Breast Self-examination: Knowledge, Attitude and Practice among Female Nursing Undergraduate Students in the Northern Border University, KSA

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Abstract
Breast self-examination (BSE) is one of the interventions to detect the breast cancer (BC) earlier. Nowadays, BSE didn’t known by the many adolescent and young women, so that it is needed to do promotive effort to increase their knowledge about BSE. This was a cross sectional study of 100 female nursing students that were selected by cluster sampling technique, data was collected using self-administered questionnaires and analysis done using SPSS Version 19. The level of awareness of breast cancer and BSE was high among the respondents; 98% of surveyed girls had heard about BC, but only few had limited knowledge. Breast feeding and breast self-examination reported as methods of prevention breast cancer. Breast lump was a well-known symptom of breast cancer. 57% of the respondents knew the correct time BSE should be done, minority of the participants had a good knowledge of BSE, the practice of BSE was poor, only 34% of them carried it out monthly; more than half of the respondents 52% said they will seek help immediately if they observed breast lump.

Keywords: Breast cancer, Breast self-examination, Undergraduate Nursing Students, Arar.

Introduction
Breast cancer is the most common cancer in women globally and has become an issue of public health importance. According to the International Agency for Research on Cancer (IARC) GLOBOCAN 2012, 1.7 million women were diagnosed with breast cancer in 2012.¹ It was responsible for approximately half a million deaths in women worldwide in 2012, affecting both developed and developing countries. Breast cancer is one of the health problems in KSA and the World and it has been identified as a major impact on health of women worldwide and the Kingdom of Saudi Arabia (KSA) is no exception.

Breast self-examination (BSE); it is still could be a life-saving technique through inspiring and empowering women to take better control over their body/breast and health.

To reduce the burden of breast cancer in KSA, it is necessary to first determine the level of knowledge and practice relating to breast self-examination as a breast cancer prevention strategy especially among our teaming youths who at this stage of life can continue this practice to
Adulthood. Therefore this study was aimed to identify the level of knowledge and practice of breast self-examination among female undergraduates in Arar, KSA.

**Statement of the Problem**
A study to assess the knowledge, attitude and practice among Female Nursing Undergraduate Students in the Northern Border University, Arar KSA.

**Objectives**
To find out the knowledge and attitude of breast self-examination and to describe the extent of practice of breast self-examination among them.

**Research design and approach**
Research approach selected for this study was non-experimental approach. Descriptive-correlational design.

**Setting of the study**
The study was conducted in Northern Border University, KSA.

**Population**
The populations of this study were all female nursing students Northern Border University, Arar KSA.

**Sampling Technique**
Cluster sampling technique was used for this study.

**Sample size**
100 participants were from second, third and fourth year Nursing Students, Northern Border University, KSA.

**Tools used**
1) **A Self-Administered Questionnaire:**
It has five sections. Part A, part B, part C, part D and part E.

   **Part A:** Socio-demographic characteristic used in this study were age, marital status, gravidity, previous knowledge on breast self-examination, family history for breast cancer, father education and mother education.

   **Part B:** Menstrual, medical, and family history age at menarche, regular cycle, have menstrual problem, have chronic disease, problems is related to menses etc..

   **Part C:** Sources of information about breast cancer among participants.

   **Part D:** Barriers for practicing breast self-examination among participants.

   **Part E:** Methods for prevention or decrease risk of breast cancer among participants.

2) **Breast Self - Examination Knowledge Checklist**
It was used to assess the participants' knowledge regarding BSE. It consists of 20 statements which, include meaning of BSE, purposes of doing BSE, ideal age for practicing, proper time for performing BSE, the frequency of practicing BSE...etc. For knowledge items, categorical responses (true/false/don't know) were applied.

**Scoring System**
Each question had a group of answer points, each correct response had two grades, one grade for don’t know while, incorrect response had zero. The total score level for these items were between 0 and 40 when the total participants' score level for knowledge was 60% and above is considered satisfactory knowledge, while below 60% was considered unsatisfactory knowledge.

3) **Breast Self- Examination Attitudes Assessment Sheet:**
It was prepared to assess and measure the participants' attitudes towards BSE. It consists of 13 statements. All statements were scored on a scale from (0-3), whereas, participants' responses with strongly agree scored (3), agree scored (2), disagree scored (1) and strongly disagree scored (Zero). Whereas, the total attitude score was 39 scores. The total score was divided into two categories as the following: (Scores from (20-39) referred to positive attitudes while Scores from (0-<20) referred to negative attitudes.

4) **Breast Self - Examination Performance Checklist**
This tool was developed by the researchers to assess participants' performance of BSE through observation. It consists of seven consecutive steps. All items were made using done or not done
### Results

**Table 1: Socio-demographic profile of the participants**

| Data                                      | No (100) | %   |
|-------------------------------------------|----------|-----|
| **Age**                                   |          |     |
| 18-20                                     | 49       | 49% |
| 21-23                                     | 42       | 42% |
| 23-25                                     | 9        | 9%  |
| **Marital status:**                       |          |     |
| Single                                    | 84       | 84% |
| Married                                   | 16       | 16% |
| Divorced                                  | 0        | 0%  |
| Widowed                                   | 0        | 0%  |
| **Gravidity**                             |          |     |
| Yes                                       | 10       | 10% |
| No                                        | 90       | 90% |
| **You have children?**                    |          |     |
| Yes                                       | 8        | 8%  |
| No                                        | 92       | 92% |
| **If yes, numbers of children**           |          |     |
| 0                                         | 92       | 92% |
| 1                                         | 4        | 4%  |
| 2                                         | 3        | 3%  |
| 3                                         | 1        | 1%  |
| 4                                         | 0        | 0%  |
| 5                                         | 0        | 0%  |
| 6                                         | 0        | 0%  |
| **Previous knowledge on Breast self – examination** | | |
| Yes                                       | 98       | 98% |
| No                                        | 2        | 2%  |
| **Family history for breast cancer**      |          |     |
| Yes                                       | 17       | 17% |
| No                                        | 83       | 83% |
| **“If yes “kind of relation**             |          |     |
| Mother                                    | 5        | 5%  |
| Sister                                    | 4        | 4%  |
| Aunt / (for mother)                       | 4        | 4%  |
| Aunt / (for father)                       | 2        | 2%  |
| Grand (mother / father)                   | 2        | 2%  |
| **Fathers education:**                    |          |     |
| Illiterate                                 | 11       | 11% |
| primary school                            | 13       | 13% |
| High school                               | 34       | 34% |
| Graduate                                  | 23       | 23% |
| Postgraduate                              | 15       | 15% |
| Any other                                 | 4        | 4%  |
| **Father job:**                           |          |     |
| Policeman                                  | 25       | 25% |
| Teacher                                   | 20       | 20% |
| Doctor                                    | 12       | 12% |
| Driver                                    | 4        | 4%  |
| Businessman                               | 5        | 5%  |
| No job                                    | 33       | 33% |
| Any other                                 | 1        | 1%  |
| **Mother education:**                     |          |     |
| Illiterate                                 | 22       | 22% |
| primary school                            | 34       | 34% |
| High school                               | 24       | 24% |
| Graduate                                  | 10       | 10% |
| Postgraduate                              | 4        | 4%  |
| Any other                                 | 6        | 6%  |
| **Mother job:**                           |          |     |
| Teacher                                   | 30       | 30% |
| Doctor                                    | 0        | 0%  |
| Housewife                                 | 70       | 70% |
Table 2: Menstrual, medical, and family history of the women participants

| Age at menarche: | No (100) | %   |
|-----------------|----------|-----|
| <20             | 94       | 94% |
| 20+             | 6        | 6%  |

| Regular cycle | No (100) | %   |
|---------------|----------|-----|
| Yes           | 65       | 65% |
| No            | 35       | 35% |

| Have menstrual problems: | No (100) | %   |
|--------------------------|----------|-----|
| Yes                      | 16       | 16% |
| No                       | 84       | 84% |

| Problems: |
|-----------|
| Mastalgia | 4 4% |
| Nipple secretions | 6 6% |
| Nipple color change | 0 0% |
| Engorgement | 6 6% |

| Problems is related to menses | No (100) | %   |
|------------------------------|----------|-----|
| Yes                          | 9        | 9%  |
| No                           | 7        | 7%  |

| Sought medical advice | No (100) | %   |
|-----------------------|----------|-----|
| Yes                   | 5        | 5%  |
| No                    | 4        | 4%  |

Table 3: Sources of information about breast cancer among the study participants

| Sources of information: | No | % |
|-------------------------|----|---|
| Newspaper               | 2  | 2%|
| Magazine                | 2  | 2%|
| TV                      | 15 | 15%|
| Radio                   | 4  | 4%|
| Internet                | 34 | 34%|
| Health personnel        | 28 | 28%|
| Family member           | 10 | 10%|
| Teacher                 | 5  | 5%|
| Friends                 | 0  | 0%|

Table 4: Barriers for practicing breast self-examination among the study participants

| Items                                                 | No | %   |
|-------------------------------------------------------|----|-----|
| Yes                                                   | 30 | 30% |
| No                                                    | 70 | 70% |

| Barriers for practicing breast self-examination in case of Yes | No | %     |
|--------------------------------------------------------------|----|-------|
| Lack of knowledge                                            | 5  | 16.7% |
| Dislike to touch breast                                      | 7  | 23.3% |
| Fear/worry to find a lump                                    | 6  | 20%   |
| No time                                                      | 7  | 23.3% |
| Forgetfulness                                                | 4  | 13.3% |
| Culture and health beliefs                                   | 0  | 0%    |
| In availability of specialized center                         | 0  | 0%    |
| Embarrassment                                                | 0  | 0%    |
| Lack of privacy                                              | 0  | 0%    |
| Lack of confidence                                           | 0  | 0%    |
| Fear of finding some abnormality                             | 1  | 3.3%  |
| Not at risk hence not required to do                         | 0  | 0%    |
Table 5: The participants' knowledge about breast cancer and breast self-examination (BSE)

| Satisfactory Knowledge of: | No. | % |
|---------------------------|-----|---|
| Methods for prevention or decrease risk of breast cancer | | |
| Breast self-examination | 16 | 16% |
| Breastfeeding | 84 | 84% |
| Not using the contraceptive for a long time | 0 | 0% |
| Healthy food | 0 | 0% |
| Don’t known | 0 | 0% |

| Satisfactory of knowledge: | Incorrect | Don't know | Correct |
|---------------------------|-----------|------------|---------|
| Knowledge questions | % | % | % |
| The meaning of BSE | 26 | 6 | 68 |
| The main purpose of doing BSE | 36 | 9 | 55 |
| The ideal age in years when the women should begin practicing BSE | 34 | 9 | 57 |
| BSE must be done between day 7 until day 10 after menses | 27 | 17 | 56 |
| BSE should be done during this period because breast becomes soft | 18 | 26 | 56 |
| BSE should be done every 2 months | 47 | 16 | 37 |
| BSE done to detect any abnormality | 0 | 48 | 52 |
| BSE should be done in front of the mirror | 7 | 18 | 75 |
| Undress until the waist when doing the BSE | 11 | 24 | 65 |
| Hands should be raised up alternately above the head when doing the BSE | 17 | 17 | 66 |
| BSE should be done from the front view only | 40 | 28 | 32 |
| BSE can be done in a supine position | 44 | 21 | 35 |
| Palpate in the right breast while left-sided lying when doing the BSE | 18 | 26 | 56 |
| Use finger pulps to examine any lumps or thickening of the skin | 9 | 20 | 71 |
| BSE can be done using the vertical strip and circular technique | 10 | 23 | 67 |
| Need to press on the nipple to check any unusual discharge | 8 | 22 | 70 |
| BSE includes arm-pit examination to check for any lump | 9 | 20 | 71 |
| Need to observe any unusual change in the shape and size of breast | 12 | 19 | 69 |
| Retraction of the nipple is a warning sign that should be observed | 6 | 23 | 71 |
| Lump is the early sign for cancer | 15 | 27 | 58 |

Table 6: Distribution of the participants by Knowledge Score

| Knowledge Score | Frequency | % | Mean Knowledge score | Mean percentage | Interpretation |
|-----------------|-----------|---|----------------------|----------------|---------------|
| < 24 unsatisfactory | 31 | 31% | 27.93 | 27.93 | satisfactory |
| > 24 Satisfactory | 69 | 69% | | | |
**Table 7:** Distribution of the participants by BSE Attitude

| Attitude                                             | Strongly dis agree | Disagree | Agree | Strongly agree |
|------------------------------------------------------|--------------------|----------|-------|---------------|
|                                                      | 0  %              | 1  %     | 2  %  | 3  %          |
| Doing BSE makes me feel so funny                     | 36  36            | 18  18   | 22  22 | 24  24        |
| BSE will be embarrassing to me                       | 16  16            | 20  20   | 49  49 | 15  15        |
| Doing BSE is wasting time                            | 23  23            | 34  34   | 36  36 | 7  7          |
| Doing BSE makes me feel unpleasant                   | 19  19            | 37  37   | 39  39 | 5  5          |
| If there is a lump, I prefer to get treatment from a traditional healer | 14  14    | 15  15   | 52  52 | 19  19        |
| Feel uncomfortable, can’t do BSE once in a month      | 35  35            | 24  24   | 21  21 | 20  20        |
| All women should do BSE                              | 18  18            | 10  10   | 37  37 | 35  35        |
| I really care about my breasts                       | 17  17            | 21  21   | 39  39 | 23  23        |
| I am not afraid to think about the breast cancer     | 22  22            | 26  26   | 31  31 | 21  21        |
| Avoid BSE because I worry about having breast cancer | 21  21            | 16  16   | 36  36 | 27  27        |
| Interested in doing BSE                              | 35  35            | 21  21   | 29  29 | 15  15        |
| Always search for information regarding BSE          | 22  22            | 18  18   | 44  44 | 16  16        |
| Discuss with my friends about BSE                    | 16  16            | 22  22   | 47  47 | 15  15        |

**Table 9:** Distribution of the participants by Attitude Score

| Attitude Score | Frequency | %  | Mean attitude score | Mean percentage | Interpretation |
|----------------|-----------|----|---------------------|-----------------|----------------|
| 0- < 20        | 52        | 52 | 19.72               | 19.72           | Negative       |
| 20- 30         | 48        | 48 |                     |                 |                |

**Table 10:** Distribution of the participants by BSE Practice

| Practice                                             | Not done | Done |
|------------------------------------------------------|----------|------|
|                                                      | 0  %     | 1  % |
| Do BSE once a month                                  | 66  66   | 34  34 |
| learning the correct method of BSE                   | 67  67   | 33  33 |
| Parents or partner always advise to do BSE           | 71  71   | 29  29 |
| Advise friends to do BSE                            | 65  65   | 35  35 |
| Discuss the importance of BSE with friends           | 63  63   | 37  37 |
| Have been taught on BSE by health staff              | 55  55   | 45  45 |
| If notice any breast abnormality, directly go to public health care | 52  52   | 48  48 |

**Table 11:** Distribution of the participants by Practice Score

| Practice Score | Frequency | %         | Mean practice score | Mean percentage | Interpretation |
|----------------|-----------|-----------|---------------------|-----------------|----------------|
| 0- < 8         | 100       | 100%      | 2.61                | 2.61            | Bad practice   |
| 8- 14          | 0         | 0%        | 2.61                | 2.61            |                |
Discussion

The present study was conducted to determine knowledge, attitude and practice among female nursing university students towards BSE. The age group most affected by BC in KSA and other developing countries is women younger than 50 years of age.\(^\text{[27]}\) The age of the participants ranged from 18 years to 25 years and the mean age was 21.9 ± 2.7 years. The study was appropriate in this age group as most of them were young adults who should be more enlightened on breast cancer and breast self-examination before they reach the age of common occurrence of the disease. This is congruent with the findings of\(^\text{[28]}\) which revealed that the majority were in the age group of 20 - 24 years (40.8%). Moreover, this result is in line with advice from health experts who indicated that women should begin breast examination as early as age twenty\(^\text{[29]}\). The result of the present study revealed that our participants had 69% satisfactory knowledge about BSE.

Early detection of breast cancer remains one of the key strategies for the control of breast cancer. Studies conducted in developing countries have established BSE as one of the most reasonable and feasible approach in early detection of breast cancer\(^\text{[9]}\). BSE not only familiarize women with the appearance/feel of their breast but also aids in early detection of breast cancer\(^\text{[31]}\). Some of the studies have reported that BSE is highly effective in increasing sense of ownership about health, healthcare seeking behavior, encouraging adoption of preventive health behaviors and creating awareness about breast cancer among women\(^\text{[33,34]}\). Multiple studies have concluded that women, who regularly perform breast self-examination present with smaller neoplasm and rare involvement of axillary lymph nodes\(^\text{[31, 32]}\).  

On the other hand, some researchers have seriously questioned the usefulness of BSE\(^\text{[12,13]}\), while others have revealed no added benefits of BSE in improvement of survival rates\(^\text{[35]}\).

The previous knowledge on BSE was high among our participants (98%) this may be as a result of their nursing study.

Mass media was easily available and provide broad range of information, this explain our results that mass media represented the most common source of information for breast cancer among students. The result of the present study revealed that more than half of the study participants (57%) have the source of information about breast cancer through mass media. Our study participants, reported barriers were dislike to touch, have no time, worry to find a lump (23.3%, 23.3%, 20%) respectively. The results have, additionally, shown that “barriers” was one of the significant factors that affect women’s decision to perform BSE.

In this study, breast feeding is one of the important protective factors from breast cancer. More than three quarters of the participants (84%) reported that the breastfeeding prevents breast cancer.

In this study, regarding their knowledge on the frequency of BSE, (37%) of the participants correctly reported that BSE should be done in every 2 months, In this study, more than half of the participants (56%) reported that BSE should be performed a week after menses. Overall knowledge score (69%) regarding BSE for our study participants was satisfactory.

The attitude of the nursing students warrants addition of skills training and corrective feedback to improve the BSE proficiency.

Regarding practice of BSE more than half of the participants (71%) revealed that parents are not advised them to do BSE. 67% of them not knowing the correct method of doing BSE. 66% of the participants were not doing BSE once in a month. None of our participants had a good practice of BSE. This shows that provision of information is sufficient to obtain BSE initiation but not necessarily adequate to maintain the practice. Health education and communication have been found to promote health seeking behavioural change with sufficient utilization and compliance to breast cancer prevention and screening strategies.
Most of the participants in this research have heard of BSE. Further investigation indicated that only 33% could correctly describe the procedure. Several studies on BSE have reported similar findings.[33]. This may be as a result of poor health education in our society and also the perception that they cannot develop breast cancer. The health belief model (HBM) suggests that when a woman perceives herself at risk then she is more likely to practice BSE.[34]

Conclusion
Though the knowledge on breast cancer and the BSE is high among the study population, the level of awareness of breast cancer and BSE is still very low leading to poor BSE performance

Recommendation
Based on the research conducted, it is recommended that there is a need to create awareness about the importance of BSE among female nursing students so as to improve the practice of it. We recommend that orientation program for fresh students should include talks on screening for breast cancer. Media activities should also be intensified to give reliable information about breast cancer and BSE. Proper education of the female students will have a positive impact on the society.

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