQ questionnaire. Counselling was provided to the subjects regarding the disease, its risk factors and lifestyle modifications which includes diet and exercise to be followed. **RESULTS:** The study involved 500 women above 25 years of age of which 85 (17%) women were having medical conditions which expose them to osteoporosis risk. Remaining 415 (83%) women were not having any medical conditions. Their knowledge, attitudes and practices towards osteoporosis was evaluated and it was found that above 81% women were at poor knowledge about the disease and its risk factors. **CONCLUSION:** Osteoporosis Questionnaire(OPQ) is useful tool in assessing the risk and the KAP of the subjects and predicting the subjects at high risk.

KEYWORDS: Osteoporosis, Knowledge, Attitude, Practice, Risk.

INTRODUCTION

OSTEOPOROSIS

World Health Organization defines Osteoporosis as "A disease characterized by low bone mass and micro-architectural deterioration of bone tissue, leading to enhanced bone fragility and a consequent increase in fracture risk".

There are two types of osteoporosis: Type I osteoporosis: (postmenopausal osteoporosis) generally develops in women after menopause when the amount of estrogen in the body greatly decreases. This process leads to an increase in the resorption of bone (the bones loses substance). Type 1 osteoporosis is far more common in women than in men, and typically develops between the ages of 45 and 70. The process usually results in a decrease in the amount of trabecular bone (the spongy bone inside of the hard cortical bone). The decrease in the overall strength of the bone leads primarily to wrist and vertebral body (in the spine) fractures.

Type II osteoporosis: (senile osteoporosis) typically happens after the age of 70 and affects women twice as frequently as men. Type II osteoporosis involves a thinning of both the trabecular bone (the spongy bone inside of the hard cortical bone) and the hard cortical bone. This process often leads to hip and vertebral body fractures. There is some overlap between the two types of osteoporosis. The type that can be significantly influenced and prevented is Type I osteoporosis (postmenopausal osteoporosis) from estrogen deficiency. It is important to note that osteoporosis may either be a primary problem (Type I or Type II) or may be secondary to another problem. Approximately 20% of women and 40% of men with osteoporosis have a secondary cause of osteoporosis.^[1]

Osteoporosis is a global problem which is increasing in significance as the population of the world both grows and ages. Worldwide, lifetime risk for osteoporotic fractures in women is 30-50%. With socio-economic development in many Asian countries and rapid ageing of the Asian population, osteoporosis has become one of the most prevalent and costly health problems in the region.^[2] Unsurprisingly, Asia is the region expecting the most dramatic increase in hip fractures during coming decades; by 2050 one out of every two hip fractures worldwide will occur in Asia.^[3] In India 1 out of 8 males and 1 out of 3 females suffers from osteoporosis, making India one of the largest affected countries in the world. Expert groups peg the number of osteoporosis patients at approximately 26 million.^[4]

RISK FACTORS: Include two types of factors modifiable and non-modifiable.

Non-modifiable factors are genetic factors, ageing and post-menopausal women. Whereas modifiable factors are low body weight, nutritional deficiencies, smoking, lack of exercise and sun exposure.

Aims and objectives

- To study the knowledge, attitudes and practices of osteoporosis in women.
- To assess the risk factor for each individual pertaining to disease conditions/ medications/ lifestyle.
- To give suitable recommendations based on study findings.

Study site: The study was conducted door to door in randomly selected houses of different locations of Lucknow based on convenient sampling.

Study period: The study was conducted for a period of 6 months (March 2015-August 2015)

Study criteria:

- Inclusion criteria: All the women of age 25 years and above were included in the study
- Exclusion criteria: Bed-ridden patients & those who are not willing to participate in the study
- Patient consent: Women were explained regarding the study and their consent was taken.

MATERIAL AND METHODOLOGY

The materials used were

1. Informed consent form: With the help of informed consent form subjects were included in the study. This includes the title of the study and details of the study. Study was explained to the subjects and their consent was taken.

2. **Osteoporosis questionnaire (OPQ):** This questionnaire contains 45 questions in which 20 questions are based on the knowledge, it tells us how much knowledge the women has towards osteoporosis, 16 questions are based on modifiable and non-modifiable risk factors and the other 9 questions tells us about the risk factors might be able to change.

The present study was conducted in conveniently selected houses where women were selected depending on the inclusion criteria. The study was explained to the women, written consent was obtained and confidentiality of data was assured to them. Necessary history was

taken with the help of a data collection form. Women were assessed for their knowledge, attitude towards osteoporosis with the help of a questionnaire (OPQ questionnaire).^[5]

Modifiable risk pertaining to diet and exercise and non-modifiable risk like age, family history, estrogen use, and disease conditions were identified. Patient counseling was given to all women with low, high and moderate risk with the help of necessary tools like power point presentations and patient information leaflets to increase their knowledge, attitude, practice towards osteoporosis. The detail regarding the results obtained from study was evaluated.

RESULTS AND DISCUSSION

KNOWLEDGE ATTITUDE AND PRACTICES: In case of each KAP form, the correct answers were counted and the scores were categorized in three scales of 0 to 5, 6 to 10 and 11 to 20. The data is tabulated in Table.

Age in years	Osteoporosis Questionnaire		
	0-5(Poor)	6-10(Fair)	11 and above(Good)
25-34 (n=72)	56(77.77%)	11(15.27%)	5(6.94%)
35-44 (n=102)	85(83.33%)	11(10.78%)	6(5.88%)
45-54 (n=126)	98(77.77%)	23(18.25%)	5(3.96%)
55-64 (n=104)	83(79.80%)	14(13.46%)	7(6.7%)
65-74 (n=81)	72(88.88%)	7(8.64%)	2(2.46%)
75 and above (n=15)	13(86.66%)	2(13.33%)	0
Total(n=500)	407(81.4%)	68(13.6%)	25(5.0%)

The base line KAP screening indicates that > 81% of the subjects have poor knowledge about osteoporosis. 5% have good knowledge. This indicates that by and large the population may be at a high risk of osteoporosis due to the following reasons: (1) Lack of knowledge about the disease (2) No awareness about the risk factors (3) No idea about screening tests and procedures.

CONCLUSION

Osteoporosis is a disease characterized by low bone mass and micro-architectural deterioration of bone tissue, leading to enhanced bone fragility and a consequent increase in fracture risk. There are two types of osteoporosis Type I osteoporosis: (postmenopausal osteoporosis) and Type II osteoporosis: (senile osteoporosis). Osteoporosis may either be a primary problem (Type I or Type II) or may be secondary to another problem. Approximately 20% of women and 40% of men with osteoporosis have a secondary cause of osteoporosis. In India 1 out of 3 females suffers from osteoporosis, making India one of the largest affected

countries in the world. There are two types of risk factors modifiable and non-modifiable responsible for causing osteoporosis. Nonmodifiable factors are genetic factors, ageing and post-menopausal women. Whereas modifiable factor are low body weight, nutritional deficiencies, smoking, lack of exercise and sun exposure. Can be done by first undergoing the assessment of risk in the individuals and secondly according to results can be further screened for bone mineral density(BMD) using BMD screening devices. Patients can be treated with Non- pharmacological treatment includes proper calcium and vitamin intake, smoking cessation, proper exercise, fall prevention and hip protectors. Pharmacological treatment include use of Calcium and vitamin D, Calcitonin, Bisphosphonates, estrogen replacement, Selective Estrogen Receptor Modulators and Parathyroid Hormone.

The study was conducted door to door in randomly selected houses of different locations of Lucknow based on convenient sampling for a period of 6 months (March 2015 – August 2015). It is a cross sectional study with sample size of 500 subjects. All the women of age 25 years and above were included in the study and Bed-ridden patients and those who are not willing to participate in the study were excluded from the study. The study was explained to the women, written consent was obtained and confidentiality of data was assured to them. Women were assessed for their knowledge, attitude towards osteoporosis with the help of a questionnaire (OPQ questionnaire).

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