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Effect of Health Education on Raising Female Students Awareness' Regarding Breast Cancer at Saudi Arabia

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Abstract
Breast cancer is a major killer in women globally and in developing regions where the early cancer detection facilities are unavailable, with late presentation and prognosis is worse. Breast cancer awareness would be a tool to fight this disease through early detection and there by decrease the morbidity and mortality. **Aim of the study:** to improve female students' knowledge and practice toward breast cancer in Saudi Arabia. **Methodology**: *Research Design:* A quasi experimental design was used. *Tools:* Three tools were developed for data collection including interviewing questionnaire which include socio-demographic characteristics, female students attitude toward breast cancer and source of their knowledge about breast cancer, students' knowledge assessment sheet about risk factors, signs, symptoms and screening of breast cancer, and the third tool was about the practice of breast self –examination. **Sample:** a convenient sample of 339 female students was recruited in this study. The data collection was from February to end May2013. **Results:** Data were collected from 339 female students. About 69.9% of students in the age group from 20-22 years. There were statistically significant improvements of students' knowledge score after education regarding risk factors, signs and symptoms, and screening of breast cancer. Additionally 17.1% of students were practicing breast self examination (BSE) in pretest compared to 35.4% of them in posttest. **Conclusion**: Post educational sessions not only improved female students' knowledge but also, significantly improved the attitude toward breast cancer self examination.
Keywords: Breast Cancer, Breast Self Examination, Screening of Breast Cancer, Raising Awareness.

Introduction

Throughout history, the female breast has been regarded as a symbol of beauty, sexuality and motherhood. Any actual or suspected disease or injury affecting breast tends to reflect the prevailing societal view of the breast. Breast cancer is the most common seen in women worldwide. Global incidence of breast cancer indicates an increase of 50-100% in the past 20 years. Breast cancer is a malignant proliferation of epithelial cell lining the ducts or lobules of the breast, which may have diverse outcomes and responses to treatment depending on the early diagnosis [1-3].

Worldwide breast cancer (BC) is probably the most feared cancer because its psychological impacts. It affects the perception of sexuality to a degree far greater than any other cancer. Breast cancer is becoming number one killer in females. Globally, every 3 minutes a woman is diagnosed with breast cancer, amounting to one million cases annually. According to Word Cancer Report the incidence could go up by 50% to 1,5 million by 2020. Therefore it has become an increasingly important problem of research all over the world [4, 5].

Breast cancer is the most common cancer in women both in the developed and less developed world. It is estimated that worldwide over 508, 000 women died in 2011 due to breast cancer. In 2013, it is estimated that over 230,000 women will be diagnosed with breast cancer. While the incidence rate for invasive breast cancer has increased slightly from 2005 to 2009, the death rate continues to steadily decline. Breast cancer is the most curable when detected at its earlier stages. More than 220,000 women will receive a diagnosis of breast cancer (BC) in 2013 in the United States [6-8].

Breast Cancer (BC) is considered the most common implacable malignancy and metastases in the Kingdom of Saudi Arabia (KSA) and rate of represents the second leading cause of cancer deaths after lung cancer BC incidence in KSA was 19.8% of all the female cancers. An earlier report according to Saudi National Cancer Registry reported an increasing proportion of BC among women of different ages from 10.2% (2000) to 24.3% (2005) [9-11].

In addition to, Ravichandran& Al-Zahrani (2009) [12] investigated the incidence of female BC in the Gulf Cooperation Council (GCC) countries in relation to the established reproductive factors. BC was the most common malignancy ranging from 16.1% Oman to 35.4% in Bahrain. The age-standardized incidence rate per

100,000 was highest in Bahrain (46.4), followed by Kuwait (44.3), Qatar (35.5), United Arab Emirates (19.2), Oman (14.4) and Saudi Arabia (12.9). These rates are low compared with most industrialized western countries.

While in the Kingdom of Saudi Arabia (KSA) the breast cancer incidences in females were found to be in the age group of 20-45 years. The age-specific incidence of breast cancer is 45 per 100,000 at the age of 45 years. The majority of breast cancer cases were observed in the age group of 30-44 years (21.6%) while 16.3% cases were in the 45-59 years of age group. Further, analysis of the female breast cancer incidence in various regions shows that the Eastern region has the highest incidence of 28.7% followed by Northern, Makkah and Qassim regions. The Najran region reported the least number of breast cancer cases (8.9%) in females while the Hail region has reported 12.5% of breast cancer cases. [13]

Several epidemiological studies on risk factors for breast cancer have reported that breast cancer is related to family history of breast cancer, early menstruation before 12 years of age, late onset of menopause after 55 years of age, old age, age at first pregnancy over 30 years, infertility and not having children, use of contraceptives, hormonal treatment after menopause, no history of breastfeeding, overweight and obesity, excessive exposure to the ionizing radiations before 30 years of age, personal history of breast cancer, hormonal dysfunction, stress, and unhealthy lifestyle [14].

The classic symptom for breast cancer is a lump found in the breast or armpit. Doing monthly breast self-exam (BSE) is a great way to be familiar with the breasts' texture, cyclical changes, size, and skin condition. The general altering features of breast cancer are such as swelling or lump (mass) in the breast, swelling in the armpit (lymph nodes), nipple discharge (clear or bloody), pain in the nipple, inverted (retracted) nipple, scaly or pitted skin on nipple, persistent tenderness of the breast, and unusual breast pain or discomfort. In advanced stage (Metastatic) or disease underarm lymph nodes are present with other symptoms such as bone pain (bone metastases), shortness of breath (lung metastases), drop in appetite & unintentional weight loss (liver metastases), headaches, neurological pain or weakness [15, 16].

Breast self-examination (BSE) is a simple, quick, inexpensive, non-invasive and non-hazardous practice which enables a woman get acquainted with the topography of her breast and allows her notice changes to detect breast masses or lumps. BSE has been defined as a preventive health behavior undertaken by a woman who believes herself to be healthy, for the purpose of preventing disease or detecting disease in an asymptomatic state. Although BSE appears that many women either perform it erratically or not at all [17].

The Center for Disease Control stated that early detection is the best defense against morbidity and mortality from breast cancer [18, 19]. Preventive measures such as breast cancer awareness and early screening would contribute to reduction of breast cancer morbidity and mortality. Empowering women with breast cancer knowledge would assist them in modifying their behavior and seek early screening and medical assistances [20]. Breast self-examination (BSE) is one of the screening methods for early detection of breast cancer. However, women in developing countries do not perform breast self-examination for various reasons [21].

2. Aim of the Study

To improve the female students knowledge and practice toward breast cancer at Saudi Arabia.

2.1. Research Hypotheses

1- The educational session about breast cancer will improve the female students' knowledge about the risk factors, signs and symptoms and screening of breast cancer in Madinah Munwarrah as an urban area and Jazan as an rural area in KSA.

2- The student who attend the session about breast cancer will be perfect in performing breast self-examination and more able to pass their experience to their relatives, friends and families than those who do not.

3.Subjects and Methods

3.1.Research Design

A quasi experimental design was used in this study (one group pretest – post-test design).

3.2. Setting

The study was conducted at two settings in Saudi Arabia; Faculty of Applied Medical Sciences, Taibah University – Al Madinah El- Munwarrah and Faculty of nursing and allied health sciences -Jazan university) in Kingdom of Saudia Arabia.

3.3. Sample

A convenient sample of 339 female students was recruited in this study. The sample taken from nursing department's students and other departments as clinical nutrition and laboratory department.

3.4.Data Collection Tools

The tools used for data collection were designed by the researchers in simple Arabic language via a structured questionnaire derived from the literature it contained three tools as the following: ***interviewing questionnaire*** including; socio-demographic characteristics of the sample as; age, specialty, marital status, level of education, female students attitude toward breast cancer and source of their knowledge about breast cancer …etc.,

Students' Knowledge Assessment Sheet; which include: pre-test and posttest which contained questions about risk factors of breast cancer (B C), signs and symptoms of B C screening and treatments of B C. ***and finally Students' Breast Self -Examination Practice Sheet;*** Which included students timing of breast self-examination ,steps, technique, and how to differentiate between normal and abnormal presentations.

Scoring System: The knowledge assessment tools were scored. The score ranged from 1 wrong answers, 2 do not know to 3 correct answers. The total scores of questionnaire were less than 50% was graded as poor, 50% to less than 75% score was graded as average, and more than 75% score was graded as good for knowledge and practice.

Validity*:* tools was reviewed by expertise's of nursing faculty' staff from the nursing department. ***Reliability*** test was done by applying the questionnaire to 15 students using test-retest. The data collected from the students who gave oral consent about sharing in the study and they informed that; participation in the study was voluntary and any data they give was confidential. The data collection take from February to end May 2013 data collection was carried out two days/ week (Monday and Wednesday). Finally educational session (counseling) about breast cancer and breast self-examination (BSE); which contain definition about breast cancer, incidence, risk factors, signs and symptoms, screening/ early detection, BSE technique, timing.

3.5. Procedure for Data Collection

The students were interviewed by the researchers. The aim of our study was explained by using a clear and simple explanation to give assurance and to gain their maximum cooperation. Each participant needs to 15 minutes to fill the questionnaire and pretest, then educational session about breast cancer; risk factors, signs and symptoms, screening of breast cancer…….etc., the lecture given in about 30 minutes which was in simple Arabic language and the sample was educated the technique of BSE after the session each student was given a copy from lecture in form of folded/outspread which was contained a theoretical information beside the pictures of BSE. Then the post test is given which take about 10 minutes.

4.1. Ethical Consideration

Permission to conduct the study was obtained. Verbal consent was obtained from each participant. The researchers were offered adequate information about the study purposes and its significance. Participation was voluntary. Participants were assured that their responses would be confidential and information that might reveal their identity would not be recorded, and only aggregated data would be communicated.

4.2. Pilot Study: A pilot study was carried out on 15 student females who registered in the faculty of applied medical Sciences and faculty of nursing and allied health sciences in Taibah and Jazan Universities in order to test the applicability of tools, clarity and simplicity of the included questions as well as to estimate the average time needed to fill in the sheets. Those who shared in the pilot study were excluded from the main study sample. Necessary modifications were carried out based on finding of pilot study to develop the final form of the tools.

4.3. Data Analysis: Data were revised, coded, tabulated and analyzed in a PC computer SPSS software package version 17. The following statistical techniques were used; Percentage. Paired t-test was used to compare between the results before and after education for interval and ratio data and Wilcoxon and sign rank test for ordinal or categorical data. The significance level was chosen as ($p<0.05$).

5. Results

Table (1) Socio-demographic characteristics of the studied sample:

Variable	NO	%
Age		
≤20	29	8.6
20-22 years	237	69.9
23-25 years	73	21.5
Mean + Std. Deviation	**21.5192+1.3375**	
Marital status		
Single	267	78.8
Married	69	20.4
Divorced	2	.6
Widow	1	.3
Specialty		
Nursing	122	36
None nursing	217	64
Family History With Breast Cancer		
Yes	35	10.3
No	304	89.7
If yes		
Close relatives (mother, sister, grandmother)	22	62.9
Others (distant relatives)	13	37.1
Previous History Of Breast Problems		
Yes	14	4.1
No	325	95.9

Table 1 shows socio-demographics data of the participants. More than two thirds of the students in the sample (69.9%) their age ranging from 20 to 22 years. The mean ages of the students were 21.5192+1.3375. Nearly half of the students in the sample (49%) were registered in fourth year. About 78.8% of the students in the sample were single. Approximately more than two thirds of them (64%) were none nursing specialty. Also, eighty nine point four percent of the students in the sample had no family history with breast cancer. In addition majority of the students in the sample (95.9%) had no previous history of breast cancer.

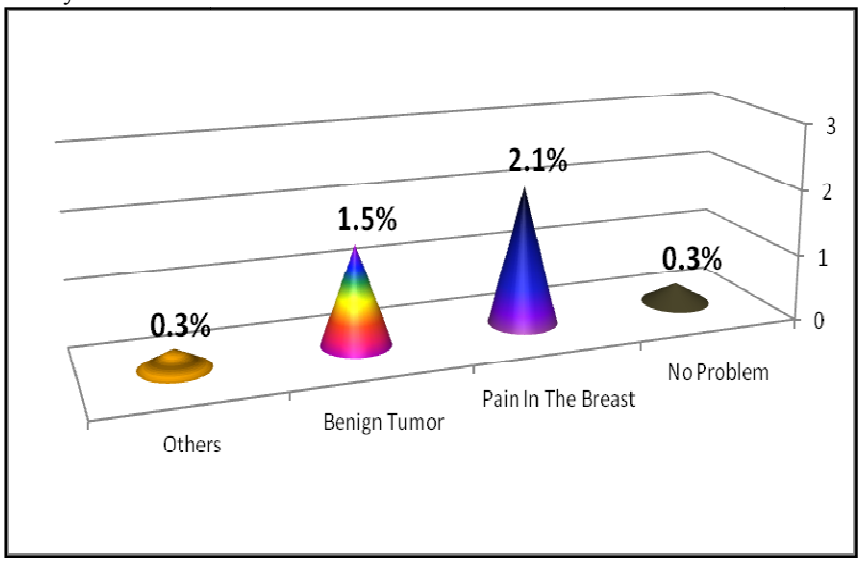


Figure (1) Type of previous breast problem

Figure1 illustrates type of previous breast problem in the participants. Two point one percent of the students in the sample had previous history of pain in the breast, while (1.5%) of them had previous history of benign tumor in the breast.

Table (2): Assessment of Students Perception Regarding Breast Cancer:

Variable	NO	%
What is your opinion about breast cancer?		
Rare disease	26	7.7
Famous disease	277	81.7
I don't know	36	10.6
Are you listen about breast cancer?		
Yes	333	98.2
No	6	1.8
Source of information		
Radio	10	2.9
Television	161	47.5
Newspaper	89	26.3
friends	14	4.1
family	19	5.6
doctors	40	11.8

Table 2 demonstrates assessment of students' information about breast cancer in the sample. Relatively more than three quarters' of the students in the sample (81.7%) their opinion regarding the breast cancer is famous disease. High majority of the students in the sample (98.2 %) heard about breast cancer, while nearly half of them (47.5%) obtained their of information from television.

Table (3): Comparison Between Students' Pre-& Post Knowledge In The Sample Regarding Risk factors of B C:

Variable	PRE		POST		X^2	p-value
	No	%	No	%		
Advanced Age						
Incorrect Answer	85	25.1	8	2.4	**80.864**	**.000**
Do not know	146	43.1	39	11.5		
Complete Correct Answer	108	31.9	292	86.1		
Positive family history						
Incorrect Answer	145	42.8	47	13.9	**66.650**	**.000**
Do not know	98	28.9	18	5.3		
Complete Correct Answer	96	28.3	274	80.8		
Age of Menarche						
Incorrect Answer	78	23	22	6.5	**111.883**	**.000**
Do not know	172	50.7	56	16.5		
Complete Correct Answer	89	26.3	56	16.5		
Late menopause						
Incorrect Answer	81	23.9	28	8.3	**153. 894**	**.000**
Do not know	161	47.5	50	14.7		
Complete Correct Answer	97	28.6	261	77		
Infertility						
Incorrect Answer	78	23	81	23.9	**3.222**	**. 521**
Do not know	149	44	11	3.2		
Complete Correct Answer	112	33	247	72.9		
Previous breast diseases or infections:						
Incorrect Answer	143	42.2	63	16.8	**6.108**	**.191**
Do not know	31	9.1	9	2.7		
Complete Correct Answer	165	48.7	267	78.8		
Obesity						
Incorrect Answer	87	25.7	44	13		
Do not know	135	39.8	24	7.1		
Complete Correct Answer	117	34.5	271	79.9	**179. 826**	**.000**
Using of contraceptive methods especially estrogen more than 5 years						
Incorrect Answer	118	34.8	68	20.1	**163.494**	**.000**
Do not know	138	40.7	10	2.9		
Complete Correct Answer	83	24.5	261	77		
Hormonal replacement treatment						
Incorrect Answer	111	32.7	74	21.8	**2. 971**	**.563**
Do not know	120	35.4	58	17.1		
Complete Correct Answer	108	31.9	207	61.1		
Having First baby after 35 year						
Incorrect Answer	85	25.1	56	16.5	**188.707**	**. 000**
Do not know	129	38.1	5	1.5		
Complete Correct Answer	125	36.9	278	82		
Alcohol intake						
Incorrect Answer	122	36	78	23		
Do not know	116	34.2	109	32.2	**5.687**	**. 224**
Complete Correct Answer	101	29.8	152	44.8		
Smoking						
Incorrect Answer	152	44.8	67	19.8		
Do not know	108	31.9	22	6.5	**134.122**	**.000**
Complete Correct Answer	79	23.3	250	73.7		
Sedentary lifestyle and lake of exercise					**173.567**	**.000**
Incorrect Answer	91	26.8	40	11.8		
Do not know	114	33.6	26	7.7		
Complete Correct Answer	134	39.5	273	80.5		
No lactation						
Incorrect Answer	150	44.2	27	8	**37.647**	**.000**
Do not know	106	31.3	5	1.5		
Complete Correct Answer	83	24.5	307	90.6		
Exposure To Radiation					**116.865**	**.000**
Incorrect Answer	121	35.7	53	15.6		
Do not know	103	30.4	5	1.5		
Complete Correct Answer	115	33.9	281	82.9		

Table 3 illustrates comparison between Pre-& Post Knowledge of the students in the sample regarding risk factors of B C. There were statistical significance improvement of students' knowledge after educational session in most items of knowledge regarding to risk factors. Relatively less than half of the students in the sample

(43.1%) do not know that advanced age is a risk for breast cancer in pre-test compared to (11.5%) of them in post-test with highly statistically significant difference. However (X^2=80.864 and P=.000). However (24.5%) of students had complete correct answer about identifying using of contraceptive methods especially estrogen more than 5 years was risk factor for breast cancer in pretest compared to relatively three quarters of them (77%) in posttest (X^2=163.494 and P=.000). Furthermore, 30.4% of the students do not know that exposure to radiation was risk factor for breast cancer in pretest compared to 1.5 % of them in posttest with statistically significant difference(X^2=116.865and P=.000).

Table (4): Comparison between Pre-& Post Knowledge of students in the Sample regarding breast cancer symptoms:

Variable	PRE		POST		X^2	p-value
	No	%	No	%		
More than one mass					**5.614**	**.230**
Incorrect Answer	74	21.8	60	17.7		
Do not know	58	17.1	18	5.3		
Complete Correct Answer	207	61.1	261	77		
Painless mass					**92.803**	**.000**
Incorrect Answer	153	45.1	46	13.6		
Do not know	101	29.8	15	4.4		
Complete Correct Answer	85	25.1	278	82		
Retraction of the nipple					**235.096**	**.000**
Incorrect Answer	132	38.9	16	4.7		
Do not know	120	35.4	91	26.8		
Complete Correct Answer	87	25.7	232	68.4		
Breast pain, redness					**89.830**	**.000**
Incorrect Answer	132	38.9	42	12.4		
Do not know	86	25.4	18	5.3		
Complete Correct Answer	125	36.9	279	82.3		
Bloody discharges from breast					**71.080**	**.000**
Incorrect Answer	144	42.5	36	6.4		
Do not know	126	37.2	14	4.1		
Complete Correct Answer	69	20.4	289	85.3		
Pus discharge from breast					**112.515**	**.000**
Incorrect Answer	139	41	50	14.7		
Do not know	118	34.8	23	6.8		
Complete Correct Answer	82	24.2	266	78.5		
Unsymmetrical breasts					**3.953**	**.412**
Incorrect Answer	79	23.3	109	32.2		
Do not know	150	44.2	27	8		
Complete Correct Answer	110	32.4	203	59.9		
Fever					**55.78**	**.000**
Incorrect Answer	179	52.8	31	9.1		
Do not know	95	28	17	5		
Complete Correct Answer	65	19.2	291	85.8		

Table 4 shows that comparison between Pre-& Post Knowledge of students in the Sample regarding breast symptoms. There were statistical significance improvements of students' knowledge lecture in the majority symptoms of breast cancer. Relatively less than one third of the students in the sample (29.8%) do not know that the presence of painless mass in the breast as a symptom for breast cancer in pre test compared to (4.4%) of them in posttest. Also, (85.3%)of the students in the sample gave complete correct answer regarding to bloody discharges from the breast as symptom of breast cancer in posttest. Moreover, (80.2%) of the students had complete correct answer related to unsymmetrical breasts as a symptoms in posttest.

Table (5): Comparison Pre-& Post Knowledge of Students Regarding Screening of Breast Cancer:

Variable	PRE		POST		X^2	p-value
	No	%	No	%		
Breast self examination						
Incorrect Answer	134	39.5	18	5.3	**67.083**	**.000**
Do Not Know	151	44.5	120	35.4		
Complete Correct Answer	54	15.9	201	59.3		
Screening by doctor from 20 to 39 years					**4. 782**	**.310**
Incorrect Answer	75	22.1	63	18.6		
Do Not Know	207	61.1	9	2.7		
Complete Correct Answer	57	16.8	267	78.8		
Screening by doctor over 40 years					**56.099**	**.000**
Incorrect Answer	61	18	49	14.5		
Do Not Know	157	46.3	15	4.4		
Complete Correct Answer	121	35.7	275	81.1		
Screening by mammogram 40 - 49 yrs					**11.962**	**.018**
Incorrect Answer	219	64.6	13	3.8		
Do Not Know	63	18.6	44	13.8		
Complete Correct Answer	57	16.8	282	83.2		
Screening by monogram over 50 years						
Incorrect Answer	141	41.6	170	50.1	**8.516**	**.074**
Do Not Know	128	37.8	102	30.1		
Complete Correct Answer	70	20.6	67	19.8		

Table 5 illustrates comparison Pre-& Post Knowledge of students in the sample regarding screening for early detection of breast cancer. Regarding to students' knowledge about Breast self-examination less than half of them (44.5%) had do not know the duration for breast self-examination screening in pretest compared to (35.4%) of them in posttest (X^2= 24.098, P=.000). Also, (16.8 %) of the students' had complete correct answer about screening by doctor from 20 to 39 years in pretest, compared to (78.8%) of them in posttest (X^2= 20.167, P=.000). Also as shown by the table no statistical significance difference regarding screening by monogram over 50 years ($\mathbf{X^2}$ = 8.516, p = .074).

Table (6): Total knowledge Scores of the Studied Sample:

Variable	Pre Test						Post Test						T-test	P
	Good		Fair		Poor		Good		Fair		Poor			
	No	%	No	%	No	%	No	%	No	%	No	%		
Total knowledge Score	116	34.2	222	65.5	1	.03	338	99.7	1	.03	0	0	48.457	.000
Mean+ S.D	**60.0855 +8.7558**						**77.8024+ 5.8228**							

Poor= less than (50%) : <42
Fair= (50-75%):42-63
Good=more than (75%) >63

As shown by table 6 there was a highly statistically significant difference. The major percent of the sample (99.7%) had good total knowledge in posttest.

Table (7): Correlation between Total knowledge scores pre, age, and Total knowledge scores post

variable	Age	
	r	p
Total knowledge scores pre	-.056*	.305
Total knowledge scores post	-.156*	.004

*** Correlation is significant at the 0.05 level (2-tailed).**

Table seven shows correlation between pre total knowledge scores, age, and post total knowledge scores of the students in the sample. There were negative correlations between age and knowledge score in the pre and posttests this negative correlation was significant in the post test.

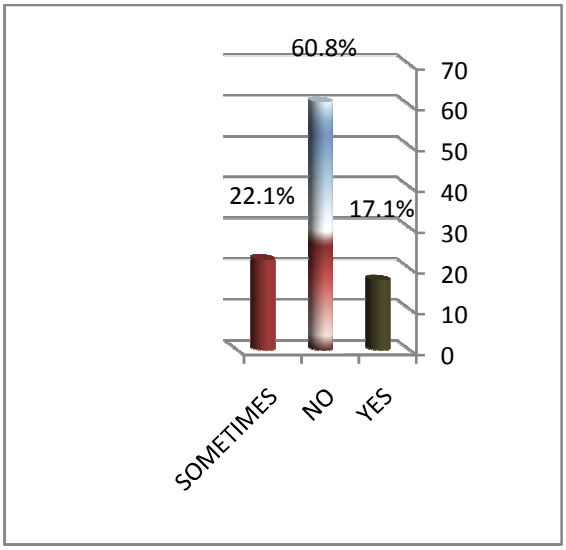
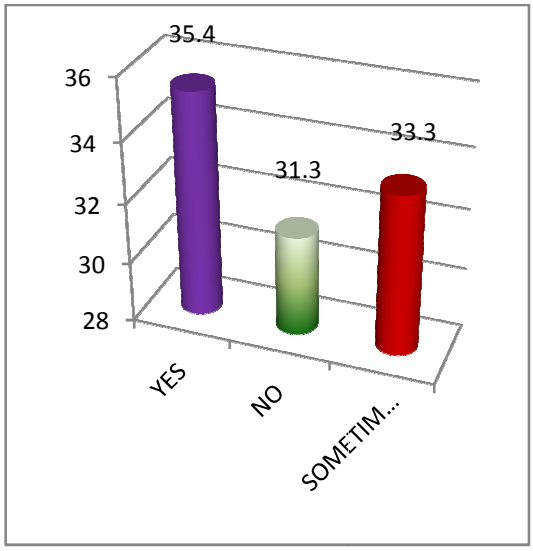


Figure (2) Pre Practice of Breast Self-Examination



Figure(3)Post–Practice of Breast Self-Examination

Figures (2&3) show comparison between pre & post students' practice of breast self-examination in the sample. Seventeen point one of the students in the sample were practice breast self-examination in pretest compared to more than one third (35.4%) of them in posttest. Also, relatively more than one quarter (22.1%) of the students in the sample reported that they sometimes practiced breast self-examination in pretest, compared to 33.3% of them in posttest.

6. Discussion

Breast cancer is the most common invasive cancer in women, with upwards of 1 in 8 women being affected during their lifetime. The consistent reduction in breast cancer mortality began in the 1990s, around the time Medicare approved coverage for screening mammography, and is largely a reflection of improvements in early detection and/or treatment. [22]

Regarding to socio-demographic characteristics of the participants the findings of the present study revealed that the age of current study sample was ranged from 20- 25 years (M±SD: 21.51± 1-33). The majority of them had no family history regarding breast cancer. Regarding their perception toward breast cancer the highest percentage of sample perceive breast cancer as a famous disease. This finding supported by Montazeri et al,. 2008 [23] who stated that; breast cancer is a relatively common disease among women. Also main sources of students, information about breast cancer were mass media especially television in congruence with this finding. [23-25] who stated that; mass media was the source of information about B C. Also Nur,[26] who studied breast cancer knowledge and screening behaviors of the female teachers found that, the sources of that information were television (59.0%), newspapers (48.9%), and health professionals (24.1%). From other face, Dandash, Al-Mohaimeed [27] estimated that; the printed media was the most common source of knowledge.

The first hypothesis of the current study was that; the educational session about breast cancer will improve the female students' knowledge about risk factors, symptoms, screening of breast cancer in Madinah Monwarrah as an urban area and Jazan as an rural area in KSA. This hypothesis was found to be acceptable as the post knowledge test has shown statistically significant improvement when compared to the pre-test. At the pre-test, before the educational session, the majority of female students in the present study had poor knowledge (do not know, incorrect knowledge) about breast cancer. The findings of the present study supported by Yousuf [28] who examined breast cancer awareness among Saudi nursing students, found that; the participants' knowledge of breast cancer increased significantly after the workshop. Also Abdelhadi [29] who examined breast cancer awareness campaign: will it make a difference? Demonstrated that, post workshop questionnaire demonstrated positive results. Additionally Darrow et al., [30] who examined ; Women's knowledge and beliefs about breast cancer risk factors, symptoms, detection methods, and treatments; found a survey of adult women that assessed knowledge, beliefs, and practices regarding the causes, symptoms, detection methods, and treatment of breast cancer (April and July of 1985), Overall, women's knowledge about breast cancer has significantly increased since the 1979 survey.

The educational session was effective in improving knowledge of the sample regarding the risk factors of breast cancer. The sample was presented with 14 items as a risk factors which assessed in a representative sample; (advanced age, positive family history, age of menarche, late menopause, infertility, previous breast

diseases or infections, obesity, using of contraceptive methods especially estrogen more than 5 years, hormonal replacement treatment, having first baby after 35 year, alcohol intake, smoking, breast cancer is infectious, sedentary lifestyle and lake of exercises, no lactation and exposure to radiation). Most female students gave incorrect answers in pre-test questions but high percentage of them gave complete and correct answer with a high statistical significant difference. In the same line of this finding Montazeri, etal., Yousuf, Wardle et al., Dolan et al. [23,28,31,32] who studied Age-related differences in breast carcinoma knowledge, beliefs, and perceived risk among women visiting an academic general medicine practice; estimated that, most women were unaware that age is a risk factor for breast carcinoma. Additionally Nur,[26] estimated that ; a significant association was noted between level of knowledge about breast cancer risk factors and use of breast self-examination.

The current study show great improvement in the knowledge of the sample (highly significant difference) regarding symptoms of breast cancer in posttest. The sample represented with 9 items to be assessed as a symptoms of BC (Presence more than one mass, painless mass, retraction of the nipple, breast pain, redness, bloody discharges from breast, pus discharge from breast, unsymmetrical breasts & fever). In congruence with this study, Yousuf [28] estimated that, A significant improvement in the participants' knowledge of B C symptoms. Okobia [33] who studied knowledge, attitude and practice of Nigerian women towards breast cancer: A cross-sectional study found that, participant's knowledge about symptoms of breast cancer was rather poor. Additionally Linsell et al., [34] who examined breast cancer awareness among older women, estimated that the results of the survey indicate that although older women demonstrate some knowledge of the symptoms and risks associated with breast cancer, there was poor awareness about important issues, particularly among those who were less educated.

The second hypothesis of current study was; the student who attend the educational session about breast cancer will be perfect in performing breast self-examination and more able to pass their experience to their relatives, friends and families than who do not. This hypothesis was found to be acceptable as the post knowledge test has shown statistically significant improvement in performing BSE and knowing the right technique of BSE and its timing. highest percentage of current study sample's was had poor knowledge regarding to methods of B C screening whether breast self-examination (BSE) , screening by doctor (clinical examination) or mammogram and having poor knowledge regarding practice of BSE (importance, technique and timing of BSE) in pre-test but great improvement noticed after educational session and counseling. The students sample assessed for (Breast self-examination, screening by doctor from 20 to 39 years, screening by doctor over 40 years, screening by mammogram 40 -49 years, screening by monogram over 50 years).

In the same line of this finding [28,29] found that; post workshop questionnaire demonstrated positive results regarding performing BSE and participants felt confident to teach and were willing to pass the information of breast cancer and breast self-examination to their relatives, friends and colleagues.

Additionally Maqsood, [35] found that; most women did not practice breast cancer screening. Increased awareness should be made through health education and doctors' encouragement of BSE, CBE (clinical breast examination) and mammography practice. Also Nur, [26] revealed a relatively low awareness about screening methods (breast self-examination, clinical breast-examination, and mammography) and suggest that increased awareness of these methods, their value, and how they should be conducted is needed. Mahmoodi et al., [36] who studied breast self-examination: knowledge, attitudes, and practices among female health care workers in Tehran, Iran, found that; women's attitudes toward BSE, the majority believed that it is not difficult and time consuming or troublesome (63% and 72%, respectively). Sixty-three percent of the respondents claimed that they know how to examine their breasts, but only 6% performed BSE monthly. The practice of BSE was significantly associated with age ($p = 0.01$).

Montazeri, et al., [23] suggested that; clinical examination, and mammography were very inadequate and only 17% of women said that 'they were conducting regular breast self-examination'. The main reason for women not doing breast self-examination was due to the fact that they did not know how to do it (64%). Furthermore [37, 38] revealed that few participants performed BSE on the regular basis and level of breast cancer knowledge was the only variable significantly associated with the BSE and mammography practice.

Older women had poorer breast carcinoma knowledge than younger women but were equally likely to appreciate the benefits of mammography. Improved education of females by their physicians may resolve some of the observed discrepancies regarding the optimal age to begin screening mammography [32]. Furthermore Thomas, [39] estimated that intensive instruction in BSE did not reduce mortality from breast cancer. Programs to encourage BSE in the absence of mammography would be unlikely to reduce mortality from breast cancer. Women who choose to practice BSE should be informed that its efficacy is unproven and that it may increase their chances of having a benign breast biopsy.

Nowadays survival rate of breast cancer improved significantly particularly in young women related increase awareness regarding; types, causes, clinical symptoms and various management approaches of breast cancer. [40]

The current study revealed a negative correlation between the age of female students and their level of knowledge about B C but there was a statistical significance difference regarding posttest knowledge. In the same line of this finding; Dolan et al., [32] who estimated that, older women had poorer breast carcinoma knowledge than younger women.

7. Conclusion:

Based on the results of the study the mean age of the sample was 21.5+1.3. Regarding the attitude of sample to B C about 81.7% consider it as a famous disease. Main source of their knowledge is a mass media especially television. The educational session improve the female students knowledge about risk factors, symptoms, screening of B C. Additionally there was great improvement in practice of breast self-examination (BSE).This greatly observed in their post test (there was a highly significant difference)

8. Recommendations

Based on the findings of the present study, the following recommendations are suggested:

• Establish education program for all female students about the benefits of early detection & proper management of breast cancer through health booklets.

• Incorporation of breast cancer programs into the school & university programs.

• Governmental and nongovernmental support for the female is needed to facilitate and continues early screening breast cancer.

• Establishment of educational programs for the male students to empower them about breast cancer to provide support toward early detection for their closed females relatives as sisters, wife's and mothers.

• Co-ordinate with mass media to to increase awareness about breast cancer and methods.

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