



Awareness, Knowledge and Practice of Breast self examination among groups of Female nursing students, Riyadh, Kingdom of Saudi Arabia

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Abstract

Breast cancer is the most common cancer spread worldwide, especially; in the Kingdom Saudi Arabia (KSA). It affected Saudi females for the past 12 consecutive years. Furthermore, it incidences increase in many countries. Breast cancer is a single leading cause of cancer death for women between 20 to 59 years of age. Due to this, it is posing a major public health concern. The study aimed to assess awareness, knowledge and practice of nursing students regarding breast self examination (BSE) and evaluate the effect of one day workshop on student's performance level. A quasi experimental design was utilized in this study. A convenient sample of 50 students was chosen from college of nursing. Data was collected through structured questionnaire sheet. A pre-test performance technique established. Followed by, a lecturer of video training about BSE technique. Then, the sample was divided into 5 groups (each group 10 students) joined to the researchers to train them on BSE steps by using the Silicone Breast Model. Immediate and 3months post test were used to evaluate students manual skills of BSE technique on The Silicone Breast Model. The study revealed that, more than half of the total sample of the students had previous knowledge regarding BSE from their college curricula and seventy percent of the total sample did not practice BSE before. A significant correlation was found within pre, immediate and one month post in relation to all BSE steps, except that step, place pillow under shoulder. There is no significant relation between pre and immediate post test ($p = .0026$). The post-test results showed progress in overall performance, immediate and after 3 month.

Keywords: Awareness, knowledge, practice, breast self examination (BSE).

Introduction

Breast cancer is the leading cause of cancer related deaths among women world-wide^{1,2}. In Saudi Arabia, the percentage of death from breast cancer is 19.8 % in age of 45 years³. Although breast cancer usually develops after the age of 45 years, the age of onset is decreasing, and more young women than ever are affected⁴. Young women's cancers are generally more aggressive and result in lower survival rates, making early detection even more important⁵. The three screening methods recommended for breast cancer include breast-self examination (BSE), clinical breast examination (CBE) and mammography⁶. It is important to adequately motivate women to regularly carry out BSE so as to curtail the increasing mortality rate from breast cancer⁷. In fact, regular BSE has been suggested as part of overall health promotion concept⁸. The practice of BSE can help women to know the structure and composition of their normal breast thereby enhancing their sensitivity to detect any abnormality at the earliest time. BSE once a month contributes to a woman's heightened awareness of what is normal for her⁹.

Promotion of self-care, an attitude fostered early in life, may pay lifelong dividends. The adolescent period is a time of rapid change that provides teaching opportunities for shaping health behaviors into adulthood. For example, teaching breast self-care

may encourage positive behaviors such as performing breast self examination (BSE) and seeking regular professional breast examinations¹⁰. Health behaviors such as BSE can help empower women to take some control and responsibility over their health promotion¹¹. For younger women, BSE education and adherence are a gateway to health promotion behaviors which set the stage for adherence to clinical breast examination and mammography screening later in life⁵. Although the value of BSE is controversial^{12,13}. American Cancer Society recommends as an option breast awareness and BSE for early detection of breast cancer. It benefits women in two ways: women become familiar with both the appearance and the feel of their breasts and detect any changes in their breasts as early as possible¹⁴. BSE makes women more "breast aware", which in turn may lead to an earlier diagnosis of breast cancer¹⁵. The rationale behind extending BSE practice as a screening test is the fact that breast cancer is frequently detected by women themselves without any other symptoms¹⁶. In Turkey, The Ministry of Health recommends BSE to increase awareness of breast cancer¹⁷. Although there were a lot of studies about knowledge of breast cancer and practice of BSE in female university students^{11,18,19}. There were few studies about the knowledge of breast cancer and practice of BSE in the age group of 14–19 years^{10,20}.

Medical advances have shown that one-third of all cancers are preventable and a further one third, if diagnosed sufficiently early, is potentially curable. This observation demands that cancer control should be of increasing priority in the health care programs of developing countries^{21,22}. In a bid to reduce the incidence of mortality from breast cancer there is need for an effective screening program. Empowering female health workers and creating awareness amongst them could go a long way in enhancing the screening program for breast cancer. Prevention or identification of breast cancer at an early stage is of paramount importance in saving lives as well as improving the quality of life²³. The present study assess awareness, knowledge and practice of nursing students regarding breast self examination (BSE).

Aim of the study: i. Assess awareness, knowledge and practice of nursing students regarding breast self examination (BSE), ii. Evaluate the effect of one day workshop on student's performance level.

Research questions: i. Is the nursing students aware, knowledgeable and practice breast self examination?, ii. Is the one day workshop effect on student's performance level?

Material and Methods

Research design: Quasi experimental study without control group was used to carry out this study.

Setting: The study was conducted in College of nursing (Female section) Riyadh, King Saud University (KSU), Kingdom Saudi Arabia (KSA)

Subjects: A convenient samples of fifty nurse's students from third year of nursing college from the previously mentioned setting throughout a period of three months from October 2012 to December 2012.

Tools of data collection: *Tool I:* A structure questionnaire sheet was designed for data collection by the researcher based up on review of literature. It includes the socio-demographic data the study subjects such as: age; marital status; number of family members; family history of breast cancer; persons who had breast cancer; personal history of breast lump; data about awareness; knowledge and practice of breast self examination; and data about barriers to practice breast self examination.

Tool II: A performance checklist used to assess performance of nurses student to BSE steps.

Methods: i. Official permission to carry out this study was obtained from the previously mentioned setting. ii. A pilot study was carried out after the development of the tools on 10 % of the sample size, iii. Data was collected through structured questioner sheet to fill information related to demographic data,

awareness, knowledge and practice of BSE and barriers to practice breast self examination. iv. A pre-test performance technique was used to assess student's performance regarding BSE through observational checklist, v. A two hours lecturer was presented to the students followed by video training about BSE technique, vi. The students randomly assigned to five experimental groups. Each group received training sessions which started on Silicon Breast Model to practice BSE correctly or wrongly, vii. Post test performance technique was assessed by an observational checklist immediately and 3 months later, viii. The collected data were categorized, tabulated and made ready for analysis.

Statistical analysis: The Data was collected and entered into the personal computer. Statistical analysis was done using Statistical Package for Social Sciences (SPSS version 17) software. Both descriptive and inferential statistic established. Chi square test was used. The level of significant was 0.05.

Limitations of the study: One of the limitations of our study, there was no control group to compare the effectiveness of the workshop. Secondly, the size of the participants was small; the results may not generalize beyond the study. Thirdly, a convenient sample was used, the participants voluntarily enrolled.

Results and Discussion

In table 1 majority of the sample was aged more than 20 years old (64%), single (74%), with more than 10 family members (44%) and no family history of breast cancer (78%)

In the table two, most of respondent agreed that BSE important (86%) because it help early detection of breast cancer (86%). Majority of respondents became aware due to the college curricula (42%) and they did manual screening of it (44%). However, they did not know the appropriate time performing BSE (78%) and frequency of it (72%)

Majority of sample inferred that the barriers to practice of BSE were no source of information (42%). On the other hand, the minority of sample perceived absence of symptoms as barriers to practice BSE (4%).

In table four, it reflected that in all BSE steps there were significant difference within three period of time, namely: before, immediately after and after three months.

In table 5 shows that the steps of BSE in facing a mirror done correctly immediately by the (82%, 82%, 82% and 74%) students after implementing the training workshop. However, after 3 months the maintenance to perform the BSE steps was decreased. A significant relation was found within pre, immediate and 3 months post in relation to all BSE steps. There was a significant relation between pre, immediate and post test ($p \leq 0.05$). The post-test results showed progress in overall performance, immediate and after 3 months.

Table-1

Distribution of the study sample according to their socio-demographic

Characteristics	Frequency	Percent
Age group		
18 -20 years	18	36.0
>20 years	32	64.0
marital status		
Single	37	74.0
Married	13	26.0
No. of family members		
3-5	7	14.0
6-9	21	42.0
>10	22	44.0
Family history of breast cancer		
Yes	11	22.0
No	39	78.0
If yes, who had Breast cancer		
Mother	4	8.0
Sister	1	2.0
Others	6	12.0
Personal history of breast lump		
Yes	0	0.0
No	50	100.0
<i>Total</i>	50	100.0

Table-2

Distribution of the study subjects according to student awareness, knowledge and practice about BSE (Breast Self Examination)

Items for BSE awareness	Frequency	Percent
BSE important		
Yes	43	86.0
No	3	6.0
Do not know	4	8.0
Reason		
Help early detection of breast cancer	43	86.0
Do not know	7	14.0
Source of awareness		
college curricula	21	42.0
Friends	17	34.0
Others	12	24.0
Methods of early screening of breast cancer		
Manual	22	44.0
X-ray	21	42.0
Lab investigation	4	8.0
Do not know	3	6.0
Appropriate time of performing BSE		
During menses	3	6.0
After menses	8	16.0
Do not know	39	78.0
Frequency of BSE		
One per month	11	22.0
Once per year	3	6.0
Do not know	36	72.0
Did you perform BSE before		
Yes	15	30.0
No	35	70.0

Table-3

Distribution of the study subjects according to the Barriers to practice breast self examination

Barrier	No	%
No source of information	21	42
Don't see the need	17	34
Anxiety	4	8
Forgetfulness	14	28
Absence of symptoms	2	4
Pressure of study	10	20
Embarrassment	13	26

**More than one answer*

Discussion: Regarding breast self examination awareness, the majority of the study sample had aware about important of BSE which helped early detection of breast cancer and had aware about different methods of screening for breast cancer. This is consistent with the study done by Oluwole and Al-Dubais et al (2008, 2012) showed that most of the respondents were aware about BSE. While, knowledge about the different methods of screening of breast cancer was generally poor^{24,25}.

In relation to source of awareness, about half of the sample of the nursing students had previous knowledge regarding BSE from their college curricula. This finding was consistent with study done on female health workers in A Nigerian community revealed that majority of respondents became aware about BSE through lectures²⁴. On the other hand, the study done among young Malaysian women revealed that electronic media such as radio and TV was the most common source of information of BSE²⁶.

Our study revealed that about three quarters of the study sample had not performed BSE before, not knew appropriate time and frequency of performed BSE. This is agreeing with the study done among Jordanian nurses revealed that few nurses practiced BSE monthly, this results was related to limited knowledge about breast cancer and methods of early detection.²⁷ While, the study done by Al-Naggar et al (2011) reported that 55% of respondents had performed BSE before, only 28.5% of them practice BSE once a month²⁶.

Regarding to barriers to practice BSE, the result revealed that about one half of the study sample had no source of information about BSE, This is congruent with Oluwole and Al-Naggar et al (2008, 2011) found that the main identified barriers to practice of BSE were lack of information and forgetfulness. Also, they recommended that lack of knowledge is one of the reasons that hinder women to practice BSE^{24,26}.

The study showed a significant relationship between the practice of BSE pre and post workshop immediate and 3 months post.

Immediately after the workshop the participants were able to demonstrate BSE correctly on the modules which indicate the maintenance of the positive effect of the workshop. This finding is consistent with the study done by Yousuf (2010) found that participants knowledge significant improvement in the posttest due to the immediate influence of workshop²⁸.

Compared to three month post-test results showed decline in the performance of the participants. The researcher believed that the reason for decline the performance was related to 74% of the studied sample were single, 78% had negative family history of breast cancer, 42% had no source of information and 28% forgetfulness. This is consistent with the research done by Khatun et al (2010) reported that the most important identified

factors for not practicing BSE among nurses were married state, no source of information, negative family history and don't know how to do BSE. Thus, it is essential to provide an educational program for breast cancer and BSE to nurses in order to enhance nurses' performance rate of BSE²⁹.

The nurse should be well versed in teaching BSE in a variety of setting. BSE is usually taught initially at an adolescent health examination, and should be reviewed and reinforced every 2 to 3 years. The nurse can encourage BSE practice by reviewing examination technique, using a well-designed, printed and illustrated booklet and reinforcing the women's confidence in her BSE ability³⁰.

Table-4
Comparison between students' BSE performance-steps while lying down before, immediate and after 3 month

BSE steps	Before		Immediately after		Three month after	
	No.	%	No.	%	No.	%
Place a pillow under right shoulder to their colleagues						
Done	25	50.0	42	84.0	35	70.0
Not done	25	50.0	8	16.0	15	30.0
X ² , p			12.8, 0.0026*		4.17, 0.041*	
Put the hand under the head to their colleagues						
Done	30	60.0	44	88.0	40	80.0
Not done	20	40.0	6	12.0	10	20.0
X ² , p			11.65, 0.0045*		6.07, 0.029*	
Use right hand to examine left breast and left hand to examine right breast						
Done	10	20.0	41	82.0	24	48.0
Not done	40	80.0	9	18.0	26	52.0
X ² , p			12.98, 0.001*		8.65, 0.001*	
Check the entire breast with finger pads of your hand (on silicon breast model)						
Correct	22	44.0	43	86.0	33	66.0
Wrong	28	56.0	7	14.0	17	34.0
X ² , p			13.52, 0.001*		5.41, 0.030*	
Use small circle and follow up &down pattern (on silicon breast model)						
Correct	6	12.0	41	82.0	30	60.0
Wrong	44	88.0	9	18.0	20	40.0
X ² , p			15.65, 0.0001*		11.42, 0.0001*	
Use light medium &firm pressure over each area (on silicon breast model)						
Correct	6	12.0	37	74.0	25	50.0
Wrong	44	88.0	13	26.0	25	50.0
X ² , p			12.1, 0.0001*		7.11, 0.002*	
Feel the Breast with surface of 2nd,3rd,4th fingers systematically in circular motion from nipple to outside (on silicon breast model)						
Correct	0	0.0	35	70.0	20	40.0
Wrong	50	100.0	15	30.0	30	60.0
X ² , p			16.52, 0.0001*		15.65, 0.001*	
Gentle squeeze the nipple (on silicon breast model)						
Correct	0	0.0	37	74.0	23	46.0
Wrong	50	100.0	13	26.0	27	54.0
X ² , p			19.85, 0.0001*		10.2, 0.001*	

Table-5
Comparison between students' BSE performance steps before, immediate and after three month in facing mirror

BSE steps	Before		Immediately After		three month after	
	No.	%	No.	%	No.	%
With arms at sides looking for swelling, dimpling of skin or changes in nipples						
Correct	10	20.0	41	82.0	32	64.0
Wrong	40	80.0	9	18.0	18	36.0
X ² , p			15.68,	0.0001*	5.87,	0.013*
With raised arms overhead						
Correct	10	20.0	41	82.0	24	48.0
Wrong	40	80.0	9	18.0	26	52.0
X ² , p			12.65,	0.001*	6.24,	0.021*
With hands on hips press firmly to flex the chest muscles						
Correct	0	0.0	41	82.0	30	60.0
Wrong	50	100.0	9	18.0	20	40.0
X ² , p			32.52,	0.00001*	22.65,	0.0001*
Bent forwards to inspect the breast						
Correct	0	0.0	37	74.0	21	42.0
Wrong	50	100.0	13	26.0	29	58.0
X ² , p			25.41,	0.0001*	19.85,	0.001*

Conclusion

The results of this study have revealed low level of practice of breast cancer screening among student-nurses before and after three months from implantation of teaching program. So, there is an urgent need to update the curriculum, and for regular update of courses for student nurses and nurses on health maintenance practices are also recommended. Researches about effect of environmental, social and cultural factors on concept of self breast examination and all preventive measures related to breast cancer.

Recommendations: This study recommended that teenagers in their 20s and 30s should have a clinical breast exam (CBE) as part of a periodic (regular) health exam by a health professional at least every 3 years. i. Women's after age 40, women should have a breast exam by a health professional every year. ii. School health education is an ideal approach, which should be properly utilized to enhance the adolescent awareness regarding breast self examination. iii. Educational programs and mass media should provide more information based on scientific knowledge about breast self examination to adolescent. iv. Further studies are needed to identify reasons for not practicing breast self examination.

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