



## **Breast Self-examination: Knowledge, Attitude and Practice among Female College Students**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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### **ABSTRACT**

In low–middle-income countries, breast self-examination (BSE) is a simple, practicable, and appropriate tool for breast cancer screening. The goal of this study was to analyze female college students' knowledge and practice of BSE. A cross-sectional study of 200 female students was done using a convenient sampling technique. The self administered questionnaire with the socio-demographic data, questions about knowledge, attitudes and practice regarding BSE was used to collect the data among the female college students of an educational institution. The descriptive and inferential statistics was used to analyse the data. The results show that the level of knowledge on BSE among 77% of the girls was inadequate and 61% of them had negative practice towards BSE. Despite the good attitude (69%) about BSE, there was inadequate knowledge and practice. The participants' age and family history of breast cancer was positively associated with their attitude ( $p = 0.01$ ) and knowledge ( $p = 0.05$ ) respectively. The study recommends the mass awareness

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campaigns related to BSE and early detection of breast cancer to be given to improve the knowledge, attitude and practice of the women and thereby reduce the related morbidity and mortality.

*Keywords: Breast self-examination (BSE); knowledge; attitude; practice; female college students.*

## 1. INTRODUCTION

In many nations throughout the world, breast cancer (BC) is the most frequent cancer in women, ranking second among cancer diseases and fifth in terms of cancer mortality among women [1]. If diagnosed early, more than 90% of BC cases can be treated. Breast self-examination (BSE) has been shown in several trials to be a simple and effective method for early diagnosis of breast cancer in low–middle income nations.

Breast self-examination (BSE) is a non-invasive adjuvant screening technique for early breast cancer diagnosis. It's also a good precaution to take when mammography screening isn't available in rural or disadvantaged urban areas [2]. There is evidence that women who appropriately perform BSE monthly are more likely to find lumps at an early stage of development, and early detection has been linked to better outcomes. Breast Self-Examination refers to a woman's awareness of her breasts' typical appearance and feel, as well as looking for changes in size or form, lumps, skin dimpling, redness, discharge, or odd pains [3-5].

BSE is a procedure in which women themselves can inspect their breasts on a daily basis in order to discover any abnormal swelling or lumps and seek medical help as soon as possible. The most important and beneficial area of preventative strategies for breast cancer is early identification, which has been linked to a reduction in mortality and morbidity associated with the disease. In both developed and developing countries, breast cancer is the most frequent cancer among women. According to a WHO research, nearly 5, 19,000 women die each year from breast cancer, and more new patients are discovered every year, resulting in an estimated one million women having breast cancer each year [6].

Due to the inaccuracy and ineffectiveness of other screening tests [5-6] and their larger breast tissue density [7-8], BSE is frequently, the only tool accessible to younger women to detect abnormal changes at an early stage. Regular BSE is a cost-effective, convenient, confidential,

and simple approach that does not necessitate any special equipment [9-10]. Early identification has reduced breast cancer mortality rates by 25–30%, enhancing the quality of screening activities and improving treatment [11]. Despite these advantages, just 18% to 36% of women perform BSE [12].

Women in low- and middle-income nations have considerably worse results due to a lack of access to diagnosis and treatment. To lower the incidence of breast cancer, appropriate preventive measures focused on both primary and secondary preventive mechanisms are required. The first major strategy is to assess breast cancer awareness and knowledge, as well as breast self-examination, among vulnerable women, particularly those in low-income and resource-constrained situations. The second major strategy is to help raise breast self-examination among vulnerable women, particularly those in low-income and resource-constrained situations [13].

Early detection of a breast abnormality is critical for treating breast cancer and reducing morbidity and death associated with the disease. But, between different age groups, there is a significant discrepancy in perceptions of the risk and benefit of the BSE technique [12]. Older women who believe they are at a higher risk of breast cancer are more likely to participate in BSE on a regular basis. Younger women's perceptions of breast cancer risk and their link with BSE [14-15] were found to be unrelated. This could be because women are aware that the risk of breast cancer increases with age, but young women may not realize they are at danger until they are older. As a result, they do not believe it is necessary to exercise BSE on a regular basis. Hence, this study was done to assess the breast self-examination (BSE) knowledge, attitude and practice among female students in a selected college.

## 2. METHODOLOGY

**Design:** A quantitative, non-experimental, descriptive and cross-sectional study was conducted among female college students of a selected college.

**Sample:** The target population of the study were all the female students who were studying in the university. The study samples were the female college students with the age group of 18 and above and who were willing to participate in the study. To obtain a confidence interval of 99% and 1% precision a sample size of 174 was calculated for this study. The convenient sampling technique was used to select 200 female college students.

**Tools/instruments:** The participants who were willing to participate were enrolled in the study and were given a pre-designed questionnaire to evaluate the following:

In section 1, the socio-demographic data, as well as their clinical and gynaecological histories were collected. In section 2, questions about BSE knowledge, including 14 “yes / no” questions with a total score of 14 to assess women's knowledge of BSE; women were regarded to have adequate knowledge if their score was greater than 7, and inadequate knowledge if their score was less than or equal to 7. Section 3 had questions about women's attitudes regarding BSE, including eight questions with a total score of 8; women were regarded to have a favourable attitude toward BSE if their score was greater than 4, and a negative attitude if their score was less than or equal to 4. In section 4, questions about practicing BSE (absent and present) and level of practice, that included 11 items (“yes / no”) with a total score of 11 to analyze women's BSE practice; participants were considered to have good practice if their score was greater than or equal to 6, and poor practice if their score was less than six [16]. Content validity of the tool was obtained from the experts from Nursing and Obstetrics and Gynaecology. The reliability of the tool was assessed after the pilot study by internal consistency with Cronbach Alpha test. The ‘r’ value of the tool was 0.71.

**Procedures of data collection:** The tool was self-administered questionnaire which took approximately 45 minutes to complete. It was distributed to the students through electronic media as Google docs by email, what's app etc. They were reminded about the completion of the tool 3 times and it was made certain to complete all the questions. The study was conducted between May'2021 to July' 2021.

**2.1 Statistical Analysis**

The socio demographic data, knowledge attitude and practice of the participants were analyzed

using frequencies, percentage distribution and mean and standard deviation. Inferential statistics was used to find the relationship between knowledge, attitude and practice as well as level of knowledge, attitude and practice with selected socio-demographic characteristics using Chi-square test.

**3. RESULTS**

The average age of the participants in this study was 19.3 ±1.01 years, with 57% of them in the age group of 18 – 20 years, 61% had the BMI of 23 to < 25 kg/m<sup>2</sup> and 71 percent were being unmarried. Thirty three percent of the girls had the family history of breast cancer (i.e. if any of the participant's blood relatives like grandmother, mother, and maternal aunts), 11% had history of breast related disease like breast tenderness, cyst etc, 24% had the history of using contraceptives/hormonal therapy (i.e. any married participants using or used the contraceptive measures) and 73% had not received any received the information about BSE (Table 1).

**Table 1. Distribution of socio – demographic variables of the female college students**

Socio – Demographic Variables	Percentage
Mean age (SD) in years	19.3 (1.01)
Age group	
18 - 20 years	57
21 - 22 years	43
Body Mass Index (kg/m <sup>2</sup> )	
>25	12
23 to <25	61
<23	27
Marital Status	
Unmarried	71
Married	29
Family history of BC	
Yes	33
No	67
History of breast-related diseases	
Yes	11
No	89
History of using contraceptives/hormonal therapy	
Yes	24
No	76
Receiving information about BSE	
Yes	17
No	73

Table 2 shows that the levels of knowledge, attitude and practice on BSE among female college students. In this, the level of knowledge on BSE among 77% of the girls was inadequate and 61% of them had poor practice towards BSE. Despite the favourable attitude (69%) about BSE, there was a lack of knowledge and practice among the participants regarding the BSE (Table 2).

**Table 2. Levels of knowledge, attitude and practice on BSE among female college students**

Levels of Variables	Percentage
Knowledge	
Adequate Knowledge	23
Inadequate Knowledge	77
Attitude	
Favourable Attitude	69
Negative Attitude	31
Practice	
Good Practice	39
Poor Practice	61

The participants' age was positively associated with their attitude ( $p = 0.01$ ). Regarding the association with the socio demographic variables of the participants, there was a positive association found with family history and knowledge level i.e. with a positive family history of breast cancer, knowledge levels improved at  $p = 0.05$  level. Other variables did not show any relationship with knowledge, attitude and practice of the participants. To elicit these relationships, longitudinal studies with larger samples can be conducted in the future.

#### 4. DISCUSSION

According to the findings of this study, 77% of the participants had inadequate knowledge regarding BSE. This could be due to a lack of health teaching programs for young women on breast cancer and BSE, as well as a lack of understanding of the need of preventive health. Similar findings were reported in few studies which showed the participants did not have adequate knowledge, attitude and practice on BSE [17-18]. In a study by Karayurt et al. [19], who performed their study in a high school in Manisa, Turkey. The study sample included 718 high school female students. They found that more than half of the students (62.1%) reported that they had not heard about BSE.

This is also in conformity with the results of Al-Azmy et al. [20] who did a research on practicing breast self-examination among women attending primary health care in Kuwait and discovered that just 11% of the overall sample participants had adequate awareness of BSE. A study by Sama CB et al. [21] also concluded the low level of knowledge on BSE.

The results of this study, which showed that participants' attitudes toward BSE were mostly positive (69%), were similar to those of Reisi et al. [22] who reported that 72.4 % of their participants had good attitudes towards BSE as well. In the study by Segni et al. [23] also, 59.2% of the study participants were found to have a positive attitude but low practice towards BSE.

In the present study, there was a positive relationship with the age of the participants with their level of attitude towards BSE. In contrast to this result, a study revealed that there is a significant association between the respondents' age group and the frequency of Breast Self-Examination practice [23].

The results also showed that the family history of breast cancer significantly improves the level of knowledge of participants. Similar study findings were reported in the study conducted by Tuyen, D. Q. et al. [13] showed that the participants who had history of breast-related diseases had sufficient overall BSE knowledge compared to those who did not.

#### 5. CONCLUSION

The study findings show that there was a lack of knowledge of BSE among female college students. Though the participants' attitudes were positive, but the incidence of BSE practice was low. Hence, mass awareness campaigns related to BSE and early detection of Breast cancer to be given to reduce BC related morbidity and mortality.

#### CONSENT AND ETHICAL APPROVAL

Official Permission from the Dean of the educational institution was obtained as well as ethical permission was obtained from the Institutional ethical committee. A written consent from the participants were collected before the study by explaining the purpose of the study, the role of the participants, confidentiality of the information and their right to withdraw from the study at any point of time of the study.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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