

Knowledge, Attitude and Practice of Breast Self-Examination Toward Breast Cancer among Female Students at King Saud University in Riyadh, Saudi Arabia

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Abstract

Background: Breast cancer is the most common of all female cancers in Kingdom of Saudi Arabia. Aim of this study is to determine knowledge, attitude and practice towards Breast Self Examination (BSE) and also to explore their knowledge about breast cancer, among Saudi female students at King Saud University (KSU) in Riyadh.

Subjects and Methods: A cross sectional descriptive study was carried out among 422 female students at KSU by using self-administered questionnaire

Results: The study showed that majority of participants had moderate level of knowledge of BC (57.4%). The major source of information about BSE (39.8%) was mass media, that 52.2% of the respondents had adequate overall knowledge towards BSE, 64.01% of participants had positive attitude towards BSE, and only 18% of all respondents perform BSE. There was a significant difference between overall knowledge and practice of BSE ($P < 0.005$).

Conclusion and Recommendation: Most female students had poor practice about BSE. Mass Media is an important source of information about BSE to improve awareness among the community.

Keywords: Breast Cancer; Breast Self-Examination; Riyadh

Abbreviations

BSE: Breast Self Examination; BC: Breast Cancer; WHO: World Health Organization; KSU: King Saud University

Background

Every year, breast cancer kills more than 500,000 women around the world. In resource-poor settings, a majority of women with breast cancer are diagnosed at an advanced stage of disease; their five-year survival rates are low, ranging from 10 - 40%. In settings where early detection and basic treatment are available and accessible, the five-year survival rate for early localized breast cancer exceeds 80%.

Breast cancer can be detected early through two strategies: early diagnosis and screening [1]. More than one million women are estimated to be diagnosed with breast cancer every year. In 2018, it is estimated that 627,000 women died from breast cancer that is approximately 15% of all cancer deaths among women. While breast cancer rates are higher among women in more developed regions, rates are increasing in nearly every region globally [2]. According to Saudi Cancer Registry 2004, breast cancer ranked first among females in Saudi Arabia as it represented 22.4% of all newly diagnosed female cancers [3]. Breast cancer typically produces no symptoms when the tumor is small, later on when it has grown, it could be represented by one or more of the following symptoms and signs: painless lump in the breast, lump under the armpit, breast pain, swelling or thickness of the breast's skin, spontaneous discharge of the nipple particularly if bloody and erosion or inversion in the nipple [4]. Screening for early detection and diagnosis of diseases and health conditions is an important public health principle. The three screening methods recommended for breast cancer include BSE, clinical breast examination (CBE) and mammography [2]. Mammography is the method of choice for the early detection of breast cancer. However, its limited use in developing countries due to the high cost and limited availability make BSE a convenient, and cost effective method, though less reliable [5]. World Health Organization (WHO) has concluded that BSE still has the potential to provide early diagnosis of breast cancer in many part of world. BSE is recommended to be performed routinely on a monthly basis in all the women aged above 17 years and the importance of raising knowledge on breast cancer via BSE is noted. BSE is an easy-to-apply, economical, safe, non-invasive procedure with no special material/tool requirements; and it is an effective diagnostic method for breast cancer which only takes five minutes to play [6]. On BSE the women lie down on her back and place her right arm behind the head. The exam is done while lying down, not standing up. This is because when lying down the breast tissue spread evenly over the chest wall and is as thin as possible, making it much easier to feel all breast tissue. The women can use the finger pads of the 3 middle finger on her left hand to feel for lumps in the right breast. Use overlapping dime-sized circular motions of the finger pads to feel the breast tissue. While standing in front of a mirror with her hands pressing firmly down on her hips, look at the breasts for any change of size, shape, contour, or any dimpling, redness or scariness of the nipple or breast skin. The pressing down on the hips position contract the chest wall muscle and enhances any breast changes by examining each under arm while sitting up or standing and with her arm only slightly raised so you can easily feel in area. Raising arm straight up tightens the tissue in this area and makes it harder to examine. Several studies have shown that barriers to diagnosis and treatment can be addressed by increasing women's awareness of breast cancer [7,8]. Studies done in Saudi Arabia out of 6380 students, shows that only 39.6% reported that they had ever heard about BSE. This group had a significantly higher knowledge level on breast cancer risk factors and presentation ($P = 0.0001$). Although the general attitude of the students towards learning BSE was positive and 82.4% requested to learn it, only 14.4% knew the correct frequency and timing of BSE in relation to menstrual period [9]. A previous study done in United Arab Emirates, out of 392 participants shows that BSE was ever practiced by 89 of participants (22.7%), only 3.3% were practicing monthly, while 77.3% admitted that they were not practicing BSE. Among participants who practiced BSE, 34.8% of them practiced at the correct timing in relation to menstruation and 16.9% of them were putting marks on the calendar for the next BSE [10]. A Study done in Jordanian Women, out of 519 female students. Shows that 67% of the participants reported that they had heard about BSE, only 26% of them indicated they themselves practiced BSE in the previous 12 months, and only 7% stated that they performed BSE on a regular monthly basis. Others reported performing BSE every 2 - 3 months (9%), once every 6 months (5%) and once a year (6%). A total of 73% of the participants indicated that they had never performed a BSE. Also, study done in Turkey out of 718 female students shows insufficient knowledge about BSE and a low percentage of students reported that they had performed BSE monthly. The most common reason for not doing breast self- examination was because they do not know how to perform BSE (98.5%). Most of the students had little knowledge of the risk factors for breast cancer. There was a significant relation between BSE practice and age, education level, knowledge about breast cancer [11]. Studies done in Lagos University Teaching Hospital, Nigeria out of 135 participant show that 97.3% of the re-

spondents were aware of breast cancer and BSE, 35.6% of the respondents felt that BSE should be carried out monthly, followed by 33.3% who felt it should be carried out daily, 28% felt it should be done weekly and 3% felt it should be done yearly. The attitude of respondents to BSE most of the respondents, 98.5% thought BSE was necessary and 84.3% claimed to have carried out BSE before. The practice of BSE. 80.2% of the respondents claimed that they carry out BSE regularly [12]. Breast cancer awareness in developing countries is not well documented, and what is known is far from encouraging [5,13] as comparatively few women in these areas have adequate knowledge of the risk factors and preventive measures or screening techniques for early detection. The lack of knowledge and incorrectly held beliefs about breast cancer prevention among females are responsible for the negative perception of the curability of cancer detected early and of the efficacy of the screening tests [9]. It is, therefore, important to assess the level of knowledge, attitude and practice of BSE towards breast cancer in our communities.

Methods

Study design

A cross sectional study was conducted to identify knowledge, attitude and practice of BSE toward breast cancer in female students at KSU colleges in Riyadh during January - May 2019. There are (2123) female students as our sample size required 384 Students, we added 10% (=38) to sample size to avoid any miss leading results as absence of some students during data collection, so the final sample size equal $384 + 38 = 422$ students. We used the multi-stage sampling method. Stage (1): The sample size of students will be distributed proportionally among educational levels of each college. Stage (2): The sample size of each class will be distributed proportionally according to the level. Stage (3): The sample size required from each class will be selected by simple random sample. The colleges were included in our study selected by simple random sampling methods; college of Science, Engineering, Computer and Information, and Business administration.

Data collection and tools

The data will be collected by the self-administered which will be included the following: Personal data, knowledge of students about BSE toward BC and questions regarding attitude of students toward BC. Finally, they were asked regarding practice of BSE. A pilot study: The questionnaire of study will be conducted to 25 female students of breast self examination and breast cancer, the sample of study students used in this pre-test will be not included in the study. The questionnaire pre-tested to determine the length of interview, question sequence, and the identification of difficult words and consistency of answers to check question. The questionnaire will be initially constructed in the English language, which will later be translated into Arabic language. The data will be checked for completeness, coded then will be entered into computer by Statistical Package for Social Sciences. Then will be analyzed by using descriptive Statistical tools (frequencies, percentage). The mean and standard deviation (SD) will be also calculated for continuous variables, and data will be presented in tables and graphs by using computer application (Portable IBM SPSS Statistics v19 and Microsoft Word).

Ethical consideration: Approval of the project was obtained from King Saud University, Department of Community Medicine. Objectives of the study will be explained for participants. We will ensure that those who will agree to participate will be involved in study and the information will be kept in the strictest confidence and used for benefit of the community.

Results

The main findings of the study using descriptive and analysis. The study targeted female students at KSU; 422 students participated in the study. The results of statistical analysis are presented into main four sections. The first section presents the assessment of base line characteristics of the studied sample, the second section present the assessment of knowledge level of BC, the third section present the assessment of the students attitude level of BSE and the fourth section present the assessment of the students practice level of BSE. Our study was conducted among females where 57.1% are within the age range of 19 - 25 years and 42.9% are above 24 years. Regarding marital status we found 61.1% were married, and 38.6% were not married. More than half of participants (61.1%) had knowledge about BSE but 38.9% did not (Table 1). Different studies conducted in the Kingdom have shown that knowledge of females regarding BC

is low with 58.6% and only 1.4% had gained high level of knowledge. Most common source of information (23%) was the mass-media-TV, while 8.9%, 6.7%, 7.2% and 15% of participants their source were contact with health personnel, relatives and friends, interne, and other sources, respectively (Figure 1).

| Parameters | | Frequency | Percentage % |
|---------------------|----------------------|-----------|--------------|
| Age | Between 19 - 25 | 238 | 57.1 |
| | Above 24 | 180 | 42.9 |
| Marital status | Married | 257 | 61.1 |
| | Not Married | 163 | 38.6 |
| Class | 2 nd | 225 | 54 |
| | 3 rd | 192 | 46 |
| Knowledge about BSE | Yes | 255 | 61.1 |
| | Adequate Knowledge | 218 | 52.1 |
| | Inadequate Knowledge | 199 | 47.2 |
| | No | 162 | 38.9 |

Table 1: Assessment the baseline characteristics of the studied sample.

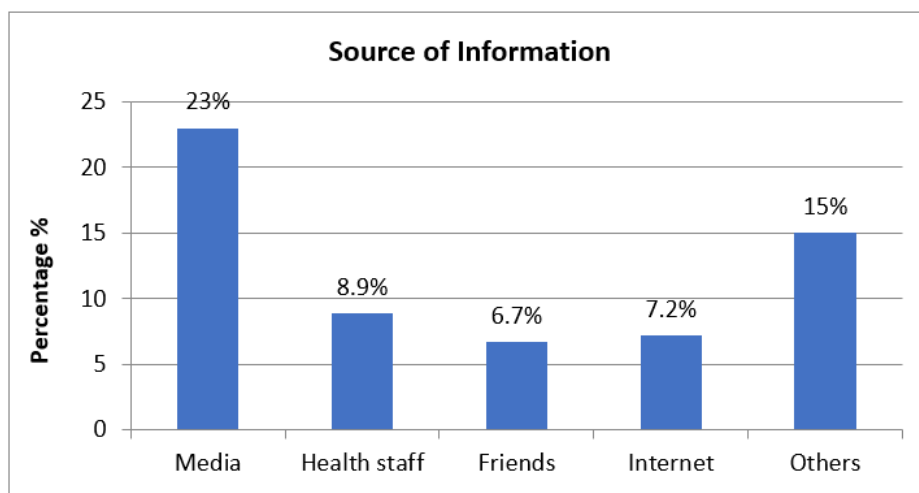


Figure 1: Source of information.

It is apparent in table 2 that 36.7% of participants knew that family history has role in BC and 52.3% of them uncertain that parity after 30 year one of risk factor, and 49.4% of participants didn't know that early puberty one of risk factor, and of participants 39.1% knew that hormonal replacement therapy is one of risk factor, and 45.5% knew that large breast is not risk factor for BC, finally 53.5% knew that lactation reduce probability of BC. The majority of students of in 3rd level (62.5%) had adequate knowledge towards breast self examination while the majority of students in 2nd level (53.6%) had inadequate knowledge.

| NO | | Yes | | NO | | Uncertain | |
|----|---|-----|------|-----|------|-----------|------|
| | | NO. | % | NO. | % | NO. | % |
| 1 | Family History play role in breast cancer | 153 | 36.7 | 138 | 33.1 | 126 | 30.2 |
| 2 | Parity after 30 years increase the risk | 84 | 20.1 | 115 | 27.6 | 218 | 52.3 |
| 3 | Early puberty increase the risk | 44 | 10.6 | 206 | 49.4 | 167 | 40 |
| 4 | Use of HRT* for long period increase the risk | 163 | 39.1 | 43 | 10.3 | 211 | 50.6 |
| 5 | Lack of physical exercise increase the risk | 87 | 20.9 | 201 | 48.2 | 129 | 30.9 |
| 6 | Lactation reduce probability of breast cancer | 223 | 53.5 | 57 | 13.7 | 137 | 32.9 |

Table 2: Distribution of students according to their knowledge towards Breast cancer.

*HRT: Hormonal Replacement Therapy.

Data showed that the majority of the participants strongly disagree that doing BSE is wasting time (67.6%), 40.5% of participants disagree to get treatment from a traditional healer, while (46.3%) feared to think about breast cancer. About 52.3% interested in doing BSE, 44.1% participants agree to go to specialist doctor, and 48.4% will not stop BSE if there are no any changes (Table 3). More than half of participants in 2nd level (61.3%) had adequate knowledge towards BSE and BC, while the majority of students in 3rd level (67.2%) had high knowledge level. Most of the participants (81%) don't do BSE and only 18% of participants do BSE (Figure 2).

| NO. | | Strongly disagree | | Disagree | | Uncertain | | Agree | | Strongly Agree | |
|-----|---|-------------------|------|----------|------|-----------|------|-------|------|----------------|------|
| | | NO. | % | NO. | % | No. | % | NO | % | NO. | % |
| 1 | Doing BSE is wasting time | 282 | 67.6 | 106 | 25.4 | 16 | 3.8 | 8 | 1.9 | 5 | 1.2 |
| 2 | If there is lump, I prefer to get treatment from a traditional healer | 105 | 25 | 169 | 40.5 | 72 | 17.3 | 64 | 15.3 | 7 | 1.7 |
| 3 | Feared to think about breast cancer | 193 | 46.3 | 121 | 24 | 45 | 10.8 | 50 | 12 | 8 | 1.9 |
| 4 | Interested in doing BSE | 14 | 3.4 | 13 | 3.1 | 33 | 7.9 | 218 | 52.3 | 138 | 33.1 |
| 5 | If there is lump, I will go to specialist doctor | 11 | 2.6 | 9 | 2.2 | 41 | 9.8 | 184 | 44.1 | 172 | 41.2 |
| 6 | If there is no abnormal changes I will stop BSE | 93 | 22.3 | 202 | 48.4 | 56 | 13.4 | 52 | 12.5 | 14 | 3.4 |
| 7 | Breast cancer can't be treated | 199 | 47.7 | 117 | 28.1 | 78 | 18.7 | 10 | 2.4 | 4 | 1.0 |

Table 3: Distribution of students according to their attitude towards BSE.

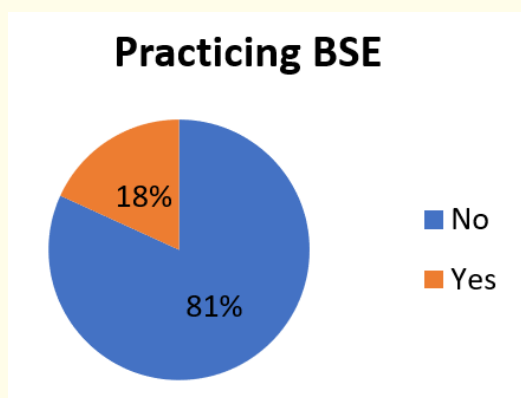


Figure 2: Prevalence of BSE practice.

As table 4 showed that the majority of the students reported that usually perform BSE once month (81%), while 8% reported that never do BSE. In the other hand, 31% of the participants didn't perform it properly.

| NO. | | Always | | Usually | | Never | |
|-----|--|--------|----|---------|----|-------|----|
| | | NO. | % | NO. | % | NO. | % |
| 1 | Do BSE once a month. | 8 | 11 | 59 | 81 | 6 | 8 |
| 2 | Do BSE between day 7 until day 10 after menses. | 2 | 2 | 37 | 51 | 34 | 47 |
| 3 | Undress until the waist when doing the BSE. | 21 | 29 | 25 | 34 | 27 | 37 |
| 4 | Palpate axillary area when doing the BSE. | 35 | 48 | 21 | 29 | 17 | 23 |
| 5 | Hands should be raised up alternately above the head when doing the BSE. | 45 | 62 | 15 | 20 | 13 | 18 |
| 6 | Doing the BSE in front of the mirror. | 39 | 53 | 27 | 37 | 7 | 10 |
| 7 | Doing the BSE by tips of fingers. | 53 | 73 | 16 | 22 | 4 | 5 |
| 8 | DO BSE in supine position. | 18 | 25 | 33 | 45 | 22 | 30 |

Table 4: Distribution of students according to their practice towards BSE.

Discussion

Breast cancer is the most common cancer in women worldwide that is why women’s awareness of breast cancer is crucial. The need to evaluate the knowledge, attitudes and practice of BSE among females is necessary and recommended. Thus, the present study was conducted to determine knowledge, attitude and practice of BSE towards BC. The majority of our participants had information about BSE 61.1%, while in study done in Turkey 62% of participants had adequate knowledge toward BSE and BC [11], also similar to a study done in Palestine [14]. Mass-Media and T.V played a significant role as the main source of information about breast cancer (39.8%), while 48.5% in Turkey, 53% in Palestine and 66% in Yemen acquired the knowledge about BSE from media [15]. The result of the current study revealed that 36.7% participants knew that family history of BC play a major role in developing BC, while 28.2% in study done in Nigeria [10]. There was 39.1% of our participants know that hormonal replacement therapy play role in developing BC, comparing to 8.2% in Turkey and 62% in Yemen. In 10.6% of our participants know that Early puberty one of risk factor BC, 8.2%. The high knowledge about the breast cancer among the respondents in this study reflected high attitude to BSE for them, Regarding to the attitude 67.7% were strongly disagree that do BSE is wasting of time, and 1.9% were afraid to finding lump during practice similar to the result in Turkey and Iraq [16]. Referring to our result the students have positive attitude to go to specialist doctors and disagree to use a traditional healer if there is lump. Similar finding by another survey from Saudi Arabia positive attitude was endorsed only 39.6% of female and there were 14.4% of participants reported ever hearing of BSE [17]. In addition, in UAE 90% of nurses had a positive attitude to providing knowledge on the risk factors of breast cancer and 83% reported that they had taught BSE to others [10]. Positive result of BSE attitude which indicate to increase intervention between females and public health educator therefore we can expect an increase positive attitudes in the coming period. The majority of the students reported that usually perform BSE once month (81%), while 8% reported that never do BSE. Other studies conducted in the kingdom revealed that only 17% of the respondents reported that they perform BSE monthly while 39% never perform it. Some causes reported by students who had poor BSE practice were; absence of symptoms in the breast (45.7%), carelessness (23.3%) and lack of knowledge about steps of BSE (20.8%). Another study conducted at king Abdulaziz University in Jeddah revealed that 33% of Saudi nursing students at perform BSE monthly [18]. On the other hand, about 66% of the nursing students reported regular performance of BSE in a study conducted in Riyadh [19]. Among women in UAE, only 13% performed BSE regularly [10]. This is comparable to what was observed in a study from the Islamic Republic of Iran which found that only 13.4% of women respondents practiced BSE regularly [20]. Similarly, among 124 Chinese women in Hong Kong, less than half practiced BSE and only 16% performed the

examination routinely [21]. While in Developed countries, high rate of practice on regular frequency was achieved. BSE practice appears to be correlated with the higher level of education and health care services offered in those regions as compared to the developing world.

Limitations of the Study

The time we need to complete our research should be more than the actual time.

Conclusion and Recommendation

Although there was adequate of knowledge about BSE, and good attitude towards BSE was encouraging. Most of female students in our sample did not perform BSE. This might be an obstacle to screening program and early diagnosis of breast cancer. Therefore, more intensified awareness programs among female students are necessary to keep in view their current status of breast cancer and BSE knowledge. Also, further researches are needed to identify causes of low practice of BSE. More utilization of Media as an important source of knowledge to improve awareness among the community.

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