



KNOWLEDGE AND BELIEF TOWARDS OSTEOPOROSIS AMONG FEMALE NURSING STUDENTS OF SELECTED NURSING COLLEGE, MANGALORE

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ABSTRACT Osteoporosis continues to be underrecognized condition that can be avoided by adopting a healthy lifestyle at younger age. A cross sectional descriptive study was conducted to assess knowledge and belief towards osteoporosis among 142 nursing college students. The data collection instrument used were by OKAT (Osteoporosis Knowledge assessment tool) for knowledge assessment and belief by OHBS (Osteoporosis Health belief scale) and subjects were selected by convenient sampling. The study results found that mean age of students were 19.95± 1.2 years, a small proportion of students 3% & 14.7% of subjects had family history of osteoporosis and personal fracture. 44.36% & 54.92% of subjects were not sure whether they are getting adequate sun exposure or intake of calcium rich foods. 46.47% of students reported they have never consumed calcium supplements. 11.97% had good knowledge, majority 69.01% had satisfactory knowledge and 19.01% had poor knowledge regarding osteoporosis. Belief towards osteoporosis overall mean score obtained by the students were 157.4 ± 13.78, the result revealed that there is no much difference among subdomain scores of beliefs regarding osteoporosis. The study finding points that students are aware about the condition but needs to incorporate healthy lifestyle at younger age that will enable to have optimal life in later years.

KEYWORDS : Osteoporosis, Knowledge, Belief, nursing students

INTRODUCTION

Osteoporosis, a common metabolic bone disease, is defined as "skeletal disorder characterized by compromised bone strength predisposing a person to an increased risk of fracture".¹ As per WHO report 30 percent of postmenopausal women suffer from osteoporosis.² Out of the 61 million people in India reported of having osteoporosis more than three quarters i.e., 80% are women. The peak incidence of osteoporosis in India occurs 10–20 years earlier than in Western countries, which will have an impact on the quality of life and especially on individual's health and finance.³

Osteoporosis can be depicted on any genders, but most commonly its seen in later years and affects women more than men. Osteoporosis complications is associated with fractures and increased morbidity and mortality. Bone loss may not be detected until up to 30% of bone loss has already occurred.⁴ Osteoporotic fracture rates in India are among the highest in Asia.⁵

The high-risk factors associated with Osteoporosis are postmenopausal status, gender, family history, older age, low bone mineral density and ethnicity. The modifiable risk factors include sedentary lifestyle, low calcium intake, poor nutritional status, increased consumption of coffee, avoidance of flavoured drinks, more intake of milk and dairy products, giving up of smoking and alcohol, adopting active healthy lifestyle.⁶

Osteoporosis is not a preventable disease, it's a silent attacker but its complications can be reduced or prevented by adapting a healthy life style which includes regular exercises including weight bearing exercises, modifying the dietary habits such as regular intake of calcium & Vit D, exposure to sun.⁷ Despite the availability of effective treatment modalities a few proportions of clients are being treated adequately.⁸

Osteoporosis is becoming a global burden. Hence it has to be addressed and people should be aware of its risk factors and complications as well especially women [6]. Since prevention is considered better than cure, early assessment of the knowledge and awareness about the disease should be evaluated to bring early changes in people's lifestyle. Several studies have shown that general population lacks awareness and has inadequate knowledge regarding osteoporosis.^{9,10,11} Knowledge acts as a cognitive determinant in changing behaviors which may result in reducing risk factors and in the prevention of several chronic diseases. The perception of health belief determines an individual's self-belief towards their own health which may help in analyzing the seriousness, susceptibility, barriers and help promoting the health. This situation creates the need of creating awareness among the younger population which can mediate the prevalence of osteoporosis. The present study aimed at assessing the knowledge and belief regarding osteoporosis among nursing students which may aid in adopting healthy lifestyle.

MATERIALS AND METHODS:

Objectives of the study:

- To assess the knowledge regarding osteoporosis among female nursing students.
- To assess the belief towards osteoporosis among female nursing students.
- To find association between knowledge regarding osteoporosis and selected demographic variables
- To find association between belief towards osteoporosis and selected demographic variables

Design: the study employed a Cross sectional descriptive design with survey approach at Masood College of Nursing, Mangalore.

Method of data collection: After obtaining permission & ethical clearance, the Knowledge and belief towards osteoporosis was assessed using Self-administered Questionnaire. The target population was all the female nursing students of Masood College of Nursing and study was conducted among 142 female students using convenient sampling and met inclusion criteria. The sample was calculated using G power at 90% power, medium effect size, alpha 0.05 and taking into consideration 10% attrition, total of 132 samples were required.

After orienting the students and obtaining the consent, Self-administered questionnaire on demographic variables such as age, placement of study, family history of osteoporosis, exercise pattern, adequate calcium intake & sun exposure, intake of calcium supplements, habit of smoking & alcohol consumption was provided. Osteoporosis Knowledge Assessment Tool (OKAT)¹² was used to assess knowledge which consisted of 20 True/False questionnaire with a total probable score of 20 and higher scores of ≥15, 10-14, <10 indicated good, satisfactory and poor knowledge respectively. Osteoporosis Health Belief Scale (OHBS)¹³ is a 37-item questionnaire to assess beliefs under the sub themes related to calcium intake and exercise behaviours, and consisted of seven subscales (perceived susceptibility to osteoporosis, seriousness of osteoporosis, benefits of exercise, benefits of calcium intake, barriers to exercise, barriers to calcium intake, and health motivation). The OHBS is a 5-point Likert scale to rate the subject's opinion ranging from strongly disagree (1) to strongly agree (5), with a probable score range of 6 to 30 for each subtheme and 37 to 185 for the total scale. The higher scores indicated better positive healthy beliefs except for the two barriers subscales, which are reverse-coded. The data were analyzed using descriptive & inferential statistics.

RESULT:

SECTION I: Description of baseline variables

The mean age of the sample was 19.95± 1.2 years and most of the students 42.95% belonged to III-year Nursing. A small proportion 3.52% reported family history of osteoporosis. Only 16.19% of subjects agreed that they exercise for at least 30 minutes in a week and none of the subjects were passive or active smokers or had habit of drinking alcohol. 44.36% & 54.92% of subjects were not sure whether

they are getting adequate sun exposure or intake of calcium rich foods. 46.47% of students reported they have never consumed calcium supplements.

SECTION II: Knowledge regarding Osteoporosis

Among the 142 students 11.97% had good knowledge, majority 69.01% had satisfactory knowledge and 19.01% had poor knowledge regarding osteoporosis. In the study 99% of the subjects were aware that osteoporosis is a high-risk factor for fracture and the least knowledge 31% was regarding that any type of physical activity is beneficial for osteoporosis.

Table 1: Mean scores of OKAT sub themes among the study sample

THEME	Range	Mean	SD
symptoms and risk of fracture of osteoporosis	0-5	3.07	0.88
Knowledge of risk factors of osteoporosis	0-7	3.85	1.25
Knowledge preventive factors of osteoporosis	0-6	3.65	1.18
Treatment availability	0-2	1.19	0.66
Overall scores	0-20	11.77	2.31

SECTION III: Belief towards osteoporosis among female nursing students

The overall mean score obtained by the students were 157.4 ± 13.78 and those of susceptibility, seriousness, Benefits of exercise, Benefits of calcium intake, Barrier's exercise, Barrier's calcium intake, Health motivation 22.07 ± 2.753 , 22.66 ± 2.37 , 22.73 ± 2.63 , 22.76 ± 2.60 , 22.3 ± 2.6 , 22.9 ± 2.4 , 22.4 ± 2.5 respectively. The result revealed that there is no much difference among subdomain scores of beliefs regarding osteoporosis.

Table 2: Mean scores of OHBS sub themes among 142 subjects

Domain	Mean	Standard deviation	Mean Percentage
Susceptibility	22.070	2.533	73.56
Seriousness	22.661	2.376	75.53
Benefits of exercise	22.739	2.634	75.76
Benefits of calcium intake	22.760	2.602	75.86
Barrier's exercise	22.352	2.614	74.5
Barrier's calcium intake	22.901	2.481	76.33
Health motivation	22.408	2.523	74.66
Total score	157.894	13.786	75.18

The study found significant association between adequate exposure to sun and knowledge regarding osteoporosis.

DISCUSSION:

The present study was undertaken to assess the knowledge and belief towards osteoporosis among female nursing students. The study was conducted with the intention to sensitize the younger females in order to develop a healthy lifestyle as a preventive measure against osteoporosis in their later years. The mean age of sample was 19.95 ± 1.2 years which was in agreement with the study conducted among nursing students in Jordan¹⁴ as well as in Pakistan¹⁵.

The present study found that 11.97% had good knowledge, 69% had satisfactory knowledge and 19% had poor knowledge with overall mean score of 11.7 ± 2.31 regarding osteoporosis which was contradictory to the study results conducted in Punjab¹⁶ as well as in Chennai⁵, where the participants had 20% good knowledge, 32% average knowledge and 48% below average knowledge; and among college girls in Chennai⁶ 34.5 % had poor knowledge, 56.5% had average knowledge and only 9% had good knowledge. Higher percentage of satisfactory knowledge (69%) in the present study can be attributed to the fact that participants are aware about osteoporosis through nursing curriculum.

The overall mean score of belief towards osteoporosis measured by OHBS scale obtained by the students were 157.4 ± 13.78 and more or

less similar study result was found in a study conducted in Nepal¹⁷ where the total score was found to be 146.1 ± 11.5 and contradictory to the study results another study conducted in Chennai⁵ among collegiate obtained low overall score of 57.03 ± 9.01 . The overall high score in the study can be related to the fact that students are in health profession. There was no significant difference found between the subsystem of health belief regarding which was contradictory to the study results obtained in Nepal¹⁷ where the highest perception was on health motivation (22.7 ± 2.8) and the lowest perception (17.7 ± 3.5) on barriers to calcium intake.

The study revealed a statistically significant association between adequate exposure to sun and knowledge regarding osteoporosis i.e. students who were aware about the preventive factors of osteoporosis had better knowledge regarding osteoporosis at $p < 0.05$.

CONCLUSION:

The findings of the study clearly point that nursing students are aware about Osteoporosis and has moderate perception regarding how to prevent osteoporosis in their later years of life. The greater responsibility lies in reinforcing this knowledge and disseminating it to greater population for a healthy future. Community based campaigns which has wider accessibility can be employed for creating awareness and adopting healthy lifestyle among female population.

CONFLICT OF INTEREST:

The author has no conflicts of interest regarding the study.

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