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Effectiveness of Structured Educational Programme on Practice of Middle-Aged Women Regarding Prevention of Osteoporosis

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Abstract

Osteoporosis is a major public health concern affecting women worldwide, especially during middle age and after menopause. It is often referred to as a silent disease because bone loss occurs gradually without obvious symptoms until fractures occur. Many women lack awareness about preventive practices such as proper nutrition, physical activity, and lifestyle modifications. Educational programs play an important role in improving preventive health behaviors and reducing risk factors associated with osteoporosis. A one-group pre-test and post-test design was used in a quantitative study. Purposive sampling was used to choose 108 middle-aged women between the ages of 35 and 55 for the study. A systematic practice questionnaire was used to gather data. A comprehensive teaching program on osteoporosis prevention was given following the pre-test. Seven days later, the same questionnaire was used for a post-test. The average pre-test practice score was 41.25 2.48, and the post-test score was 43.06 2.12. The paired t-value that was computed was statistically significant at $p < 0.05$, suggesting that habits improved after the educational program. Practice scores were shown to be significantly correlated with both socioeconomic position and education. The structured educational programme was effective in improving preventive practices among middle-aged women. Health education interventions can play an important role in reducing osteoporosis risk among women.

KEYWORDS:

Structured educational programme, osteoporosis prevention, middle-aged women, preventive practices, health education

INTRODUCTION

Reduced bone density and degeneration of bone tissue are the hallmarks of osteoporosis, a metabolic bone condition that increases bone fragility and fracture risk. It is among the most prevalent long-term medical disorders that affect women, especially in middle life and following menopause. Women are more susceptible to bone loss than men because of hormonal changes, particularly the decrease in oestrogen levels.[1]

The condition usually advances gradually and is frequently undetected until serious complications, like fractures, occur. These fractures often involve the hip, spine, and wrist, which can result in long-term disability and a deterioration in quality of life. In addition to being a health concern, osteoporosis imposes a considerable social and economic burden due to increasing healthcare costs and reduced productivity.[2]

A number of factors increase the likelihood of developing osteoporosis, including unhealthy eating habits, low calcium intake, physical inactivity, smoking, alcohol use, and insufficient exposure to sunlight. Women in urban and semi-urban settings are particularly at risk, as sedentary lifestyles are more common in these areas.[2]

Adopting preventive strategies—such as maintaining a balanced diet, engaging in

regular physical activity, and making healthier lifestyle choices—can greatly lower the risk osteoporosis. Nevertheless, limited awareness and inadequate health education among women continue to be major obstacles. Well-designed educational programs play an important role in enhancing knowledge, attitudes, and practices related to prevention[3].

NEED FOR THE STUDY

Osteoporosis is becoming increasingly common due to changes in lifestyle patterns, reduced physical activity, and poor nutritional habits. Many women remain unaware of the importance of preventive measures until complications arise. Middle-aged women represent a high-risk group because bone loss accelerates during this period.[4]

Health education plays a vital role in promoting preventive behaviors. Providing structured information can enhance awareness and encourage adoption of healthy practices such as increased calcium intake, regular physical activity, and exposure to sunlight.[5]

There is a need to develop and implement educational programmes aimed at improving preventive practices among women. The findings of this study will help healthcare professionals design effective educational strategies to reduce the incidence of osteoporosis.

OBJECTIVES

- To assess the pre-test practice scores of middle-aged women regarding prevention of osteoporosis.
- To assess an organized preventative education program's efficacy
- To ascertain whether certain demographic characteristics and practice results are related.

HYPOTHESE

H_1: There will be a significant difference between pre-test and post-test practice scores of middle-aged women after the educational programme.

H_2: There will be a significant association between practice scores and selected demographic variables.

OPERATIONAL DEFINITIONS

Effectiveness:

Refers to the improvement in practice scores of middle-aged women after receiving the structured educational programme.

Structured Educational Programme:

A planned teaching session designed to provide information regarding causes, risk factors, and preventive measures of osteoporosis.

Practice:

Refers to the actions performed by women related to prevention of osteoporosis, such as diet, exercise, and lifestyle modifications.

Middle-Aged Women:

Women between the age group of 35–55 years.

Prevention of Osteoporosis:

actions performed to lower the risk of bone loss, such as eating a good diet, exercising, and leading a healthy lifestyle.

MATERIALS AND METHODS

A quantitative research approach was adopted using a one-group pre-test and post-test design. The study was conducted in a selected community area among middle-aged women.

The sample consisted of 108 middle-aged women selected using purposive sampling technique.

Inclusion Criteria

1. Women aged 35–55 years
2. Women willing to participate
3. Women available during data collection
4. Women able to understand Hindi

Exclusion Criteria

1. Women with diagnosed bone disorders
2. Women who were seriously ill

Tool for Data Collection

The data collection tool consisted of two sections:

There were two portions to the data collection tool:

Section I: Demographic factors (age, socioeconomic status, occupation, education, and marital status).

Section II: Structured practice questionnaire for preventing osteoporosis.

Method of Gathering Data

Authorities in question granted permission. Participants' informed consent was obtained. Using a standardized questionnaire, pre-test data was gathered. Following the pre-test, a lecture and discussion-based structured educational session was presented. The post-test was administered seven days.

Data Gathering Process

Permission was acquired from the relevant authorities. Participants were asked for their informed permission. Structured questionnaires were used to gather pre-test data. Following the pre-test, lecture and discussion techniques were used to give an organized instructional program. After seven days, the post-test was administered.

Data Collection Procedure

Permission was obtained from concerned authorities. Informed consent was taken from participants. Pre-test data were collected using structured questionnaire. After the pre-test, a structured educational programme was delivered using lecture and discussion methods. The post-test was conducted after seven days.

RESULTS

The examination of demographic factors revealed that the majority of participants were in the 36–40 age category. Most were married and managing the household. The majority of participants had finished secondary education and were part of a lower socioeconomic class.

After the educational program, there was an enhancement in the pre-test and post-test practice scores.

Mean score before the test: 41.25 ± 2.48

Mean score after the test: 43.06 ± 2.12

Average difference: 1.81 ± 1.78

Computed t-value: 10.59

Significance level: $p < 0.05$

DISCUSSION

The findings of the present study indicated that structured educational programmes are effective in improving preventive practices among middle-aged women. The increase in post-test scores suggests that participants were able to understand and adopt preventive measures following the intervention.

Educational status showed significant association with practice scores, suggesting that women with higher education levels were more likely to adopt preventive behaviors. Socioeconomic status also influenced practice scores, indicating that financial resources may affect access to nutritious food and healthcare services.

The results are consistent with previous studies that reported significant improvement in knowledge and practices after educational interventions related to osteoporosis prevention.

IMPLICATIONS

Nursing Practice:

Nurses can play an important role in providing education about osteoporosis prevention in community and hospital settings.

Nursing Education:

Educational programmes should be included in nursing curriculum to promote preventive health behaviors.

Nursing Administration:

Health administrators should organize awareness programmes in communities.

Nursing Research:

Further studies can be conducted to evaluate long-term effectiveness of educational programmes.

LIMITATIONS

- The study included only a small sample size.
- The study was conducted in one selected area.
- Follow-up period was short.

RECOMMENDATIONS

Similar studies can be conducted on larger populations.

Comparative studies between rural and urban women can be carried out.

Long-term follow-up studies may be conducted to assess sustained behavioral changes.

CONCLUSION

The results of the study showed that middle-aged women's preventive behaviours were improved by the structured educational program. Raising awareness and lowering risk factors for osteoporosis are important goals of health education. Women's quality

of life can be enhanced and complications can be decreased by early prevention through education.

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