

Original Research Article

Effect of video-assisted structured teaching program on knowledge of breast self-examination among female college students of Puducherry: a pre and post experimental study

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ABSTRACT

Background: Breast self-examination (BSE) is an easy method for early detection of breast cancer that can be performed by self at home. The present study was done to assess the effect of video-assisted structured teaching program on knowledge of BSE among female college students of Puducherry.

Methods: This pre and post experimental study was conducted in September 2014 among 160 college students at government women's college, Puducherry who were aged 18-26 years. The knowledge was assessed using a pre-tested semi-structured questionnaire following which breast self-examination techniques were taught to them using a video. The post-assessment was done after 14 days of teaching program using the same tool.

Results: Of the 160 participants, 90% were undergraduates, 85.6% were Hindus, 58.1% were from rural area and 5.6% were having family history of breast cancer. The knowledge regarding the breast cancer was good even before the intervention and the media was the main source of information. The video-assisted structured teaching used in this study was effective to improve the overall awareness score for breast cancer and BSE significantly. The change in knowledge regarding the steps and the pattern of performing BSE was not statistically significant.

Conclusions: The video-assisted teaching used was found to be effective in improving the knowledge regarding BSE. This type of regular health education with short videos can be a useful method for imparting knowledge to college students about BSE. However, the exact technique of performing BSE needs further reinforcement among the study participants.

Keywords: Breast cancer, Intervention, Screening for breast cancer

INTRODUCTION

Cancer is the second leading cause of death worldwide and among all age groups. Breast cancer is the most common cancer with estimated 2.4 million incident cases and also the fifth leading cause of cancer deaths in both sexes in 2015.¹ The incidence rates are on steady rise especially in developing countries where the disease is usually

diagnosed in later stages. In India breast cancer is the most diagnosed neoplasms accounting for more than a fifth of all female cancer mortality.²

World Health Organization (WHO) promotes breast cancer control within the context of comprehensive national cancer control programs that are integrated to non-communicable diseases and other related problems.

Comprehensive cancer control involves prevention, early diagnosis and treatment, rehabilitation, and palliative care. Many low- and now middle-income countries face a double burden of breast, and cervical cancer which represent top cancer killers in women over 30 years of age. These countries need to implement combined strategies that address both the cancers in an effective and efficient way.

Breast cancer is the most common cancer worldwide and the second ranked cancer in India, alarming as an epidemic in near future.¹ Carcinomas of breast account for 23% of all newly diagnosed cancers in women all over the world and contribute to 13.7% of all cancer deaths. As WHO reports, almost 70% of the global burden of breast cancer is in less developed countries, and more than one-fifth of all new cases were in India.³ When breast cancer is detected and treated in early stages, the five-year survival rate is 97.5 percent. So, it is essential to make the community aware about the early detection methods.⁴ Breast self-examination (BSE) is a simple procedure, a woman can do at home regularly, to find out the changes or in the breast tissue. By doing BSE regularly, women become familiar with the usual appearance and feel of their breasts.⁴ Therefore, it is easier to notice changes even if small alteration in the normal texture or contour of breast. Even though BSE is simple procedure, majority of the women are not aware and not practicing it regularly.⁵ Another advantage of the BSE is, there is no need to approach a health facility for regular checking, unless any lesion or lump is noticed during regular examination. Thus, the purpose of the study was to assess the effect of video assisted structured teaching program on knowledge regarding BSE among female college students in Puducherry.

METHODS

This study was conducted from 05 September 2014 to 16 September 2014, among undergraduate and postgraduate students in the department of home science and zoology in the govt. women's college, Puducherry. It adopted a pre-post study design. All females in the age group of 18-26 years and who can understand English were included in the study. The students who had already attended any programs related to BSE, and those who were auditory or visually challenged were very less and were excluded from the study. There were around 40 students who were absent during the pre-test or during the video session were not included in the study.

The sample size was calculated to be 160 students with expected change in proportion of knowledge regarding BSE as 15% (27% versus 42%) at 5% significance level and 80% power.⁴ However, all the students in the respective classes were included in the study as it was unethical to exclude few students who belonged to the same classes.

After approval from institute research monitoring and ethics monitoring committees, permission to perform the

study was obtained from the college administration after explaining the purpose and motive of the study. The study participants were sensitized regarding the objectives of the study. After obtaining informed written consent, a pre-test was conducted using a validated semi-structured questionnaire that consists of three sessions: socio-demographic details; knowledge regarding breast cancer (9 questions) and knowledge regarding BSE (11 questions). Each correct response was given score of one and the incorrect response was given score zero score. The questionnaire had the reliability score of 0.83 as estimated using test-retest method. Following the pre-test session, video regarding BSE was projected to the study participants that contained information about breast cancer incidence, risk factors, signs and symptoms, need for early diagnosis, treatment options and procedure of BSE. The video was developed by the investigators and the same was validated by experts in the field of surgical oncology and obstetrics and gynecology. The study was piloted using the video in a different department, among 32 college students prior to start of this study. The content of the video was verified and validated by a faculty in surgery for appropriateness. The post-test assessment was done using the same questionnaire after 14 days of intervention. The two weeks period was given to check the retainability of the content after the intervention. Students who were absent during post-test sessions were met individually and the data was collected.

Data entry and analysis

Data was entered into Epidata version 3.01 software and analysis was done using statistical package for the social sciences (SPSS) version 20. Continuous variables were summarized as mean (standard deviation) and categorical variables were summarized as proportions. Unpaired 't' test was used to compare the results of pre, and post-test results and Mc Nemar test was used to assess the level of improvement for each question. All statistical analysis was done at 5% significance level.

RESULTS

Table 1 shows the socio-demographic details of the study participants. Of the 160 study participants, 144 (90%) of them were undergraduates, 137 (85.6%) belong to Hindu religion, 93 (58.1%) were from the rural area and 9 (5.6%) students had family history of breast cancer. About awareness 86 (53.7%) participants had awareness about breast cancer and the predominant source of knowledge (66.3%) was television and social media (Figure 1). Regarding BSE, only 24 (15%) participants had prior knowledge and the predominant source of information was television and social media (58.3%) as shown in Figure 2. Among our study participants only 5 (3.2%) of them have ever done BSE in their lifetime.

The change in knowledge regarding risk factors, and signs and symptoms of breast cancer was not statistically significant (Figure 3). Regarding basic concepts of BSE and the steps of BSE there was significant increase after

video assisted teaching on BSE. However, knowledge regarding regularity of doing BSE, timing of BSE to be done during pregnancy and menstruation, part of the hand utilized to do BSE, and the types of strokes used did not show any significant improvement (Figure 4).

Table 1: Socio-demographic characteristics of study participants (n=160).

Variable	Category	Frequency N (%)
Education	Undergraduates	144 (90)
	Postgraduates	16 (10)
Religion	Hindu	137 (85.6)
	Christian	14 (8.8)
	Muslim	9 (5.6)
Place of residence	Rural	93 (58.1)
	Urban	67 (41.9)
Family history of breast cancer	Yes	9 (5.6)
	No	151 (94.4)

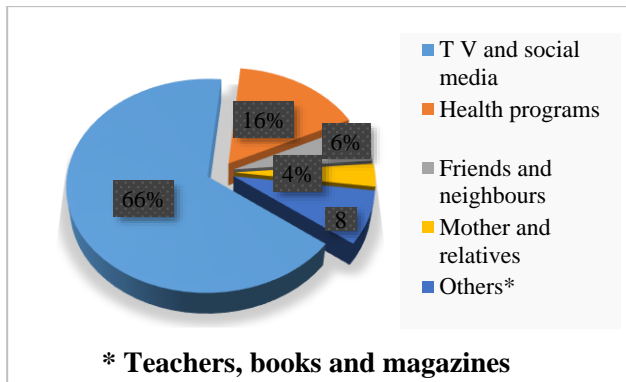


Figure 1: Source of knowledge regarding breast cancer among the study participants (n=86).

Table 2 shows, there was significant increase in knowledge score regarding BSE after intervention (mean difference=1.89 (2.15); p value=0.002). Also, there was significant improvement in overall knowledge score among study participants regarding both breast cancer and BSE. The mean change in score before and after the intervention among the participants were not significantly varied among different socio-demographic factors. The effect of video was similar irrespective of educational, religion and residence.

Table 2: Pre and post-test knowledge scores of the study participants (N=160).

Before intervention mean score	After intervention mean score	Mean difference	Standard deviation	Paired t value	P value
Overall knowledge on breast cancer and BSE					
7.59	10.66	3.07	2.84	-9.19	0.000*
Overall knowledge regarding breast cancer					
2.75	4.03	1.28	1.50	-7.33	0.107
Overall knowledge regarding BSE					
4.86	6.75	1.89	2.15	-6.87	0.002*

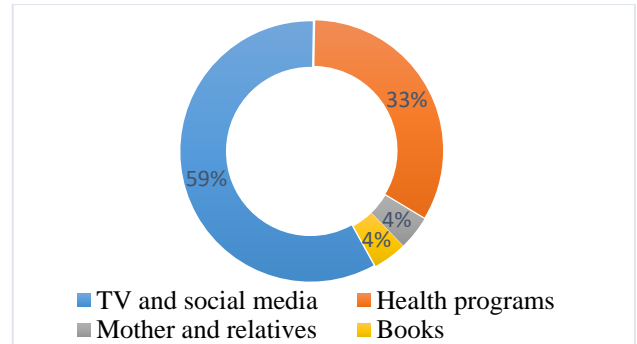


Figure 2: Source of knowledge regarding BSE among the study participants (n=24).

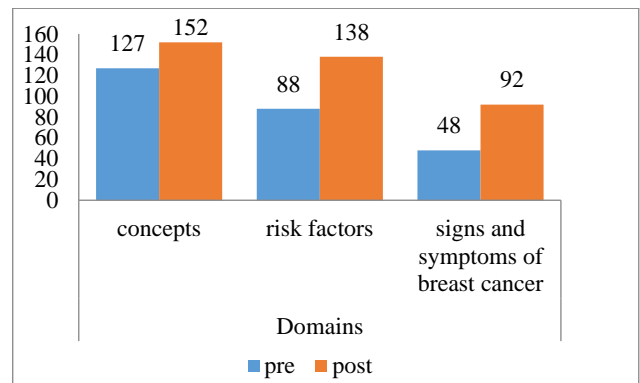


Figure 3: Improvement of knowledge regarding different aspects of breast cancer before and after the intervention (n=160).

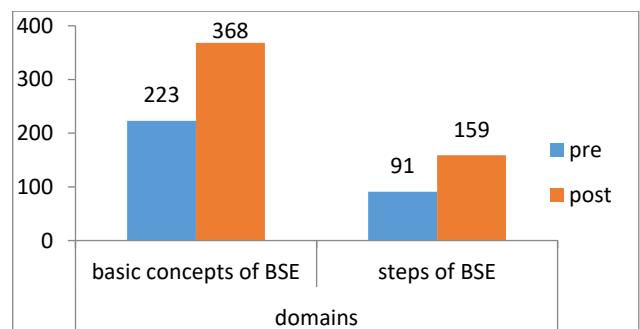


Figure 4: Improvement of knowledge regarding different aspects of BSE before and after the intervention (n=160).

DISCUSSION

This quasi-experimental study on video assisted BSE showed that the mean difference in the overall knowledge score before and after intervention as 3.07 with p value <0.001. Among the study participants 5.6% had family history of breast cancer comparable to the findings of Karayurt et al where 7.2% of them had breast cancer family history.⁵

It was observed that 53.7% of the study participants had some knowledge about breast cancer before the intervention, and the predominant source of information was television and other media. Similar findings was also found in study done by Hasanthika et al and Ghodsi et al.^{6,7} Though the television, newspapers and media were playing a greater role in educating the community on such an important public health issues, the importance of evidence-based health education from the health system should not be neglected.

Regarding BSE, our study found that only 15% were aware of importance and procedure of BSE. The similar findings were reported by Nimir et al, where only 19.5% were aware of BSE.⁸ However, a study done by Suleiman et al, among the Jordanian students found slightly higher proportion were aware (34.9%) about BSE and 11% were actually practicing it.⁹ Similar result was found in the study by Shalini et al.¹⁰ Thus, suggesting that need for an educational intervention program among the women to encourage them to learn and practice BSE.

Even though the knowledge regarding breast cancer did not show significant improvement after the video-assisted teaching program, the knowledge on BSE improved significantly. It may be interpreted that the knowledge regarding breast cancer was already good and the video did not make any significant change in their knowledge on breast cancer. It was found that the video-assisted learning significantly improved the knowledge with respect to BSE. However, certain details on when to do and exact hand stroke of doing the BSE needs further reinforcement in the video. The practice of BSE was abysmally low in the study group. Repeated health education and sustained motivation may be needed to encourage the women of these age group to practice BSE regularly.

The following were the strengths of the study: firstly, the investigators validated the questionnaire for assessing the knowledge. Secondly, there was a single female investigator delivered the health education to all the participants. Third, the privacy and confidentiality were ensured during the health education session as well as during the data collection period. No male member or faculty of the college were involved during the complete health education and data collection period. Fourth, the data was entered in quality assured Epidata software. However, there were few limitations in the study. First the study was done from a single college setting. Though the students at the women's college represented from various

section of the society in Puducherry, they did not represent the professional college students in Puducherry. Secondly, the sustained knowledge and change in practice could not be assessed in the present study. There was a need for further long-term research to assess the impact of this video assisted teaching program among the same study participants.

CONCLUSION

This study implied that the participants had awareness about breast cancer but the awareness regarding BSE was significantly less. The video-assisted teaching used in this study was found to be effective in improving the knowledge regarding BSE. BSE is a simple technique that must be taught to all the females at an early age and awareness must be improved regarding its usefulness in early detection and management of breast cancer. Regular awareness campaign should include video assisted teaching programs on BSE among the college students.

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