



## A STUDY TO ASSESS KNOWLEDGE OF WOMEN REGARDING PREVENTION OF POST-MENOPAUSAL OSTEOPOROSIS

Pratibha Khagta

Nursing Tutor, Akal College Of Nursing, Eternal University, Baru Sahib (HP)

### ABSTRACT

Osteoporosis is a disease characterized by low bone mass and structural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture. Osteoporosis leads to nearly 9 million fractures annually worldwide. Reduced bone density is a major risk factor for fragility fracture.

**Aim of the study:** The Aim of current study is to assess the knowledge regarding prevention of post-menopausal Osteoporosis among women.

**Objectives of the study:** The objectives of the study were to assess the knowledge regarding prevention of post-menopausal Osteoporosis among women, to find the association between knowledge score and selected demographic variables.

**Methods:** Quantitative Descriptive study was carried out in selected areas of district Sirmour, Himachal Pradesh. Using non probability purposive sampling technique, 60 women between the age group of 25-50 years were selected from selected areas. Data was collected using semi structured interview schedule regarding prevention of postmenopausal Osteoporosis. Data was analyzed by using SPSS version 15 in terms of descriptive and inferential statistics.

**Results:** The results of the study revealed that 90% of the subjects had "Poor knowledge", 10% subjects had "Average knowledge". Hence, it can be concluded that majority of women had poor knowledge related to prevention of postmenopausal osteoporosis. There were two demographic variables significantly associated with knowledge score i.e. personal habits of women and history of osteoporosis.

**Conclusion:** The current study reflected the poor knowledge about prevention of postmenopausal osteoporosis among women. This indicates that the population of women needs to be taught about prevention of postmenopausal osteoporosis in early settings.

**KEYWORDS :** Knowledge, Demographic variables, Post-menopausal Osteoporosis.

### 1. INTRODUCTION

#### 1.1 Background of study:

Osteoporosis is a growing chronic health problem that could result in poor living quality and frequency of which increases with age, especially in post-menopausal women. According to International Osteoporosis Foundation, Osteoporosis is a chronic bone disease characterized by low bone mass and deterioration of bone tissue. It is often called a 'silent disease' because there are no symptoms or pain until a fracture occurs.

**National Osteoporosis Foundation (NOF)** have arrived at the finding that nearly 1,01,030,00. Americans are afflicted with this disease and has estimated that 1, 85,570,00 have low bone mass placing them at an increased risk for Osteoporosis. **Osteoporosis India** reported that an estimated 500,000 spinal fractures (300,000 hip fractures, 200,000 broken wrists, and 300,000 fractures) occur yearly due to this disease in India. Clothing like 'Burqa', 'Sari', and 'Salwar kameez' deprives exposure to sunlight, a major source of Vitamin D. Hence, high incidence of this disease is found in India.

#### GLOBAL SCENARIO:

Worldwide, Osteoporosis causes more than 8.9million fractures annually, resulting in an Osteoporotic fracture every 3 seconds. Osteoporosis is estimated to affect 200million women worldwide-approximately one-tenth of women aged 60 years, one-fifth of women aged 70 years, two-fifth of women aged 80years and two-third of women aged 90 years. Approximately 33% of patients suffering a hip fracture are unable to live independently in year following the fracture and up to 20% die, mainly owing to pre-existing conditions.

#### INDIA SCENARIO:

Over 45lakhs Indian women above 60 have a fractured spine. Over 2.5lakhs Indian suffer Osteoporotic hip fractures every year. Most of these fractures are never investigated for Osteoporosis and therefore never treated for the cause. It is estimated that currently India has more than 36 million population affected by Osteoporosis. In India, Indian women aged 30-60 years from low income groups, BMD(Bone Mineral Density) at all the skeletal sites were much lower than values reported from developed countries, with a high prevalence of Osteopenia (52%) and Osteoporosis (29%) thought to be due to inadequate nutrition.

**REGIONAL SCENARIO: Dr. Rohit Bhoil**, in his study revealed that total of 35(45.2%) patients had Osteoporosis, 35(41.6%) patients had Osteopenia while the rest 11(13%) patients had normal bone density in COPD group in state of Himachal Pradesh.

#### 1.2 Need for the study:

According to WHO Osteoporosis is second only to cardiovascular disease as a global health care problem and medical study show a

50years old woman has a similar lifetime risk of dying from hip fracture as from breast cancer. International Osteoporosis Foundation (IOF), estimates that annual direct cost of treating Osteoporosis fractures of people in workplace in the USA, Canada and Europe alone is approx. USD 48billion.

Hence the need to assess knowledge of women regarding post-menopausal Osteoporosis was felt, as it is necessary for women to acquire knowledge regarding preventive measures to reduce the prevalence and progression rate of Osteoporosis

#### 1.3 Statement of the problem:

A descriptive study to assess the knowledge regarding prevention of post-menopausal Osteoporosis among women in selected areas of District Sirmour (HP).

#### 1.4 Aim of the study:

The aim of the current study is to assess the knowledge regarding prevention of post-menopausal Osteoporosis among women.

#### 1.5 Objectives of the problem:

- To assess the knowledge regarding prevention of post-menopausal Osteoporosis among women in selected areas of District Sirmour.
- To find the association between knowledge score and selected demographic variables.

#### 1.6 Operational Definitions:

**Knowledge:** knowledge refers to information possessed by women aged 25-50 regarding prevention of Osteoporosis assessed by structured knowledge questionnaire.

**Post-menopausal Osteoporosis:** In the current study post-menopausal Osteoporosis refers to abnormal bone density that occurs in women with permanent cessation of menstruation.

**Women:** In this study, women refer to females of age group 25-50years, residing in selected areas of District Sirmour.

#### 1.7 Assumptions:

- In rural areas of district Sirmour woman may have less knowledge regarding Osteoporosis.
- Due to lack of knowledge and awareness women of age group of 25-50years are at risk of Osteoporosis.

#### 1.8 Delimitations:

The current study is delimited to:

- 1 week duration for data collection.
- The study is delimited to women aged 25-50 years residing in selected areas of District Sirmour.

**2. METHODOLOGY**

**2.1 Research Approach:**

In this study quantitative research approach was applied to assess the knowledge regarding prevention of postmenopausal Osteoporosis among women in selected areas of District Sirmour (H.P)

**2.2 Research Design:**

Descriptive research design was used in this study.

**2.3 Variables:**

A variable is quality of an organization, group or situation that takes different values.

**Research Variable:** Knowledge regarding prevention of postmenopausal Osteoporosis.

**Demographic Variable:** Age, education, areas of residence, Occupation, Monthly family income, Pattern of diet, personal habits, Family history of osteoporosis, Any health facility near home, history of hormonal/ contraceptive, history of fracture.

**2.4 Research setting:**

The research study was conducted in selected areas of District Sirmour (H.P)

**2.5 Target Population:**

The target population consist of women (25-50 Years) residing in selected areas of District Sirmour (H.P)

**2.6 Criteria for Sample Selection:**

**Inclusion Criteria:**

- Women between the age group of 25-450 years.
- Women residing in selected areas of District Sirmour.
- Able to communicate in Hindi.
- Women available at the time of data collection.

**Exclusion Criteria:**

The Study excludes the women aged below 25 years and above 50 years.

**2.7 Sampling size and Sample Technique:**

The sample for present study comprised 60 women of selected areas of District Sirmour (H.P) selected through non probability purposive sample technique.

**2.8 Development and Description of Tool:**

As study was to assess the knowledge of prevention of postmenopausal Osteoporosis among women residing in selected areas of District Sirmour (H.P). The tool was constructed after extensive review of literature and discussion with nursing health department.

**Description of Tool:**

The tool was consists of two sections:

**Section A:** Selected demographic variables.

The demographic variables include Age, education, areas of residence, Occupation, Monthly family income, Pattern of diet, personal habits, Family history of Osteoporosis, any health facility near home, and history of Hormonal/ Contraceptive, history of fracture.

**Section B:** Semi structured interview schedule was prepared to assess knowledge regarding prevention of postmenopausal Osteoporosis. Semi structured interview schedule consists of multiple choice questions. A list of 20 items on knowledge was prepared. It consists of 20 objective type items of responses, via, Scoring '0' for incorrect answer and '1' for correct answer. The maximum score was 20 and minimum score was 0 on semi structured interview schedule.

**2.9 Content Validation:**

The content validation was taken from experts before doing the data analysis. The internal validation was taken from 10 experts from nursing profession. Some items were modifying in language of questions regarding language modification and reorganization of the order of items which was incorporated.

**2.10 Ethical Consideration:**

- Administrative permission and ethical clearance with regard to

study was obtained from the research and ethical committee of Akal College of Nursing, Baru Sahib.

- The ethical consideration was taken from the Panchayat Pradhan.
- Before conducted the study a written consent was obtained from the participants and assurance for confidentiality was given.

**2.11 Pilot Study:**

After obtaining formal permission the pilot study was conducting on 18th and 19th Jan 2019 among 6 non-study subjects selected at a non-study area by using semi structured interview schedule. For the findings of the pilot study, spearman's rank for correlation coefficient formula was used by adopted split half technique. The reliability of the pilot study is  $r=0.85$ .

**3. DATA INTERPRETATION AND ANALYSIS**

**3.1: DATA ANALYSIS:**

Data and findings were organized and presented under the following section:

**Section A:** Frequency & percentage distribution of personal profile of subjects.

**Section B:** Level of Knowledge.

**Section C:** Association of knowledge score with selected variables.

**Section A:** Frequency & percentage distribution of personal profile of subjects.

**Table 3.1.1 Frequency and percentage distribution of personal profile of the subjects.**

**N=60**

| Sr. No. | Variables                              | Categories                 | Frequency (f) | Percentage (%) |
|---------|--|----------------------------|---------------|----------------|
| 1.      | Age                                    | 25-30years                 | 16            | 26.7           |
|         |  | 31-35years                 | 14            | 23.3           |
|         |  | 36-40years                 | 15            | 25             |
|         |  | 41-45years                 | 8             | 13.3           |
|         |  | 46-50years                 | 7             | 11.7           |
| 2.      | Education                              | Illiterate                 | 7             | 11.7           |
|         |  | Primary education          | 7             | 11.7           |
|         |  | Secondary education        | 28            | 46.7           |
|         |  | Senior secondary education | 13            | 21.7           |
|         |  | Graduate or above          | 5             | 8.3            |
| 3.      | Residence                              | Rural                      | 00            | 00             |
|         |  | Urban                      | 60            | 100            |
| 4.      | Occupation                             | Government employee        | 1             | 1.7            |
|         |  | Private employee           | 20            | 33.3           |
|         |  | Self employee              | 7             | 11.7           |
|         |  | Home maker                 | 32            | 53.3           |
| 5.      | Monthly income                         | <5000                      | 25            | 41.7           |
|         |  | 5000-10,000                | 17            | 28.3           |
|         |  | 10,001-20,000              | 9             | 15             |
|         |  | >20,000                    | 9             | 15             |
| 6.      | Dietary pattern                        | Vegetarian                 | 28            | 46.7           |
|         |  | Non vegetarian             | 28            | 46.7           |
|         |  | Eggetarian                 | 4             | 6.7            |
| 7.      | Personal habits                        | No bad habits              | 52            | 86.7           |
|         |  | Alcoholic                  | 1             | 1.7            |
|         |  | Any others                 | 7             | 11.7           |
| 8.      | History of Osteoporosis                | Present                    | 12            | 20             |
|         |  | Absent                     | 48            | 80             |
| 9.      | Health facility near home              | Yes                        | 60            | 100            |
| 10.     | Menstrual status                       | Regular                    | 48            | 80             |
|         |  | Irregular                  | 12            | 20             |
| 11.     | History of Hormonal/ Contraceptive use | Yes                        | 14            | 23.3           |
|         |  | No                         | 46            | 76.7           |
| 12.     | History of fracture                    | Yes                        | 8             | 13.3           |
|         |  | No                         | 52            | 86.7           |

Table 4.1. The table depicts that the majority 16 (26.7%) of women

were in age group of 25 to 30 years. As per education, in the study among 28 (46.7%) of respondents were from secondary education. In this study among the study subjects 32 (53.3%) were home maker. According to the monthly income of the family, among them 25(41.7%) have monthly income of less <5000rupees/month. According to dietary pattern 28 (46.7%) were non vegetarian. According to the menstrual status 48 (13.3%) women having regular menstruation. Majority of subjects 52(86.7%) were not having the history of fracture.

**Section B: Level of Knowledge. Table 3.1.2: Category scores for level of knowledge.**

| Grade of knowledge | Range score | F  | %   |
|--------------------|-------------|----|-----|
| >80%(Good)         | 0-6         | 0  | 0%  |
| 60-79%(Average)    | 7-14        | 6  | 10% |
| <60%(Poor)         | 15-20       | 54 | 90% |

N=60

**Section C: Association of knowledge score with selected variables.**

**Table 3.1.3: Correlation of selected demographic variables with knowledge of women related to prevention of postmenopausal Osteoporosis.**

| Sr. No. | Variables                              | Categories                 | Knowledge |         |      | Chi square | df | p-value             |
|---------|--|----------------------------|-----------|---------|------|------------|----|---------------------|
|         |  |                            | Good      | Average | Poor |            |    |                     |
| 1.      | Age                                    | 25-30years                 | 0         | 2       | 14   | 45.314     | 48 | 0.584 <sup>NS</sup> |
|         |  | 31-35years                 | 0         | 2       | 12   |            |    |                     |
|         |  | 36-40years                 | 0         | 1       | 14   |            |    |                     |
|         |  | 41-45years                 | 0         | 1       | 7    |            |    |                     |
|         |  | 46-50years                 | 0         | 0       | 7    |            |    |                     |
| 2.      | Education                              | Illiterate                 | 0         | 0       | 7    | 53.211     | 48 | 0.281 <sup>NS</sup> |
|         |  | Primary education          | 0         | 0       | 7    |            |    |                     |
|         |  | Secondary Education        | 0         | 3       | 25   |            |    |                     |
|         |  | Senior Secondary Education | 0         | 1       | 12   |            |    |                     |
|         |  | Graduate or above          | 0         | 2       | 3    |            |    |                     |
| 3.      | Occupation                             | Government employee        | 0         | 0       | 1    | 36.347     | 36 | 0.453 <sup>NS</sup> |
|         |  | Private employee           | 0         | 3       | 17   |            |    |                     |
|         |  | Self employee              | 0         | 0       | 7    |            |    |                     |
|         |  | Home maker                 | 0         | 3       | 29   |            |    |                     |
| 4.      | Monthly income                         | <5000                      | 0         | 0       | 25   | 40.318     | 36 | 0.285 <sup>NS</sup> |
|         |  | 5000-10,000                | 0         | 2       | 15   |            |    |                     |
|         |  | 10,001-20,000              | 0         | 0       | 9    |            |    |                     |
|         |  | >20,000                    | 0         | 4       | 5    |            |    |                     |
| 5.      | Dietary pattern                        | Vegetarian                 | 0         | 2       | 26   | 17.174     | 24 | 0.841 <sup>NS</sup> |
|         |  | Non vegetarian             | 0         | 4       | 24   |            |    |                     |
|         |  | Eqgetarian                 | 0         | 0       | 4    |            |    |                     |
| 6.      | Personal Habits                        | No bad habits              | 0         | 4       | 6    | 37.537     | 24 | 0.039 <sup>*</sup>  |
|         |  | Alcoholic                  | 0         | 1       |      |            |    |                     |
|         |  | Any others                 | 0         | 1       |      |            |    |                     |
| 7.      | History of Osteoporosis                | Present                    | 0         | 2       | 10   | 20.703     | 12 | 0.055 <sup>†</sup>  |
|         |  | Absent                     | 0         | 4       | 44   |            |    |                     |
| 8.      | Menstrual status                       | Regular                    | 0         | 4       | 44   | 9.945      | 12 | 0.621 <sup>NS</sup> |
|         |  | Irregular                  | 0         | 2       | 10   |            |    |                     |
| 9.      | History of Hormonal/ Contraceptive use | Yes                        | 0         | 0       | 14   | 7.316      | 12 | 0.836 <sup>NS</sup> |
|         |  | No                         | 0         | 6       | 40   |            |    |                     |
| 10.     | History of fracture                    | Yes                        | 0         | 0       | 8    | 10.988     | 12 | 0.530 <sup>NS</sup> |
|         |  | No                         | 0         | 6       | 46   |            |    |                     |

\*Significant at level p <0.05 level, NS (Non significant) at level p>0.05 level

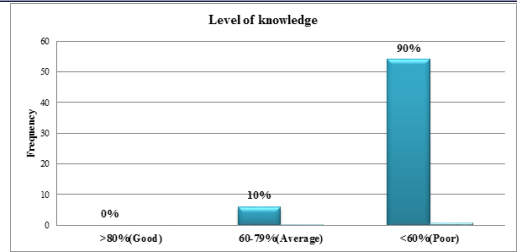
Table 4.1.2 depicts the correlation of selected demographic variables with knowledge of women related to prevention of postmenopausal Osteoporosis. The table indicates the level of significance at the level of 0.039 among personal habits of women and significance level 0.055 in case of history of Osteoporosis.

**3.2 DISCUSSION:**

The Findings of the study have been discussed in accordance with the objectives of the study.

**Section A: Findings related to personal profile of the subjects.**

In current study majority 16 (26.7%) of women were in age group of 25 to 30 years. As per education, in the study among 28 (46.7%) of respondents were from secondary education. In this study among the study subjects 32 (53.3%) were home maker. According to the monthly income of the family, among them 25(41.7%) have monthly income of less <5000rupees/month. According to dietary pattern 28 (46.7%) were non vegetarian. As per the history of Osteoporosis 48(80%) were



**Figure 3.1: Level of knowledge.**

Assessment of knowledge among women depicts that majority of women have poor knowledge related to prevention of postmenopausal Osteoporosis (90%) and average knowledge (10%). Hence it can be concluded that majority of women had poor knowledge related to prevention of postmenopausal Osteoporosis.

having no history of the Osteoporosis. According to the menstrual status 48(13.3%) of women having regular menstruation. Majority of Subjects 52(86.7%) were not having the history of fracture. A similar study was conducted in which the awareness of female patients regarding Osteoporosis was assessed among women attending the hospital. 100 female patients attending gynae OPD were asked to fill a simple questionnaire. Majority of these women belonged to rural background (85%) and around 64% of the women were educated (primary schooling and beyond). About 46% of the women had some awareness regarding Osteoporosis and its prevention.

**Section B: Findings related to the assessment of knowledge.**

In current study knowledge regarding postmenopausal Osteoporosis among women depicts that majority of women have poor knowledge related to prevention of post-menopausal Osteoporosis (90%) and average knowledge (10%). Hence, it can be concluded that majority of women need awareness regarding prevention of postmenopausal Osteoporosis.

A similar exploratory study to assess the knowledge regarding Osteoporosis among women of menopausal age (45-65 years) at

selected areas of Moga, Punjab was conducted which reveals that among 100 menopausal women, 41(41%) of them had below average knowledge, 51 (51%) of them had average knowledge, and 8(8%) of them had good knowledge regarding Osteoporosis.

### Section C: Findings related to association of variables with Knowledge score.

The results of current study depicts that among selected demographic variables only personal habits (p value= 0.039) and history of Osteoporosis (p=0.055) were significantly associated with knowledge (p value is <0.05 as per chi Square test). While other variables have no significance with knowledge as their p value is >0.05 i.e. age (p value= 0.854), education (p value= 0.281), occupation (p value= 0.453), monthly income (p value= 0.285), dietary pattern (p value=0.841), menstrual status (p value= 0.621), history of Hormonal/Contraceptive use (p value= 0.836), history of fracture (p value= 0.530). A similar exploratory study to assess the knowledge regarding Osteoporosis among women of menopausal age (45-65 years) at selected areas of Moga, Punjab reveals that, among all demographic variables, dietary pattern and family income had significant association with knowledge level at p<0.05 level.

### 3.RECOMMENDATIONS

On the basis of the findings following recommendations have been made further:

- A study can be carried out to assess the knowledge and practices related to prevention of Osteoporotic related fractures.
- Educational programme on prevention of Osteoporotic related fractures can be conducting among all the women after 30 years of age.
- A descriptive study on assessing the Bone Mineral Density and its association with contributing factors among postmenopausal women.

### 4. CONCLUSION

This study finding concluded that women had inadequate knowledge regarding prevention of postmenopausal Osteoporosis. Nursing administration and Community Health Nurses are helping to educate them regarding prevention of postmenopausal Osteoporosis.

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