



Effect of video assisted teaching programme on knowledge and health beliefs regarding osteoporosis among women in selected university, Assam

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Abstract

Background: Osteoporosis commonly occurs in women and men and is characterized by compromised bone strength and quality. If left untreated, it can lead to fractures that are associated with significant morbidity and high health costs. Effective risk assessment as part of a thorough clinical evaluation is the key to detecting patients who have osteoporosis or those who are at risk for developing the disease.

Objectives: The objectives of the study was to assess the level of pre-test post-test knowledge and health beliefs regarding osteoporosis among women in selected University, to determine the effect of video assisted teaching programme on knowledge and health beliefs regarding osteoporosis among women in selected University and to find out association between the knowledge and health beliefs regarding osteoporosis with selected demographic variables.

Material and Methods: Pre- experimental on group pre-test post-test design was undertaken for the study among 42 women working in Assam down town University, Guwahati, Assam using purposive sampling technique. The knowledge of 42 women were assessed using self structured knowledge questionnaire regarding osteoporosis and health beliefs were assessed using osteoporosis health beliefs scale. Data were analyzed using descriptive and inferential statistics.

Results: Findings showed that in pre-test mean knowledge score was 9.74 ± 3.429 and in post-test mean knowledge score was 16.31 ± 2.124 with mean difference of 6.57. The study showed that there is significant association between pre-test level of knowledge with selected demographic variables like marital status and source of information and there is significant association between pre-test level of health beliefs with demographic variables like source of information. Therefore, the study findings revealed that video assisted teaching programme regarding osteoporosis among women working in University was effective in improving their knowledge and health beliefs.

Conclusion: The researcher on basis of the findings conclude that video assisted teaching programme will help to improve knowledge and health beliefs of women.

Keywords: Video-assisted teaching programme, knowledge, health beliefs, osteoporosis, women

Introduction

Osteoporosis is a condition in which bones become weak and brittle. The body constantly absorbs and replaces bone tissue. With osteoporosis, new bone creation doesn't keep up with old bone removal. Osteoporosis is a serious public health problem that currently causing global concern and is widely prevalent among women in India. The severity of bone loss ranges from osteopenia to frank osteoporosis ^[1].

Osteoporosis is a systemic disorder of decreased skeletal mass as measured by bone mineral density (BMD), and disturbed skeletal architecture and function which results in an increased risk for bone fractures with consecutively increased morbidity and mortality. Disorders of bone density are especially prevalent among women. Overall, 61% of osteoporotic fractures occur in women ^[2].

Osteoporosis also causes back pain and loss of height, where prevention of disease and its associated fracture was essential for maintaining health, quality of life and independence among the elderly adults. Osteoporosis was a

preventable disease. Achieving this outcome will depend on imparting knowledge on Osteoporosis prevention and management to the people, especially women who are at risk. Education about recommendations for healthy bones was important in maintaining bone health and preventing Osteoporosis. Instructions should be communicated in Videos to the clients. According to Mark & Link, medical treatment interventions are unable to completely reverse the effects of Osteoporosis; therefore strategies designed to maximise peak bone mass and reduce bone loss later in life include prevention through health education and health promotion. Health personnel can help to create awareness among women on measures to prevent Osteoporosis in their life. This in turn helps to prevent the negative impact on the quality of life of elderly women. Also educating a woman is equal to educating a family. Thus health of a family itself can be promoted through education of a woman ^[3].

Objectives

- To assess the level of pre-test post-test knowledge and health beliefs regarding osteoporosis among women in selected University
- To determine the effect of video assisted teaching programme on knowledge and health beliefs regarding osteoporosis among women in selected University.
- To find out association between the knowledge and health beliefs regarding osteoporosis with selected demographic variables

Methodology

A quantitative research approach, pre-test post-test one group design was adopted for the study. The study was conducted in University of Assam down town University, Guwahati, Assam among 42 women. Ethical clearance certificate and formal permission was taken from the concerned authorities to conduct the research study. The sample size was calculated using Cochran formula. The tools used for the study were demographic performa, self-structured knowledge questionnaire and health beliefs scale. On the first day, the purpose of the study was explained and informed consent was taken from the women working in the University. Women were selected based on purposive sampling technique. A pre-test was conducted using self-structured knowledge questionnaire and health beliefs scale on osteoporosis. After the pre-test, video assisted teaching programme was administered. Post-test was conducted by using the same self-structured knowledge questionnaire after 7th day of the video assisted teaching programme. The data obtained was analyzed in terms of objectives of the study by using descriptive and inferential statistics.

Inclusion criteria

- Women in the age group of 25 -60 years.
- Who are willing to participate in the study.
- Those who are available during the time of data collection.

Exclusion criteria

- Women who diagnosed with osteoporosis.
- Those who are deaf and dumb.
- Those who are critically ill.
- Nursing faculties and Paramedical Sciences.

Results

- Results revealed that in pre-test majority 21(50%) of participants had moderate knowledge, 16(38.1%) had inadequate knowledge and 5(11.9%) had adequate knowledge where as in post-test majority 31(73.8%) had adequate knowledge and 11(26.2%) had moderate knowledge regarding osteoporosis.
- Results showed that in pre-test majority 19(45.2%) of participants had poor health beliefs, 19(45.2%) had average health beliefs and 4(9.5%) had good health beliefs while in post- test majority 26(61.9%) had good health beliefs and 16(38.1%) had average health beliefs regarding osteoporosis.
- The effect of video assisted teaching programme on knowledge regarding osteoporosis among women. Findings showed that in pre-test mean knowledge score

was 9.74±3.429 and in post-test mean knowledge score was 16.31±2.124 with mean difference of 6.57. The mean difference

- between pre-test and post-test knowledge was tested using paired t test ($t=11.02$) was statistically significant at $p<0.05$ level of significance. Findings revealed that there is significant difference between mean pre-test and mean post-test knowledge regarding osteoporosis among women. Hence, we reject null hypothesis and accept research hypothesis.
- The effect of video assisted teaching programme on health beliefs regarding osteoporosis among women. Findings showed that in pre-test mean health beliefs score was 95.19±37.25 and in post-test mean health beliefs score was 147.21±20.73 with mean difference of 52.02. The mean difference between pre-test and post-test health beliefs was tested using paired t test ($t=7.593$) was statistically significant at $p<0.05$ level of significance. Findings revealed that there is significant difference between mean pre-test and mean post-test health beliefs regarding osteoporosis among women. Hence, we reject null hypothesis and accept research hypothesis.
- The association between pre-test levels of knowledge regarding osteoporosis with selected demographic variables. The chi square values showed that marital status and source of information of women was statistically found significant association at $p<0.05$ level. The other demographic variables such as age, BMI, education, monthly income and any history of consumption of supplements of women were statistically non-significant with pre-test level of knowledge regarding osteoporosis
- Depicts the association between pre-test levels of health beliefs regarding osteoporosis with selected demographic variables. The chi square values showed that source of information of women was statistically found significant association at $p<0.05$ level. The other demographic variables such as age, BMI, marital status, education, monthly income and any history of consumption of supplements of women were statistically non significant with pre-test level of health benefits regarding osteoporosis.

Discussion

Characteristic of demographic variables of women.

- Majority 22 (52.4%) of participants were in age group of 31-40 years, 15 (35.7%) were in age group of less than 30 years and 5 (11.9%) were in age group of 41-50 years.
- Maximum 20 (47.6%) of participants BMI were between 19 to 24.9, 20 (47.6%) of participants BMI were between 25 to 29.9 and 2 (4.8%) of participants BMI were between 30 to 39.9.
- Majority 26 (61.9%) of participants were single and 16(38.1%) of participants were married.
- Maximum 27 (6.2%) of participants were post graduates, 13 (31.0%) of participants were Ph. D holders and 2 (4.8%) of participants were graduate.
- Majority 23 (54.8%) of participants got information from health care professional, 12 (28.6%) got

information from other sources, 4 (9.5%) got information from friends and 3 (7.1%) got information from TV and media.

- Maximum 26 (61.9%) of participants had monthly income of Rs. 10,002 - 29,972, 10 (23.8%) had monthly income of Rs. 29,973 – 49,961, 5 (11.9%) had monthly income of Rs. 49,962 – 74,755 and 1(2.4%) had monthly income of Rs. 74,756 – 99,930.
- Majority 24 (57.1%) of participants had no any history of consumption of supplements, 10 (23.8%) had history of consumption of both calcium and vitamin D supplements, 5 (11.9%) had history of consumption of calcium supplements and 3 (7.1%) had history of consumption of vitamin D supplements.
- The present study is supported by a similar study conducted by Haseeb A, Bila N (2013) on effectiveness of structured teaching programme on knowledge regarding osteoporosis among women in selected community of New Delhi. Findings shows that no women had good knowledge, half (55%) women had average knowledge and half (45%) women had poor knowledge in the pre-test regarding knowledge on osteoporosis, and most (63%) women had good knowledge, some (37%) women had average knowledge and no women had poor knowledge in the post- test regarding knowledge on osteoporosis.
- The present study supported by a similar study conducted by Ninan SG, Pandian S on Effectiveness of

Video Assisted Teaching Programme (Vatp) on Knowledge and Health Beliefs Regarding Osteoporosis among Women in Selected Hospitals, Chennai. Findings reveal that Women between the age group 30-50 years had poor health beliefs regarding Osteoporosis. The mean post-test health beliefs score were higher than mean pre-test health beliefs score, hence Video Assisted Teaching was found to be effective in improving the health beliefs by 25.7%.

- The present study is supported by a similar study conducted by Tung W C. *et al.* which was a randomized control trial to evaluate the effectiveness of Osteoporosis educational programme on knowledge, health beliefs and preventive behaviours among men. The intervention group showed a statistically significant increase in knowledge ($p<0.0005$) about Osteoporosis and preventive behaviours.
- The present study supported by a study conducted by Pande K *et al.* to assess the knowledge about Osteoporosis in learned Indian women, identify their source of knowledge and to study the association of level of knowledge with other variables. The study was conducted in a total of 73 female staff members of a teaching institution through Osteoporosis questionnaire. There was statistically significant difference in the total score depending on education of faculty with staff members from science having maximum mean score ($p<0.05$).

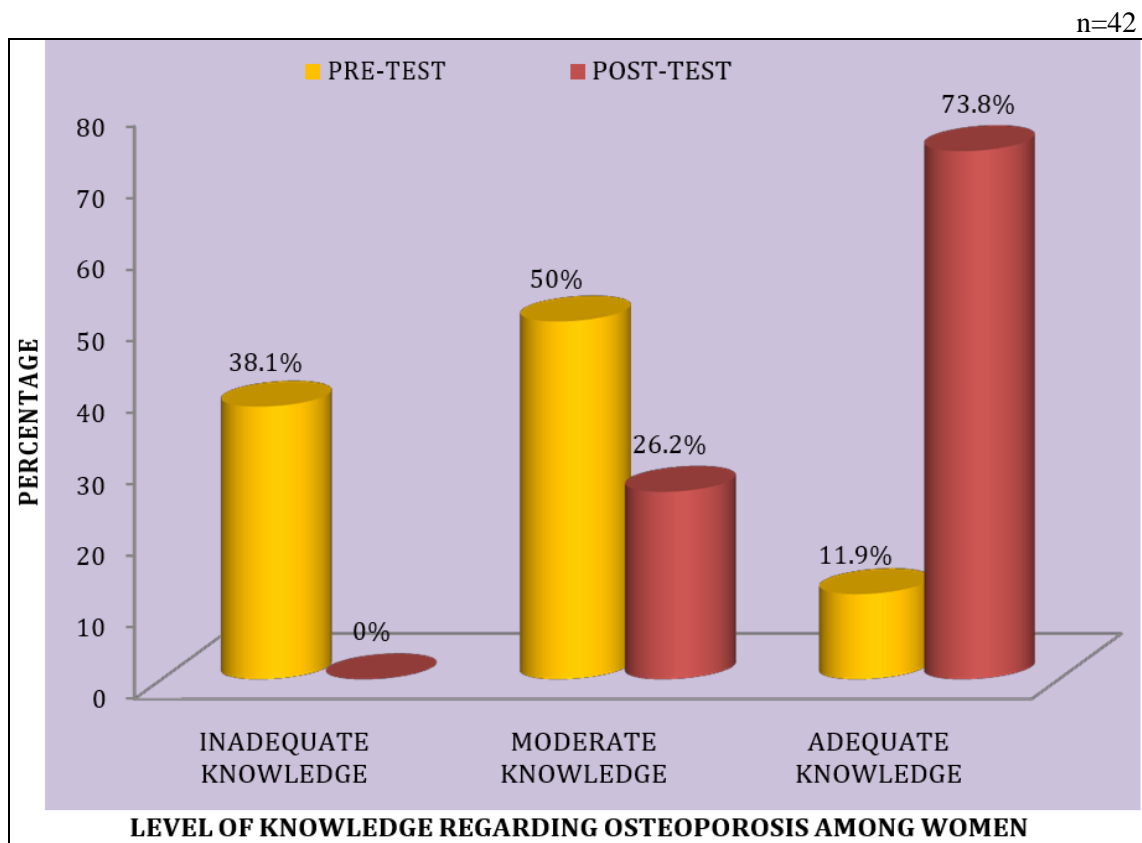


Fig 1: Percentage distribution of pre-test and post-test level of knowledge regarding osteoporosis among women

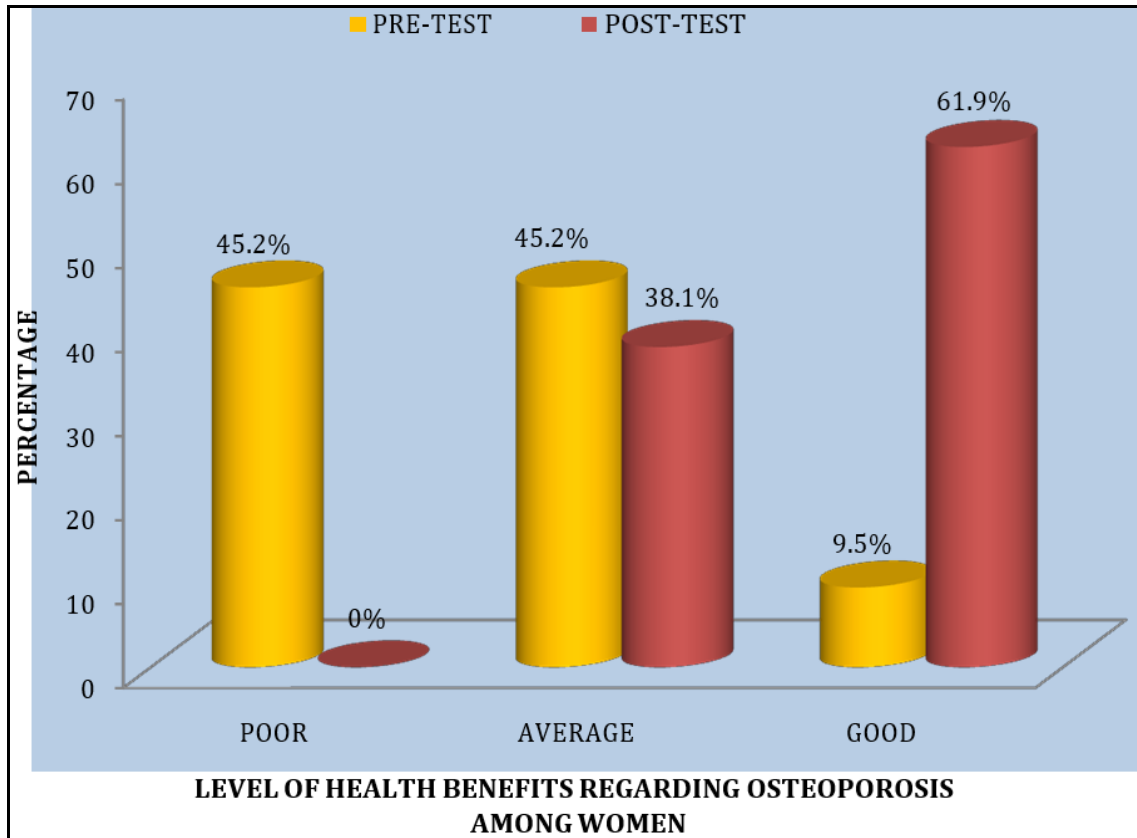


Fig 2: Percentage distribution of pre-test and post-test level of health benefits regarding osteoporosis among women.

Table 1: Mean, Mean Difference Standard Deviation and t-value of pre-test and post-test knowledge score

Level of knowledge	Mean	SD	Mean Difference	t-value	df	t- value
Pre-test	9.74	3.429	6.57	11.02	41	2.020*
Post-test	16.31	2.124				

*p<0.05 level of significance

Table 2: Mean, Mean Difference Standard Deviation and t-value of pre-test and post-test health beliefs score. n=42

Level of health benefits	Mean	SD	Mean Difference	t-value	df	t- value
Pre-test	95.19	37.25	52.02	7.593	41	2.020*
Post-test	147.21	20.73				

*p<0.05 level of significance

Table 3: Association between pre-test levels of knowledge regarding osteoporosis with selected n=42

Demographic variables	Pre-test levels of knowledge			χ ²	df	t-value	Remark
	Inadequate	Moderate	Adequate				
Age in years							
Less than 30 years	8	6	1	7.135	4	9.490	NS
31-40 years	8	12	2				
41-50 years	--	3	2				
Above 51 years	--	--	--				
BMI							
Below 18.5	--	--	--	4.335	4	9.490	NS
Between 19 to 24.9	6	12	2				
Between 25 to 29.9	8	9	3				
Between 30 to 39.9	2	--	--				
Marital status							
Single	14	10	2	7.279	2	5.990*	S
Married	2	11	3				
Education							
Graduate	2	--	--	6.571	4	9.490	NS
Post-graduate	12	12	3				
Ph.D. holder	2	9	2				

Source of information							
Health care	14	6	3	14.95	6	12.59*	S
Professional	--	--	--				
Family member	1	3	--				
Friends	1	2	--				
TV and media	--	10	2				
Others	--	--	--				
Monthly income							
≤10,001	--	--	--	2.046	6	12.590	NS
10,002-29,972	11	12	3				
29,973-49,961	4	5	1				
49,962-74,755	1	3	1				
74,756-99,930	--	1	--				
99,931-199,861	--	--	--				
≥199,862	--	--	--				
Any history of consumption of supplement							
Calcium	2	3	--	4.584	6	12.590	NS
Vitamin D	1	2	--				
Both	4	6	--				
None	9	10	5				
*p<0.05 level of significance				NS-Non significant			

Table 4: Association between pre-test levels of health beliefs regarding osteoporosis with selected demographic variables. n=42

Demographic variables	Pre-test levels of health beliefs			χ ²	df	t-value	Remarks
	Poor	Average	Good				
Age in years							
Less than 30 years	9	5	1	3.048	4	9.490	NS
31-40 years	9	11	2				
41-50 years	1	3	1				
Above 51 years	--	--	--				
BMI							
Below 18.5	--	--	--	5.305	4	9.490	NS
Between 19 to 24.9	6	12	2				
Between 25 to 29.9	11	7	2				
Between 30 to 39.9	2	--	--				
Marital status							
Single	14	10	2	2.051	2	5.990	NS
Married	5	9	2				
Education							
Graduate	2	--	--	3.886	4	9.490	NS
Post graduate	13	12	2				
Ph.D holder	4	7	2				
Source of information							
Health care professional	16	4	3	20.62	6	12.59*	S
Family member	--	--	--				
Friends	1	3	--				
TV and media	2	1	--				
Others	--	11	1				
Monthly income							
≤10,001	--	--	--	2.062	6	12.590	NS
10,002-29,972	12	12	2				
29,973-49,961	5	4	1				
49,962-74,755	2	2	1				
74,756-99,930	--	1	--				
99,931-199,861	--	--	--				
≥199,862	--	--	--				
Any history of consumption of supplement							
Calcium	4	1	--	5.858	6	12.590	NS
Vitamin D	1	2	--				
Both	5	5	--				
None	9	11	4				
*p<0.05 level of significance				NS-Non-significant			

Conclusion

The present study was conducted to assess the effect of video assisted teaching programme among women at selected University, Assam. The finding of the study revealed the video assisted teaching programme was effective in improving knowledge and health beliefs of women faculties working in Assam downtown University and there was significant association between pre-test level of knowledge and health beliefs with the demographic variables *viz.* age, BMI, marital status, education, monthly income and history of consumption of supplements.

Limitations

- The study was confined to a small size.
- The planned teaching programme was administered online of some faculties which could have influenced their knowledge and health beliefs.

Recommendation

- A similar study can be undertaken using a larger sample size.
- Innovation educational interventions regarding osteoporosis on evidence base recommendation, clinical guidelines coupled with adequate support of mentorship and guidelines be in place.
- A study can be done using other methods of administration of tools (structured teaching program, self instructional module etc.)

Conflict of Interest

Not available

Financial Support

Not available

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