

Breast Cancer Awareness among Saudi Nursing Students

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Abstract. Breast cancer is the most common cancer in women worldwide and its incidence is increasing in many countries. Nursing students are the future nurses who will have the opportunity to encourage and influence women to be breast aware. Breast-self examination is a simple and easy way to help women to detect any changes in the breasts. A quasi-experimental study was conducted to assess the effect of a Breast Cancer workshop on a group of 33 Saudi nursing students. The knowledge of breast cancer and competency in performing breast-self examination were assessed before and after the workshop using a set of questionnaires designed for the study. The data showed that the participants' knowledge of breast cancer increased significantly after the workshop. They felt confident to teach and were willing to pass the information of breast cancer and breast self-examination to their relatives, friends and colleagues. Based on the findings of the study, researcher believes that nursing schools in Saudi Arabia need to provide workshops on a regular basis for nursing students on breast cancer and breast self-examination in order to increase their knowledge, and enhance their confidence and skills to teach women about breast cancer and its early detection.

Keywords: Saudi student nurse, Breast cancer, Breast self-examination, Saudi Arabia.

Introduction

Cancer is becoming a leading cause of death worldwide. It is the most common form of cancer among females in the developed and developing countries^[1,2]. According to the World Health Organization report in the

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year 2004, there were about 519,000 women who die from breast cancer annually and more new cases are found^[1]. Early identification of breast abnormality is an essential factor that signals special attention. This is a challenge for health care professionals, especially nurses; contribute a crucial role in providing breast cancer awareness to women. Therefore, the purpose of this study was to identify the effect of a Breast Cancer workshop on the knowledge and attitude of Saudi nursing students in relation to breast cancer and Breast Self-Examination (BSE).

Background

Breast cancer could happen to any woman irrespective of her education, social or cultural background. Woman's awareness of breast cancer is crucial. The ability to identify the difference between normal and abnormal breasts, the knowledge of knowing what to look for and when the time is appropriate for breast screening may help to detect early stage of breast cancer. The Center for Disease Control stated that early detection is the best defense against morbidity and mortality of breast cancer^[3]. Preventive measures such as breast cancer awareness and early screening would contribute to the reduction of breast cancer morbidity and mortality. The American Cancer Society and National Cancer Institute recommend BSE as one of the three screening practices for early breast cancer detection. However, there is controversy on the effect of BSE that has been discussed in many studies^[4-7]. Since there is no sufficient evidence to disapprove BSE, it is still considered a simple, non-invasive, inexpensive, affordable and accessible method to younger and high risk women to discover early changes in their breasts^[8]. Empowering women with breast cancer knowledge would assist them in modifying their behavior and seek early screening and medical assistances^[4,6,9,10].

The Royal College of Nursing (RCN) emphasized that nurses play an important role in teaching BSE and they are in an appropriate position to teach breast cancer awareness with no extra cost^[11]. Many studies have shown that nurses have positive influence on women's breast cancer knowledge and BSE practice^[12-16]. Women who were advised about BSE by health care providers demonstrated greater knowledge, confidence and were likely to practice it routinely^[16-21]. Breast cancer awareness includes knowledge of breast cancer risk factors, signs, symptoms, and screening methods^[11].

In Saudi Arabia, breast cancer is the most common cancer among women. It is becoming an issue of concern in women's health^[22-24]. Breast cancer is found in young Saudi women^[25-27] and late presentation of advanced cases has also been observed^[28]. The Saudi government is working intensively to fight breast cancer among the female population^[25-27]. At the time of conducting this study, there was one previous study that addressed breast cancer and Saudi nurses. The study showed that Saudi nurses lack knowledge on BSE^[29].

Nurses comprise the largest proportion of the Saudi health care system^[30]. An increase in breast cancer awareness of nurses may have an impact by encouraging women to adhere to breast examination and screening^[16,31]. Therefore, this study was conducted to describe the knowledge of Saudi female nursing students about breast cancer and BSE practice. This study was expected to provide health care professionals with some understanding about Saudi nursing students and their knowledge and practices regarding breast cancer in the Kingdom.

Materials and Methods

A quasi-experimental design^[32], without control group, was used to determine the influence of a breast cancer workshop on nursing students' understanding towards breast cancer and BSE practice. The researcher was unable to recruit another group of students for the control group. Pre and post workshop evaluations were carried out. The workshop was implemented by medical and nursing faculty on two occasions. An average of 16 - 17 participants was recruited for each workshop. The workshop consisted of a total of 2 hours of lectures on epidemiology, risk factors of breast cancer, breast cancer presentation, screening program and steps of BSE. A practical session on BSE was implemented at end of the lecture. The BSE was demonstrated using different breast modules (normal and abnormal). The participants were allowed to practice BSE on the modules under the supervision of the faculty. At the end of the workshop, the participants were assessed on their knowledge, attitudes and their skill in BSE.

A convenient sample was utilized in this study. A total of 33 volunteer Saudi female nursing students participated. An official permission was obtained from the ethical committee of the department. The methodology of the study was explained to the participants. A serial

number was given to each of the participants to maintain the anonymity. The participants were informed that they had the right to withdraw from participation and were assured that the results of the pre and posttest would be confidential. The results would be used only for the purpose of the study and would not influence their grades in the school. After a 6-month period the participants were assessed for information retention. The posttest questionnaire was sent to the hospital where the nursing students practicing. The nursing coordinator in the hospital assisted to call all the students who participated in the workshop to fill the posttest questionnaire with their serial numbers then later, the questionnaires were collected by the researcher.

A questionnaire was designed for the purpose of the workshop. It consisted of 3 sections: personal data, knowledge on breast cancer and attitude towards performing BSE. The knowledge section consisted of close ended questions on breast cancer risk factors, methods of early detection and steps for breast-self examination. Correct responses were summed up to get a total knowledge scores for each participant. For the content validity of the questionnaire; 5 family physicians and 5 nurses in the surgical unit at different teaching hospitals were invited to review the questionnaire. Eighty percent of the experts stated that the items were relevant and adequate. Internal consistency among the questionnaire items was 0.76 Cronbach's alpha (α) and it was considered within the acceptable range^[32]. The data were analyzed using statistical package for social sciences (SPSS version 15). Descriptive and inferential statistical tests were used.

Limitations

One of the limitations of the study; there was no control group to compare the effectiveness of the workshop. Secondly, a convenient sample was used, the participants voluntarily enrolled. Therefore, there might be bias in the results as the sample was not a random sample, and the students who chose to participate may have had a different attitude or knowledge than those who did not attend. Thirdly, the size of the participants was small; the results may not be generalized beyond the study. Fourth, two workshops were held.

However, the trainers for both sessions were the same and gave the same content; this may have controlled the discrepancy between the two

groups. BSE skills of the participants were assessed by direct observation beside the questionnaire (posttest), which may support the results of the post-test. Only one evaluator evaluated the participants' skill in BSE using a preset check list.

Results

Demographic

All the participants were female 3rd and 4th year nursing students of which 73% were from the 4th year. The mean age of the participants was 22 (SD = \pm 1.52; ranged from 20 to 26 years). Ninety seven percent (97%) of them were single and 18% stated that they have family history of breast cancer. Of this 18%, sixty seven percent (67%) stated one of their close relatives had breast cancer (Table 1).

Table 1. Demographic characteristics of the participants (n = 33).

Demographic	Number	%
Marital status		
Single	32	97
Married	1	3
Divorced	0	0
Level of education		
3 rd year nursing students	9	27
4 th year nursing students	24	73
Family with breast cancer		
Yes	6	18
No	27	82
Close relatives	4	67
Others (distant relatives)	2	33

Knowledge of Breast Cancer

The total mean knowledge scores of the participants increased significantly after the workshop ($p < 0.001$). Before the workshop, only 33% of the participants performed BSE regularly (every month), while 21% had never performed BSE (Table 2). The knowledge of the participants in recognizing the breast cancer signs and symptoms before the workshop was weak. Seventy-three percent (73%) of the participants were aware that palpable nodules are signal of the possibility of breast cancer, and about two third of them did not realize that palpable lymph nodes also may indicate breast cancer. Sixty-four percent of them did not know that a deviated nipple is one of the breast cancer presentations

(Table 3). In relation to the common site of the tumor, 70% of them did know where breast cancer is commonly located. After the workshop, there were statistically significant improvements in knowledge in relation to breast cancer signs and symptoms.

Table 2. Breast self-examination practice among the participants before the workshop (n = 33).

Frequency for BSE	Number	%
Monthly	11	33
Every 2 – 3 months	6	18
Every 4 months	9	27
Never practiced	7	21

Table 3. Participants' correct responses in relation to signs and symptoms of breast cancer (n = 33).

Breast Cancer Signs & Symptoms	Pre workshop		Post workshop	
	Number	%	Number	%
Palpable nodules	9	27	14	42 [†]
Common location of malignant tumor	23	70	31	94 [*]
Palpable axillary lymph nodes	10	30	20	61 [*]
Deviated nipples	12	36	8	24

^{*}Significant at *p* value < 0.05; [†]Significant at *p* value < 0.01 based on Chi square test.

A significant improvement in the participants' knowledge of the risk factors of breast cancer was obtained after the workshop (Table 4). It is interesting to note that before the workshop 82% of the students were aware that obesity is a risk factor, but only 3% knew fatty food consumption is also a risk factor of breast cancer.

Table 4. Participants' correct responses in relation to breast cancer risk factors (n = 33).

Risk factors	Pre workshop		Post workshop	
	Number	%	Number	%
Age	27	82	32	97 [†]
Obesity	27	82	33	100 [†]
Nulliparity	15	46	31	94 [*]
Late menopause	7	21	15	46
Low fiber diet	25	76	29	88 [†]
Early menarche	10	30	30	91
Never breast feeding	29	88	31	94 [†]
Fatty food consumption	1	3	31	94 [†]
Less exercise	30	91	33	100 [†]
Hormonal therapy	29	88	32	97 [†]
Long period exposure to estrogen	25	76	33	100 [†]
Breast cancer is transmitted	33	100	33	100
Family history of breast cancer	23	70	33	100 [*]
Get breast cancer without family history	31	94	33	100 [†]

^{*}Significant at *p* value < 0.05; [†]Significant at *p* value < 0.01 based on Chi square test.

Attitudes Toward BSE

Before the workshop, the majority of the participants believed that BSE was not difficult and was not time consuming (76% and 67%, respectively). However, 55% of them stated that BSE causes embarrassment and 64% feared detecting an abnormality. About 27% believed that BSE was troublesome. After the workshop, their beliefs toward BSE improved markedly.

Discussion

Breast cancer is a community health problem in Saudi Arabia. The government is working hard to fight breast cancer in collaboration with US government^[25,27]. Early detection of breast cancer may play an important role in minimizing the number of deaths from breast cancer. It is a greater responsibility to empower Saudi female nurses to participate in breast cancer awareness and early detection of breast cancer campaigns. Having adequate knowledge of breast cancer and methods of detection may increase the nurses' competency to teach women in Saudi community. Attia and his colleagues found that the lack of knowledge is one of the reasons that hinder women to practice BSE^[33]. The results of this study highlight the positive impact of the workshop on nursing students' breast cancer knowledge and attitude. This may empower nursing students to teach women about the importance of early diagnosis, and to seek early treatment^[28]. Hence, this may lead to better chance for survival of Saudi women^[29].

The participants of this study felt that their knowledge improved significantly and felt more confident to teach women. However, reported personal confidence to teach about breast cancer and BSE does not necessarily guarantee that in real situations that they will be able to teach. The researcher believes that the participants' knowledge significant improvement in the post-test may enhance their actual confidence. It is a short term effect due to the immediate influence of the workshop. In order to maintain permanent knowledge retention and confidence, continuous intervention is needed^[31]. A 6 months follow-up post-test was carried out, only 60% replied back. Of this 60%, all of them (100%) started to practice BSE. About 41% performed it on a regular basis (monthly) and 41% every two months. Only 6% performed BSE every 6 months. The reason for not performing BSE regularly was forgetfulness.

After attending the workshop, all of them had taught their relatives (mothers, sisters, aunts, and grandmothers) about breast cancer and importance of the three screening methods for breast cancer.

In comparing the findings of this study with the findings of studies on other Muslim nurses in Jordan^[34], Iran^[35] and Turkey^[31], Saudi nursing students were much more aware of breast cancer. Although, all the participants stated that they learned BSE from their nursing syllabus and they were aware that breast cancer is the most common cancer among female. Only 33% of them performed BSE regularly (monthly), similar to the finding in Budden (1999) that 1/3 of student nurses performed BSE^[36]. Twenty one percent of the participants in this study never performed BSE even though they claimed that BSE is a simple and quick procedure and does not consume time. It is disturbing to find that 45% of these highly educated nursing students did not perform BSE regularly. This may be explained that the participants were young (with mean age of 22) and single (97%). In addition, it may relate to their attitude of embarrassment to perform BSE (55%).

The study did not show a significant relationship between the practice of BSE and the knowledge of the participants of how to examine their breasts and demographic data of the participants, similar to the findings in Budden's study^[36]. Other studies found a significant relationship between BSE practice and women's age, education level and personal history of breast problems^[37,38]. Haji-Mahmoodi and his colleagues' study showed a significant association between BSE practices and the age, level of education, personal history of breast problems^[35]. The participants in the study showed some deficiency on BSE and screening knowledge, this may be due to lack of exposure to clinical experiences of the nursing students as found in Singaporean nurses^[39] and American student nurses^[36]. It is important to keep nursing students informed with any health issues that are not covered in detail in their course.

Very few of participants in the study knew that fatty food consumption is one of the risk factors for breast cancer. Saudi foods usually are high in fats and oil content. Thus, this issue needs to be emphasized when teaching nursing students and the women in the community.

The participants had some misconceptions about mammograms. Twenty-seven percent believed that there is no need to have a

mammogram if one had BSE done, and 58% believed mammograms cause breast cancer. These misconceptions among student nurses may act as a barrier for encouraging women to have mammogram. The misconceptions were significantly corrected after the workshop. Only 14% still believed that mammogram causes breast cancer. At the end of the workshop the participants were able to demonstrate BSE correctly on the modules. The six month post-test results did not show changes in the knowledge of the participants which indicate the maintenance of the positive effect of the workshop.

Conclusion

The implications of this study are to emphasize the need to teach nursing students breast cancer awareness and early detection of breast cancer in their undergraduate courses. In addition, the provision of regular interventions is necessary to increase and build up the confidence and skills of nursing students in teaching BSE. The findings of this study may provide a basic ground for ideas for future nursing research and projects for nurses in Saudi Arabia. This is an important initial step toward increasing Saudi awareness about breast cancer and encourages early adoption of breast screening initiatives. It is recommended to conduct an extensive study on the knowledge and attitude of Saudi nurses in relation to breast cancer. Such workshops are recommended for the nurses working in primary health care settings. The nurses would be the advocates to promote breast awareness and BSE among Saudi women and hopefully more women will join breast cancer detection initiatives.

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وعي طالبات التمريض السعوديات عن سرطان الثدي

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المستخلص. أجريت الدراسة لتقييم تأثير ورشة العمل على مجموعة من ٣٣ طالبة سعودية في تخصص التمريض على معلوماتهن عن سرطان الثدي ومهاراتهن في الفحص الذاتي للثدي. وقد قيمت معلوماتهن ومهاراتهن قبل وبعد الورشة باستخدام استبانة صممت لغرض البحث. وأثبتت نتائج الدراسة بأن معلومات المشتركات عن سرطان الثدي قد تحسنت بشكل ملحوظ بعد الورشة، وأفادت المشتركات بأن أصبح لديهن المقدرة والثقة في تعليم ونقل معلومات عن سرطان الثدي وطرق الفحص الذاتي للثدي لأقربائهن وصديقاتهن وزميلاتهن. بناءً على نتائج الدراسة، تفيد الباحثة بأهمية إعطاء دورات عن سرطان الثدي وطرق الفحص الذاتي للثدي لطالبات التمريض بصورة مستمرة، وذلك لتزويدهن بالمعلومات والمهارات لتتقن السيدات في المجتمع عن الكشف المبكر لسرطان الثدي.