



Original Article

A Study to Assess the Effect of Video-Assisted Teaching Module on Breast Self-examination in Terms of Knowledge and Attitude among Adolescent Girls in Selected Schools

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ABSTRACT

Objectives: The objectives of the study are as follows: (1) To estimate the knowledge and attitude of breast self-examination (BSE) before video-assisted teaching module (VATM) in adolescent girls. (2) To instruct the girls about BSE with VATM. (3) To evaluate the effectiveness of VATM on BSE among adolescent girls following the teaching methods using video. (4) To identify the factors which influence the interrelation between preferred variables on pre-test and post-test.

Materials and Methods: The research approach used for this study is the quantitative educative and evaluative approach. The sample for this study consisted of 70 female adolescent students and the sample was selected through a random sampling method. The tool consisted of multiple-choice questionnaires with three parts; included with sociodemographic data, knowledge questionnaire on BSE, and checklist to assess attitude toward BSE. Descriptive statistics (frequency and percentage) and inferential statistics (paired sample Wilcoxon signed-rank test) were used to analyse the data and to test the hypotheses.

Results: The majority of the girls ($n = 42$) had adequate knowledge on BSE of around 60% of the total number, 16 students had an excellent knowledge with 22.9% and, on the other hand, remaining students of 12 have moderately adequate knowledge with 17.1%. On the contrary, the post-test results are showing high effectiveness on the test results; most of the participants represented an excellent hike in knowledge with 97.10%, and only a few of around 2.90% showed adequate knowledge on BSE. Correlation analysis was done for all variables from master data and p values were corrected after multiple comparison corrections were done. The correlation values were significant. Participants who had the opinion that all women should do BSE were the ones who were interested in doing BSE. This clearly indicates that interest or attitude to BSE is an important factor. People who discussed about BSE also were keen to read about this procedure and get maximum information from the internet and magazines.

Conclusion: People who were uncomfortable about BSE also got information from the internet and similar sources and the same set of people were uncomfortable because they seemed to be worried about detecting a cancerous growth. This aspect to be noticed and the effectiveness of BSE awareness procedures can solve such issues. This was even more evident looking at the negative correlation between knowledge scores and the uncomfortable nature. People who scored high in knowledge scores were also the ones who actively discussed about this topic with friends.

Keywords: Breast self-examination, Knowledge, Attitude, Video-assisted teaching module

INTRODUCTION

Being a girl is not so easy; after the birth of a girl until changes in puberty, there is not much difficulty. However, a teenage girl in the pubescent stage is a worrying period in every girl's life. In addition, if the same trouble occurs in her early childhood life; it matters again. There is more to being a girl than menstruation; from the moment to when a girl wakes up on any perfect morning, take a moment to explore your new body. Stand in front of a mirror and observe every inch of it; every new crevice and this can become a daily routine where each parent should start to teach to their children. Many middle- and low-income countries that face the heavy burden of cervical and breast cancer need to intervene with combined affordable and accessible methods to compromise with highly preventable diseases.

'About 40% of diagnosed breast cancers are detected by women who feel a lump, so establishing a regular breast self-examination (BSE) is very important.' Any abnormality found during BSE has to be confirmed with the second step of a mammogram with proper guidelines and this will clear the concept of the normal structure of the breast to a woman and the alterations in this can be easily reported as early as possible. Many breast cancer symptoms are invisible and not noticeable without a professional screening, but some symptoms can be caught early just by being proactive about your breast health.^[1]

BSE is useful, cost effective, and can perform in our comfortable space without any assistance. The more you examine your breasts, the more you will get some answers concerning them and the less complex it will become for you to tell if something has changed. Breast cancer is the most consecutive disease among women, affecting 2.1 million females every year. The rate of new cases of female breast cancer was 129.1 per 100,000 women per year. The death rate was 19.9 per 100,000 women per year. These rates are adjusted and based on 2014-2018 cases and 2015-2019 deaths. Approximately 12.9 percent of women will be diagnosed with female breast cancer at some point during their lifetime, based on 2016-2018 data. There is an increased rate of occurrence of breast cancer worldwide. Collectively, the U.S., India and China account for almost one-third of breast cancer cases. Breast cancer mortality rates in India are 1.6 to 1.7 times higher than maternal mortality rates. Overall, 1 in 28 women are likely to develop breast cancer during their life time. Late detection reduces survival rate by 3-17 times. 2000, new women are diagnosed with cancer every day, 1,200 are detected at the later stages. In, 2017, India had the highest mortality rates globally for breast cancer.^[2]

Early detection of signs and symptoms of breast disorders is helpful in primary treatments and referral services so that each individual can make a note of changes happening in their body as well as can do the comparison with the family history. Although, there is no actual significance of BSE as a

primary detection of breast cancer, as a basic understanding of the body changes, this test is considered regularly on a monthly basis. Doing BSE may reduce the danger of worsening the condition to the second stage. All the women after puberty should assess the breast regularly and any change from normality to be indicated to the healthcare professionals on time. Breast duct development may be a time of heightened susceptibility to risk of carcinogenesis, and greater attention needs to be given to the relation of breast cancer risk to the different stages of puberty.^[3]

About 20–25% of breast cancer occurrence is risked with a family history of breast cancer. In 2018, cancer is considered as one of the 10 most common reasons for death with 24.2% of aggregate, where in which the foremost is breast cancer with the death rate of 15.0%.^[1] The findings in a study conducted by Sama *et al.* have indicated impressive awareness about the presence of breast cancer growth, yet lacking learning and misperceptions on its risk factors and causes just as rare routine with regard to BSE.^[4] Screening with mammography is not accessible and affordable to some parts of the country so that they advise to continue with the practice of BSE, to early detect the cases with vigilant notification.^[5] While doing BSE in case of any lump detected, more than 90% were ready to approach the doctor for a second opinion and further treatment, but almost 28.3% had poor practice on BSE. Although the majority had an optimistic attitude toward doing BSE, many had limited knowledge about the performance of BSE.^[6]

MATERIALS AND METHODS

This study was conducted in a quantitative approach to reach the desired objectives. This descriptive study was conducted among 70 female adolescent Pre-University Course (PUC) students, those who were full filled inclusion criteria and selected using random sampling techniques. Data was collected through a self-administered multiple-choice questionnaire which had three sessions. Session A consisted of demographic variable details of girls, Session B is a structured questionnaire to assess the knowledge on BSE, and Session C is a checklist to assess the attitude toward BSE. The tool was content validated by the experts.

This study analysis was done by both descriptive and inferential statistic methods. To compare the level of knowledge before and after the video-assisted teaching module (VATM), among respondents, frequency and percentage are used. To evaluate the effectiveness of knowledge before and after VATM, among the group, paired sample Wilcoxon signed-rank test was used for analysis. To analyse the attitude among the group, a Likert-based analysis was used. To compare the attitude before and after the video-assisted module, descriptive statistics were used. To find the association between pre-test scores of knowledge among the group of adolescent female students and with their demographic variables, Chi-square

test was used. To find the association between pre-test scores of attitude among the group of adolescent female students and with their demographic variables, Chi-square test was used.

RESULTS

- According to the age, the majority of the girls belonged to 17 years category of around 51.4% and 30 girls of 42.9% belonged to 18 years age group and three girls were of 19 years of age which comprised 5.7%
- Between 13 and 15 years of age, menarche was attained by around 50, 72.9%; around 18 girls attained puberty in between 16 and 17 years that are 24.3% and two girls attained early menarche between 10 and 12 years (2.8%)
- Fifty-seven girls were of Hindu religion, which comprised the majority of 80%, nine girls were Muslim religion of 14.3% and only four girls were Christian which is the minority of 5.7%
- In 'type of family,' 42 girls were from a nuclear family that was around 60% and 28 girls were from a joint family which comprised 40%
- In the case of 'place of living,' 39 girls were from the urban area which was a maximum of 55.7% and 31 belongs to rural area which is of 44.3%
- When it came to the regularity of the menstrual cycle, the majority of girls were having regular periods of 47 students, which comprised 67.1%, and on the other hand, around 23 girls have difficulty during periods, which were of 32.9%
- While understanding the knowledge of participants on BSE, it was evident that 37 girls had average knowledge which was the majority of 52.9%, and on contrary, 22 girls had a poor understanding on BSE which was of 31.4% and 10 were having superficial knowledge (14.3%) and only one student specified that she had a deep understanding on BSE
- While analysing the source of knowledge on BSE, it was seen that around 38 girls knew about BSE through teachers which comprised half of the samples, 20 girls knew about BSE through their friends that were 30%, eight girls referred internet for getting the knowledge on BSE which was 12.9% and three girls got information from parents and one got from news and magazines which comprised 4.3% and 2.8%, respectively
- In the case of family history of breast cancer, 69 girls did not have any family history, which was 98.6%, on the other hand, one specified that there was a family history of breast cancer
- Assessment of pre-test and post-tests level of knowledge regarding BSE ($n = 70$) [Figure 1]
- The level of knowledge in pre-test and post-test in means of frequency and percentage. The majority of the girls (42 girls) had adequate knowledge on BSE of around 60% of the total number, 16 students had an

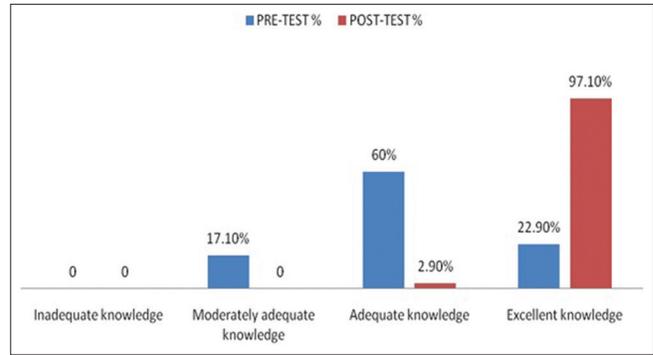


Figure 1: Assessment of pre-test and post-test level of knowledge on breast self-examination ($n=70$).

Table 1: Frequency and percentage distribution of samples in terms of demographic variables.

S. No.	Samples and characteristics	$n=70$	
		Frequency	%
1	Age		
	17 years	37	51.4
	18 years	30	42.9
	19 years	03	5.7
	Above 19	0	0
2	Age at menarche		
	Before 10 years	0	0
	Between 10 and 12 years	02	2.8
	Between 13 and 15 years	50	72.9
	Between 16 and 17 years	18	24.3
3	Religion		
	Hindu	57	80
	Christian	04	5.7
	Muslim	09	14.3
4	Type of family		
	Nuclear family	42	60
	Joint family	28	40
5	Place of living		
	Urban	39	55.7
	Rural	31	44.3
6	Menstrual cycle		
	Regular	47	67.1
	Irregular	23	32.9
7	Knowledge on breast self-examination		
	Deep understanding	1	1.4
	Average understanding	37	52.9
	Poor understanding	22	31.4
	Superficial understanding	10	14.3
8	The source of knowledge on BSE		
	Through friends	20	30
	Through parents	3	4.3
	Through teachers	38	50
	Through internet	8	12.9
	Through newspapers or magazine	1	2.8
9	Family history of breast cancer		
	Yes	1	1.4
	No	69	98.6

excellent knowledge with 22.9% and, on the other hand, remaining students of 12 have moderately adequate knowledge with 17.1%

- On the contrary, the post-test results were showing effective test results; most of the participants presented with an excellent hike in knowledge with 97.10%, and only a few of around 2.90% showed adequate knowledge on BSE. [Table 1], showing the frequency and percentage distribution of samples involved with all demographic variables in this study.

Comparison of pre-test and post-test scores of knowledge regarding BSE [Figures 2 and 3].

Comparison of pre-test and post-test scores of knowledge regarding BSE using Wilcoxon signed-rank test [Figure 4].

Comparison of pre-test and post-test scores in the level of attitude toward BSE [Figure 5].

DISCUSSION

The level of knowledge in a pre-test in means of frequency and percentage is as follows: The majority of the girls (42 girls) had adequate knowledge on BSE of around 60% of the total number, 16 students had an excellent knowledge with 22.9% and, on the other hand, remaining students of 12 have moderately adequate knowledge with 17.1%.

On the contrary, the post-test results were showing highly effective test results with most of the participants represented with an excellent hike in knowledge with 97.10% and only a few of around 2.90% showing adequate knowledge on BSE. [Table 2], indicates assessment of pre-test and post-test on knowledge regarding BSE.

Correlation analysis was done for all variables from master data and *P*-values were corrected for multiple comparisons. Participants who had the opinion that all women should do BSE were the ones who were interested in doing BSE.

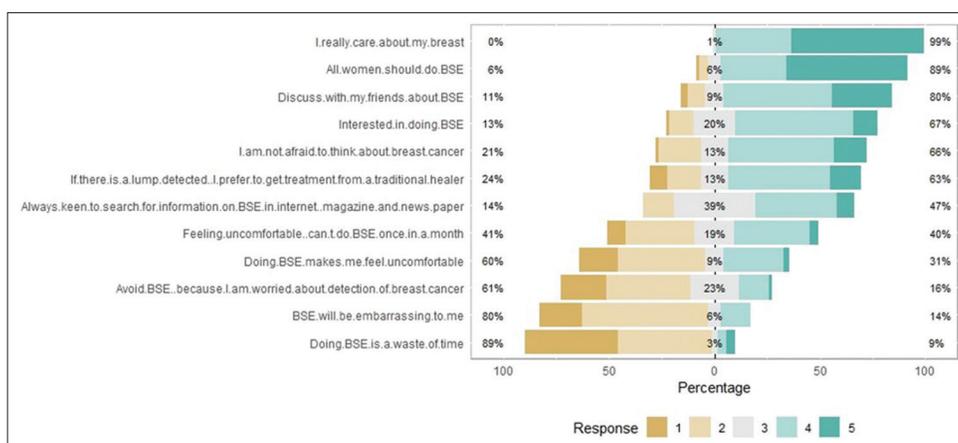


Figure 2: Pre-test value of attitude on breast self-examination of female adolescents. [Response: Orange space is strongly disagree (1), disagree(2), middle portion is uncertain (3) and blue portion is strongly agree (4), agree (5)].

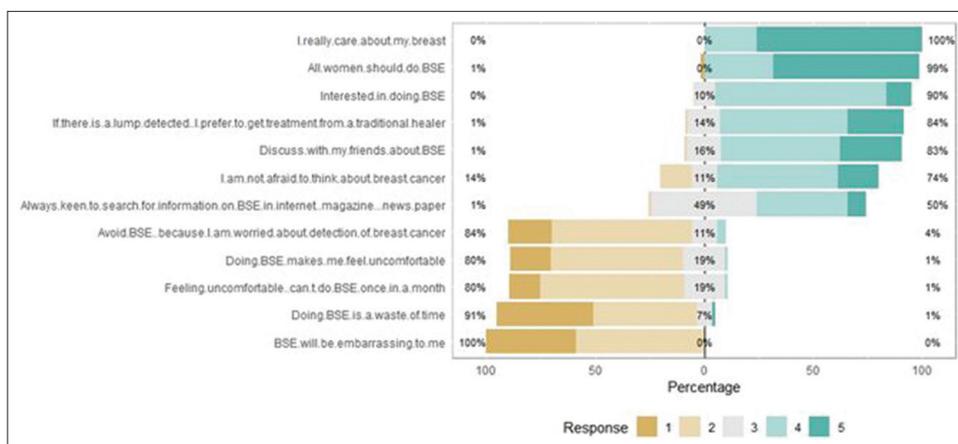


Figure 3: Post-test value of attitude on breast self-examination of female adolescents. [Response: Orange space is strongly disagree (1), disagree(2), middle portion is uncertain (3) and blue portion is strongly agree (4), agree (5)].

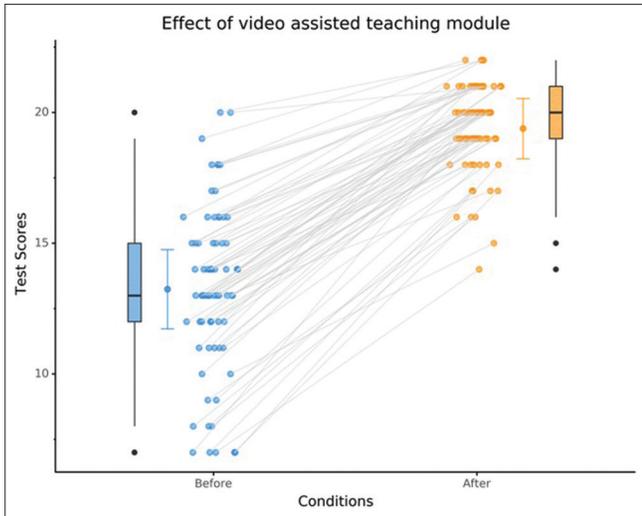


Figure 4: Comparison of pre-test and post-test scores of knowledge on breast self-examination using Wilcoxon signed-rank test. Blue dots indicates pre-test values, orange dots indicates post-test values and grey line shows the relation with pre-test and post-test scores.

This clearly indicated that interest or attitude to BSE was an important factor. [Table 3], shows association between the post-test score on knowledge and attitude about BSE with selected demographic variables.

Participants who had the opinion that all women should do BSE were the ones who were interested in doing BSE. This clearly indicated that interest or attitude to BSE was an important factor. People who discussed about BSE also were keen to read about this procedure and get maximum information from the internet and magazines. People who were uncomfortable about BSE also sought information from the internet and similar sources and the same set of people were uncomfortable because they seemed to be worried about detecting a cancerous growth. This aspect is very important and the effectiveness of BSE awareness procedures can solve such issues. This was even more evident looking at the negative correlation between knowledge scores and the uncomfortable nature. People who scored high in knowledge scores were also the ones who actively discussed about this topic with friends.

Limitations

This study was limited to:

- Adolescent girls with the age group of 17–19 years of old in selected higher secondary schools, Bengaluru
- The sample size (*n*) is limited to 70 girls
- The study period is limited to 4–6 weeks.

Nursing implications

Nursing administrators are the leaders who ensure the implementation of nursing procedures in hospitals. They

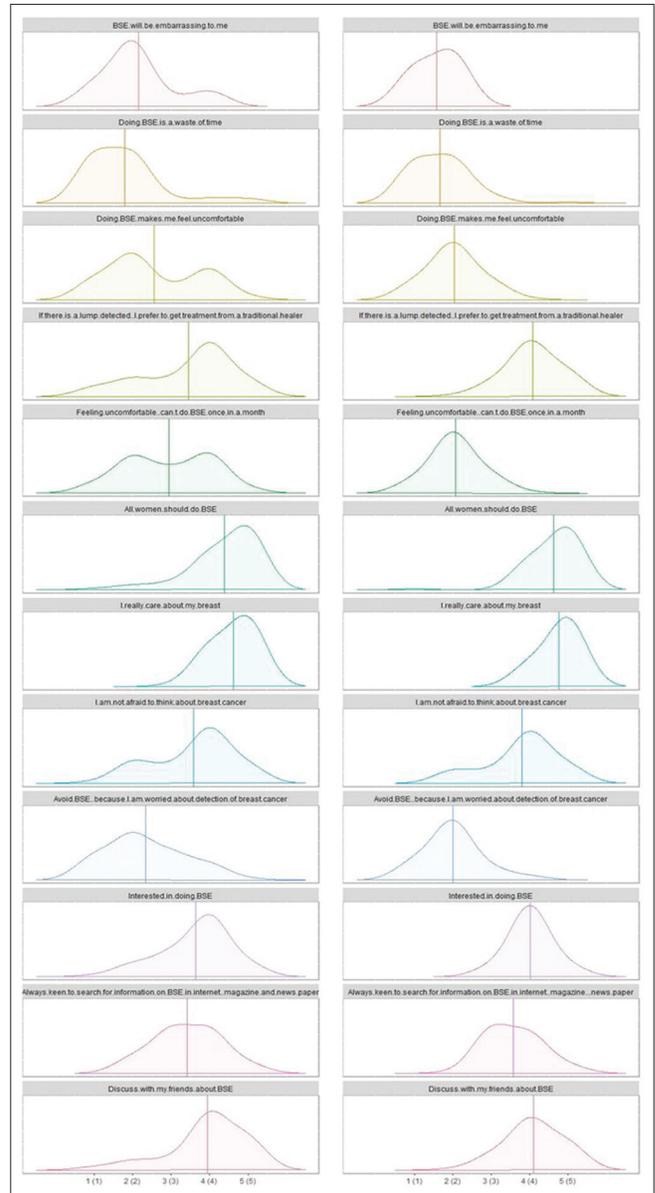


Figure 5: Comparison of pre-test and post-test scores in the level of attitude towards Breast Self Examination.

also can communicate with patients, relatives, and with frontline workers at the same time. It is their responsibility to make sure the adequacy of staff in each ward and each is equipped with adequate knowledge. The nurse manager can plan for in-service education for her staff and can plan for awareness camps on breast cancer and diagnostic methods in general which include BSE, clinical breast examination, and mammogram. A nurse should possess sound knowledge of the present statistics of breast cancer and should realise the importance of doing BSE, as breast cancer is the second leading cause of mortality among women. With nursing research, it is adding value to evidence-based practices

Table 2: Assessment of pre-test and post-test level of knowledge regarding breast self-examination.

Level of knowledge	Pre-test		Post-test	
	Frequency	%	Frequency	%
Inadequate knowledge	0	0	0	0
Moderately adequate knowledge	12	17.1	0	0
Adequate knowledge	42	60	02	2.9
Excellent knowledge	16	22.9	68	97.1

Table 3: Association between the post-test score on knowledge and attitude about BSE with selected demographic variables.

Variable 1	Variable 2	Correlation value, r
Doing BSE is a waste of time	Interested in doing BSE	-0.621221714
Interested in doing BSE	Discuss with my friends about BSE	0.538058585
Doing BSE is a waste of time	Discuss with my friends about BSE	-0.405946152
Doing BSE is a waste of time	All women should do BSE	-0.400260341
Discuss with my friends about BSE	Knowledge on BSE	0.39533729
Knowledge scores	Doing BSE makes me feel uncomfortable	-0.386602617
Interested in doing BSE	Always keen to search for information on BSE in internet magazine and newspaper	0.376116695
All women should do BSE	Discuss with my friends about BSE	0.370634754
All women should do BSE	Knowledge on BSE	0.360619999
Doing BSE makes me feel uncomfortable	If there is a lump detected I prefer to get treatment from a traditional healer	-0.34922777
All women should do BSE	Avoid BSE because I am worried about the detection of breast cancer	-0.339617137
Doing BSE makes me feel uncomfortable	Always keen to search for information on BSE in internet magazine and newspaper	0.31973736
Knowledge scores	Knowledge on BSE	0.315792721
Always keen to search for information on BSE in internet magazine and newspaper	Discuss with my friends about BSE	0.306451949
All women should do BSE	Interested in doing BSE	0.306340534

BSE: Breast self-examination

and supports nursing practices. Research helps nurses to determine effective best practices and improve patient care.

Recommendations for the future research

- This kind of study can be conducted in rural set up, as the awareness on BSE required more among village girls
- The same study can be initiated with a large sample with different sampling techniques for generalised findings
- Different professionals such as arts, commerce background students or else housewives can be involved in the study group
- Comparison of the study among those who have a family history or else previous knowledge on breast cancer or BSE with the 1st time awakening girls can be done.

CONCLUSION

Girls who were uncomfortable in doing BSE also got informed on the same through Internet and similar other sources,

on the other hand few groups were uncomfortable because they were worried about detecting any cancerous growth. The notified factor is that, with the basic knowledge of BSE techniques, any change to the breast can be early detected. This was even more evident looking at negative correlation between knowledge scores and the uncomfortable nature. People who scored high in knowledge scores were also the ones who actively discussed about this topic with friends.

Declaration of patient consent

The Institutional Review Board (IRB) permission obtained for the study.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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