Breast Self-Examination in Terms of Knowledge, Attitude, and Practice among Nursing Students of Arab American University/ Jenin

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Abstract

Background: Breast self-examination is a simple, very low cost, noninvasive with no special material/tool requirements; and it is an effective diagnostic method for breast cancer which only takes five minutes to apply. **Aim of the Study**: The study aimed to assess the level of BSE knowledge, attitude, and practice among female nursing students in AAUJ. **Subjects and methods**: Descriptive, cross sectional study was used for conducting the study, a regular random sample has been used, 97 female nurses students from nursing department of Allied Medical Science Faculty/AAUJ   were included. Data collected through; nurses' socio-demographic characteristic, knowledge level towards BSE, Attitude level about BSE, and practice level towards BSE Scale which is developed by the researchers. Validity and pilot study were examined . **Results:** Study results have shown that 15.5% of the respondents had good overall knowledge towards BSE, The major source of information about BSE (57.6 %) was mass media in the study, 75.3% of participants had positive attitude towards BSE, and 4.1% practice BSE always every month. There was a significant difference between age and academic level towards Knowledge of BSE. At the same time, there was a significant difference between overall knowledge and practice of BSE (P= 0.000). **Conclusion and recommendation:** Most female nursing students had poor knowledge about BSE and did not perform BSE. Mass Media is an important source of information about BSE to improve awareness among the community.
Keywords: breast cancer, breast self exam, nursing female university students

1. Introduction

 Breast cancer is a serious global disease occurring in a large number of women (Banning & Hafeez, 2010), and it is the leading cause of cancer related deaths among women world-wide (Jemal, Siegel, Ward, Murray, Xu , Smigal, Thun, 2006; Groot, Battussen, Uyl-de Groot et al, 2006). According to the American Cancer Society (ACS, 2010), about 1.3 million women are diagnosed with breast cancer annually and about 465,000 die from the disease. There is an upward trend in incidence of breast cancer occurrence in developing countries consistent with the adoption of unhealthy westernized lifestyles such as smoking, physical inactivity, consumption of calorie-dense food, changes in childbearing and breast feeding, and exogenous hormonal intake (Ferlay, Shin, Bray, Forman, Mathers and Parkin, 2010). In 2013 (2189) new cancer cases were reported in West Bank, (1127) cases were females (51.5%) and (1062) were males (48.5%). The cancer incidence rate was (79.5) per 100,000 of population. Breast cancer ranked first, with (401) reported cases, (18.3%) from all reported cases. Breast cancer is the highest among females and focus in the age group between 20 - 59. (MOH, 2014). The reported figures by MOH shows remarkable increase in Cancer mortality in West Bank 2013 compared with 2007 and 2010, from (10.3%) in 2007 to (10.8%) in 2010 then increases to reach (13.3 %) from the total deaths in West Bank in 2013. Breast cancer was the third leading cause of death among cancer mortality (9.1%). (MOH, 2014). It has been estimated that more than 80% of breast cancer are associated with environmental factors that include exposure to contaminants, lifestyle, and diet (Charlier and Dejardin, 2007). Although curative treatment for breast cancer is increasingly successful, early detection and treatment are critical in reducing mortality rates among women (Erblich, Bovbjerg, & Valdimarsdottir, 2000). The knowledge and attitude towards breast cancer is low such that majority of the affected patients present late in the hospital when little or nothing can be done again (Haris, Lippman, Veronesi and Willett, 1992).The three screening methods currently recommended by the American Cancer Society (2010) for early detection of breast cancer are clinical breast examination (CBE), mammography, and breast self-examination (BSE) (American Cancer Society, 2010). BSE is a relatively simple, convenient, non-invasive, minimal-risk, and inexpensive method of early detection recommended for women. Women should begin this routine in their 20s to learn the look and feel of their healthy breast so that they may report any changes in their breasts to a health expert immediately (Janz et al., 1989). BSE allows women to perform an examination independently (i.e., without relying on a health care professional). It also is often the only screening method available for women without access to professional health care services, such as those that lack adequate health insurance (Erblich et al., 2000).

        Breast   self-examination is a simple, very low cost, noninvasive   with no special material/tool

requirements; and it is an effective diagnostic method for breast cancer which only takes five minutes to apply (Beydag and Yurugen, 2010). Its purpose is 2 fold: to make women familiar with both the appearance and the feel of their breasts and to help women detect any changes in their breasts as early as possible. There is evidence that women who correctly practice BSE monthly are more likely to detect a lump in the early stage of its development, and early diagnosis has been reported to influence early treatment and to yield a better survival rate (American Cancer Society, 2002)**.** Unfortunately, despite the benefits of regular BSE, few women actually examine themselves; in fact, a majority does not even know how to do a BSE (Stamle, Thomas, Lafreniere, 2000; Al-Abadi 2001) . It is important to adequately motivate women to regularly carry out BSE so as to curtail the increasing mortality rate from breast cancer (Hackshaw and Paulo, 2003). In fact, regular BSE has been suggested as part of overall health promotion concept (Plesnicar, Kovac and Kralj, 2004). 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 **(**Larkin, 2001).

Breast cancer is the most common cause of cancer-related deaths among women worldwide (Lodha, Nandeshwar, Pal et.al, 2011; WHO, 2011). Females in Palestine constitute half of the population (50.7% male, 49.3% female) (PCBS, 2007). This means that any hazardous agent affects women, mostly will impact the half of the population, also women in Palestinian society play a crucial role in the socialization process, so it is very important to put hand in hand to fight against these hazards like breast cancer in order to get a very healthy present and future generation.

In many countries, there are cultural attitudes that make women feel uncomfortable to receive information about BSE by male healthcare personnel. As especially important role models in such situations, female nurses must have accurate information and positive attitudes about BSE and should perform it regularly themselves. Therefore, nursing students must be informed in detail about BSE and perform BSE correctly while in school so they are able to educate patients after graduation (Memis, Balkaya, Demirkian, 2009). Additionally, nursing students have a responsibility to give instructions to other women on how to perform BSE correctly in primary health care settings (Alsaif, 2004).

Currently, there is no available data about BSE knowledge and practice of Palestinian nursing students, or whether their education is sufficient to impart accurate information, positive attitudes, and BSE skills. Therefore, the aim of the current study was to determine the knowledge, attitude, and practice nursing students regarding BSE in AAUJ, and to establish baseline data for further research as well as for new curricular strategies about BSE.

In a quasi experimental study conducted by Yakout, Moursy, Moawad, and Salem (2014) 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 in College of nursing (Female section) Riyadh, King Saud University (KSU), Kingdom Saudi Arabia (KSA)**.** 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.

Another a quasi experimental study conducted by Salama, Elsebai, Abdelfatah, Shoma, and Elshamy (2013) to investigate the effects of peer education on the Knowledge of Breast Cancer and Practice of Breast Self-Examination among Mansoura University Female Students. Results showed that there was an improvement in total knowledge post education I (t= 43.020, p= 0.000). And the improvement (p= 0.000) was maintained post education II (t= 38.566). There was an improvement in practice score post education I (t= 58.083, p= 0.000), as well as post education II (t= 10.415, p= 0.000). BSE performance increased significantly following education (p= 0.000) from 8.0% to 52.7 %.

A descriptive study conducted by Juanita, Jittanoon, and Boonyasopun (2013) to survey the level of BSE practice among female nursing students in Aceh, Indonesia and the degree of self-efficacy in those who did practice it. Seventy-six nursing students from the Public Nursing College, Syiah Kuala University in Aceh who met the inclusion criteria were recruited. Stratified proportionate random sampling was used to determine the required number of first, second, and third year students. Result revealed that only 39.5% of the students practiced BSE with more than half of the students saying they did not practice BSE (60.5%). The main factors that influenced the students' performing BSE were not having a family history of breast cancer, single, and no history of breast illness. Among the thirty students who practiced BSE, most of them did not practice it routinely (70%), nor at the correct time (86.7%). 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 (Yousuf, 2010). A cross-sectional study conducted to investigate knowledge, attitudes, and behaviors of nursing and midwifery students regarding breast self-examination (BSE) on 244 female students of nursing and midwifery in Aydin School of Health at Adnan

Menderes University in Aydin, Turkey. Results showed that more than half of the study participants stated they had sufficient information about BSE from varied sources, primarily from school curricula. The students were knowledgeable about who should perform BSE and its recommended frequency; however, their knowledge of BSE techniques was limited. First-year students had negative attitudes about BSE but became more positive as they progressed in their education. Half of the study sample stated they performed BSE at recommended times and intervals, but only one-fifth used recommended BSE positions and techniques. The main reasons for not performing BSE included not knowing how to perform it (57%), not having any history of problems in the breast (39%), and forgetfulness (18%) (Memis, Balkaya, Demirkian, 2009). A cross -sectional study conducted by Bassey, Irurhe, Olowoyeye, Adeyomoye, And Onajole (2011) to assess level of knowledge, attitude and practice of breast self-examination (BSE) among nursing students of Lagos University Teaching Hospital. The respondent's knowledge of breast cancer and breast self-examination was high (97.3%; 85.6%) knew how to carry out breast self examination correctly. Majority, 58.6% obtained their information from television/ radio. The attitude of respondents to breast self-examination was good, most of the respondents, 98.5% thought breast self examination was necessary and 84.3% claimed to have carried out breast self-examination before. Respondents' practice of breast self-examination was also good with 80.2% of the respondents claiming to carry out breast self-examination regularly. The level of awareness of breast cancer and breast self-examination was high among nursing students of the Lagos University Teaching Hospital (Bassey, Irurhe, Olowoyeye, Adeyomoye, and Onajole, 2011). A cross sectional study Conducted by **Irurhe, Olowoyeye, Arogundade**, and **Bassey** (2009) to investigate the knowledge, attitude and practice of breast self-examination (BSE) among female medical students in University of Lagos. Results showed that majority of the respondents, 40.7% were from the age group 21-22 drawn from first to sixth year medical students.97.3% had heard of breast cancer and breast self-examination.54.8% of the respondents heard of breast cancer from television/ radio. Most of the respondents, 85.8% knew how to perform breast self-examination correctly. Only 65.4% of the respondents thought that breast self-examination was necessary. 43.5% of the respondents said that the last time they performed breast self-examination less than a year ago. Majority of the respondents, 69.6% preferred to perform breast self-examination in the morning while 47.7% of the respondents preferred to carry out breast self-examination in front of the mirror. A cross sectional study conducted by Kaur and Walia **(2007)** to investigate the knowledge and practices of breast self examination (BSE) among nursing students in the month of Sept 2005 at National Institute of Nursing Education, Post Graduate Institute of Medical Education And Research, Chandigarh. The mean age of the participants was 21.2yrs±4.17. Maximum expected knowledge score was 12. Participants pursuing M.Sc. nursing had maximum knowledge score (11.6±0.55) followed by the scores of B.Sc. nursing-interns (11.5±0.66) and B.Sc. nursing-Post Basic (9.8±1.3). There was a statistically significant difference in knowledge score as per the professional qualification of the subjects (F= 40.66, p=0.00). Out of the total, 57.9% participants were practicing BSE on monthly basis (51.2%). Two participants had changes in contour, changes in symmetry, lump in breast, pain on palpation and palpable nodules. A cross sectional study conducted by Al-Sharbatti, Shaikh, Mathew, and Al-Biate (2013) to assess the prevalence of Breast Self Examination (BSE) practice among female university students in Ajman. It was found that 22.7% of the participants practiced BSE but only 3% of them practiced BSE monthly. Marital status but not age as significantly associated with age likelihood. The most frequent reported barriers for BSE were lack of knowledge, considering oneself not at risk and the absence of doctor advice. These factors need to be taken into account in intervention efforts. Sarfo, Peasah, Acheampong, and Asamoah (2013) to determine the knowledge, attitude, and practice of SBE among female university students. The study took place at the Presbyterian University College of Ghana, Asante Akyem Campus. A disproportionate stratified sampling technique was used to select a sample size of 250 nursing students. The results revealed that students in a higher level of education performed BSE properly. The results revealed 95% respondents had ever heard of breast cancer and BSE. Majority of respondents cited the media and formal education as their source of information on breast cancer and BSE. Even though the majority of respondents claimed they had heard of SBE, only 80% knew how to perform it. The study showed that majority of respondents were aware of breast cancer as a disease and self-breast examination as a screening method, but their knowledge and understanding of the method of BSE was very low. A cross sectional study by Plesnicar, Golicnik, Fazarinc, Kralj, Kovac, and Plesnicar (2010) to assess the attitude of undergraduate midwifery students towards teaching other women in methods of breast self-examination (BSE). The study was performed at the beginning and at the end of students' study at the Faculty of Health Sciences in Ljubljana, Slovenia. It was carried out during the academic year 2002/2003 and involved 28 first and 25 third year undergraduate midwifery students. Results showed that all study participants were of the opinion that teaching other women in methods of BSE is of great importance for an early detection of breast cancer (BC) and that this task ought to be one of their duties. There were no significant differences between the two groups when the readiness to upgrade their own knowledge of BSE or when the optimism regarding the progress in breast cancer detection and therapy in the future were concerned. A descriptive cross sectional study conducted by Parajul and. Mandal (2010) in Koirala Institute of Health Sciences, Dharan, Nepal, to assess knowledge about

breast cancer and breast self examination practices among medical, dental and nursing students and to identify the associated factors which influence towards the breast self examination (BSE). The survey was conducted among 220 graduate levels female students by using non probability convenience sampling technique. Mean knowledge about the breast cancer, as indicated by the results were 63.67±16.22, 71 ±18.16 and 76 07 ±18.60 among Dental, nursing and Medical students respectively. Similarly mean practices regarding BSE were found to be 34.67 ± 15. 41, 47.85 ±14.08 and 46.76 ±14.77 among dental, nursing and medical respectively. Knowledge was less among dental students whereas, it was found quite higher in medical and nursing students. Similarly, mean practice in relation to BSE was found to be low in dental, high in nursing, and higher in medical students. Overall level of knowledge was found to be mordantly adequate among all disciplines, however practices among them were found to be inadequate.

2. Subjects and Method

2.1 Aim of the study: The study aimed to assess the level of BSE knowledge, attitude, and practice among female nursing students in AAUJ.

2.2 Objectives of the study
1.   To determine the knowledge, attitudes, and practice on breast self-examination among nursing students.
2.   To find out the association between knowledge on breast self-examination and selected demographic variables

2.3 Research questions
What are the knowledge, attitudes, practices of the student nurses towards BSE?
What are the association between knowledge level of breast self-examination and selected demographic variables?

2.4 Research hypothesis
There is a significant difference of knowledge on breast self examination at a level of (α= 0.05) and the selected demographic data.
There is a significant difference at a level of (α= 0.05) between the knowledge and practice of breast self examination.

2.5 Variables
The independent variables were age, residence, academic year, family history of breast cancer.
The dependent variables included knowledge, attitudes, and practices of palliative care.

2.6 Operational definitions
Breast self-examination: Monthly examination of breasts conducted by women following the five major steps of breast self-examination which include: examining both the breasts for size, shape, color and contour while looking in front of the mirror with their arms straight, on the hips, and over the head; to palpate or feel the breast both in standing and lying position using the three finger pads.
Knowledge: It means the facts/condition of knowing something with familiarity gained through experience or association (Temiz, Inandi, and Beshirov, 2008).
In this study, knowledge refers to awareness of nursing students regarding breast self-examination as measured by a structured knowledge questionnaire on breast self-examination.
Nursing student: Female nursing students are those females who are studying nursing in Arab American University/Jenin.

2.7 Study design: Descriptive cross sectional explorative study was used for conducting the study.

2.8 Study Setting: The study was conducted in Nursing department affiliated to Arab American University
Study period: The study was conducted between November 2014 and January 2015 in the Arab American University/Jenin, Palestine.

2.9 Study Sample: A stratified random sample was selected, adopting the systematic approach, where the first name was selected by the blind method and then the procedure followed the selection of each fourth name from the lists of the target participants.
The total sample size included 97 nursing student from different levels and representing the total population as 25% from the Nursing department.

2.10 Inclusion criteria

Female who:

1.   Is nursing student at Arab American University /Jenin.
2.   Is willing to participate in the study.

2.11 Tool of the study

For data collection a self-administrative questionnaire were developed by researchers and used to assess :

The sociodemographic data consisted of the target groups e.g. age, Religion, academic year, family history of breast cancer, information about breast self-examination, Menstrual cycle, and Family monthly income.

The knowledge part consisted of twenty close ended questions on breast cancer, and breast-self examination.

Scoring system of participants' knowledge was done as follows: each question had a group of answer points, one point was awarded for each correct answer; incorrect or I don't know answer took zero. Correct responses were summed up to get a total knowledge scores for each participant. Total score for all questions reached 20 grades. The knowledge scores were classified as:

Poor knowledge: less than 50% (the participant score <10 considered poor knowledge)

Fair knowledge: 50 - < 75% (the participant score 10 – <15 considered fair knowledge)

Good knowledge: 75% or more (the participant score 15 and more considered good knowledge)

The attitude part consisted of 13 items, each item had a group of answer points, 5 points for strongly agree, 4 points for agree, 3 points for uncertain, 2 points for disagree, and one point for strongly disagree.

The practice part consisted of 7 items, each item had a group of answer points, 5 points for always, 4 points for usually, 3 points for often, 2 points for sometimes, and one point for never.

3. Validity and reliability of the study

The questionnaire was revised and validated by panel of 5 experts in academic and health field; they agreed and no comments. Internal consistency among the questionnaire items was 0.90 Cronbach's alpha (α) and it was considered within the acceptable range.

4. Pilot study

A pilot study was used to test the instrument (Polit & Beck, 2012) defines pilot study as a smaller version of a proposed study conducted to refine the methodology. It is developed much like the proposed study, using similar subjects, the same settings, the same treatment, the same data collection and analysis techniques.

A pilot study was conducted with ten nurses students in the Arab American University to determine the clarity of questions, effectiveness of instructions, completeness of response sets, time required to complete the questionnaire and success of data collection technique.

Pilot subjects were asked to comment on the applicability and appropriateness (validity) of the questionnaire. All questions were answered no clarity of questions was required. The researchers determined that it would take ten (10) minutes to complete the questionnaire.

5. Questionnaire response rate

High response rate which is 100% from the total student nurses in nursing department of Arab American University/ Jenin.

6. Data analysis

The quantitative data were entered and analyzed using the SPSS (Statistical Package for Social Sciences version 20.0), and the level of significance (α) was set at 0.05. Descriptive and inferential statistical tests were used. Demographic and baseline variables were analyzed using frequency, percentage, and bar chart.

Hypothesis were tested and analyzed by using t. test and Anova one way test.

7. Ethical considerations

This study was approved by the Allied medical science faculty, Arab American University. Approval from nursing students were obtained. Several strategies were utilized to protect the nurse's rights who agreed to participate in this study. First, oral verbal consent of the nurses students was obtained prior to the administration of the questionnaire. The nurses students were informed of the purpose of the study, and that they had the right to refuse to participate. Also the voluntary nature of participation was stressed as well as confidentiality. Furthermore, the nurses students were told that they can refrain from answering any questions and they can terminate at any time. Anonymity of the nurses students was maintained at all times.

8. Results

The study targeted female nursing students at Arab American university; 97 students participate in the study. The

results of statistical analysis are presented into main four sections. The first section presents the assessment base line characteristics of the studied sample, the second section present the assessment of knowledge level of BSE, the third section present the assessment of the students attitude level of BSE, and the fourth section present the relationship between the total mean knowledge of BSE and selected variables .

Description of the sample
Table 1. Assessment the base line characteristics of the studied sample

Parameters		No.	%
Age	18-20 year	57	58.8
	Above 20 year	40	41.2
Academic year	First year	44	45.4
	Second year	24	24.7
	Third year	15	15.5
	Fourth year	14	14.4
Family	Yes	14	14.4
	No	83	85.6
Residence	Urban	50	51.5
	Rural	47	48.5
Information of breast self exam	Yes	59	60.8
	No	38	39.2
If yes	Mass-media-TV, Radio, Newspaper	34	57.6
	Contact with health personnel	9	15.2
	Information from relatives	2	3.4
	Other	14	23.8
Menstrual	Regular	80	82.5
	Irregular	17	17.5
Income	Less than 1500	6	6.2
	1500-2499NIS	14	14.4
	2500- 3499 NIS	10	10.3
	3500-4999 NIS	14	14.4
	More than 5000	53	54.6

Table 1 showed that around Fifty eight point eight (58.8 %) are within the age range of 18- 20 years and forty one point two (41.2%) are within the age range of above 20 years. Forty four point four (45.4%) are in 1st year, twenty four point seven (24.7%) in 2nd year, fifteen and five (15.5%) in 3rd year, and fourteen point four (14.4%) in 4th year. Eighty five point six (85.6%) are negative family history with breast cancer and fourteen point four(14.4%) are positive family history. Fifty one point five (51.5%) are living in urban area and forty eight point five (48.5 %) in rural area. Sixty point eight (60.8) were received information about breast self exam and (39.2%) weren't received. Most information source (35.1) was the mass-media-TV, radio, newspaper, while (9.3 %) was from Contact with health personnel, while (2.1%) was from relatives, and where 14.4% was other sources. The majority of the respondents (82.5%) were with regular menstrual cycle and the rest were irregular. More than half of the sample (54.6%) were monthly income more than 5000 NIS.

Level of knowledge about BSE
Table2. **Assessment the Knowledge of breast self exam**

Knowledge of breast self exam	No.	Percentage
Poor knowledge	42	43.3%
Fair knowledge	40	41.2%
Good knowledge	15	15.5%

Table 2 The majority of the respondents were with poor knowledge of breast self exam 42 (43.3%), while 40 (41.2%) were with fair knowledge, where 15 (15.5%) with good knowledge.

Table 3. **Assessment the Knowledge level of breast self exam** with selected variables

Parameter	Poor knowledge	Fair knowledge	Good knowledge	Total
Age				
18-20 year	33(34.0%)	21(21.6%)	3 (3.1%)	57(58.8%)
Above 20 year	9 (9.3%)	19 (19.6%)	12 (12.4%)	40(41.2%)
Academic level				
First year	28 (28.9%)	16 (16.5%)	0 (.0%)	44 (45.4%)
Second year	10 (10.3%)	11 (11.3%)	3 (3.1%)	24 (24.7%)
Third year	4 (4.1%)	7 (7.2%)	4 (4.1%)	15 (15.5%)
Fourth year	0 (.0%)	6 (6.2%)	8 (8.2%)	14 (14.4%)
Family history with breast cancer				
Yes	10(10.3%)	2(2.1%)	2(2.1%)	14(14.4%)
No	32(33.0%)	38(39.2%)	13(13.4%)	83(85.6%)
Residence area				
Urban	21(21.6%)	19 (19.6%)	10 (10.3%)	50 (51.5%)
Rural	21(21.6%)	21 (21.6%)	5(5.2%)	47 (48.5%)
Information of breast self exam				
yes	15 (15.5%)	31(32.0%)	13(13.4%)	59(60.8%)
No	27 (27.8%)	9 (9.3%)	2 (2.1%)	38 (39.2%)
Menstrual cycle				
Regular	37(38.1%)	29(29.9%)	14(14.4%)	80(82.5%)
Irregular	5(5.2%)	11(11.3%)	1(1.0%)	17(17.5%)

The majority of students of age 18-20 years (34%) had poor knowledge towards breast self examination while the majority of age above 20 years (19.6%) had fair knowledge. The majority of poor knowledge level was among first year students then second year respectively (28.9% and 10.3%) while the good knowledge was among fourth year then third year respectively (8.2% and 4.1%). One fifth of the students with poor knowledge were living in urban and rural areas (21.6%) . Around one third of the students who respond yes for information of breast self exam had fair knowledge. More than one third of regular menstrual cycle had poor knowledge and one third fair knowledge respectively (38.1% and 29.9%).

Level of attitude towards BSE
Table 4. **Assessment the students attitude level of breast self exam**

No.	Items	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	During BSE makes me feel so funny	57(58.8)	27(27.8)	6(6.2)	7 (7.2)	0 (0.0)
2	BSE will be embarrassing to me	37(38.1)	29(29.9)	8(8.2)	19(19.6)	4(4.2)
3	Doing BSE is wasting time	73(75.3)	21(21.6)	3(3.1)	0 (0.0)	0(0.0)
4	Doing BSE makes me feel unpleasant	43(44.3)	43(44.3)	5(5.2)	6(6.2)	0(0.0)
5	If there is lump, I prefer to get treatment from a traditional healer	40(41.2)	30(30.9)	15(15.5)	9(9.3)	3(3.1)
6	Feel uncomfortable, can't do BSE once in a month	18(18.6)	31(32)	22(22.7)	23(23.7)	3(3.1)
7	All women should do BSE	5(5.2)	3(3.1)	5(5.2)	22(22.7)	62(63.9)
8	I really care about my breasts	5(5.2)	11(11.3)	17(17.5)	46(47.4)	18(18.6)
9	I'm not afraid to think about the breast cancer	29(29.9)	19(19.6)	19(19.6)	20(20.6)	10(10.3)
10	A void BSE because I worry about having breast cancer	47(48.5)	21(21.6)	9(9.3)	17(17.5)	3(3.1)
11	Interested in doing BSE	21(21.6)	23(23.7)	33(34.0)	17(17.5)	3(3.1)
12	Always search for information regarding BSE from the internet, magazine, and newspaper	7(7.2)	15(15.5)	21(21.6)	39(40.2)	15(15.5)
13	Discuss with my friends about BSE	15(15.5)	23(23.7)	20(20.6)	34(35.1)	5(5.2)

Table 4 showed that the majority of the participants believed that all women should do BSE (63.9%). However, 4.2% of them stated that BSE causes embarrassment and 29.9% feared to think about breast cancer. About 21.6% wasn't interested in doing BSE.

Level of practice towards BSE
Table 5**. Assessment the students practice level of breast self exam**

No.	Items	Never	sometimes	Often	Usually	Always
1	Do BSE once a month	61(62.9)	16(16.5)	6(6.2)	10(10.3)	4(4.1)
2	learning the correct method of BSE	42(43.3)	17(17.5)	9(9.3)	15(15.5)	14(14.4)
3	Parents advise me to do BSE	62(93.9)	9(9.3)	14(14.4)	9(9.3)	3(3.1)
4	Advise friends to do BSE	45(46.4)	18(18.6)	12(12.4)	10(10.3)	12(12.4)
5	Discuss the importance of BSE with friends	45(46.4)	19(19.6)	13(13.4)	9(9.3)	11(11.3)
6	Have been taught on BSE by health staff	44(45.4)	16(16.5)	8(8.2)	12(12.4)	17(17.5)
7	If notice any breast abnormality, directly go to public health care	21(21.6)	6(6.2)	12(12.4)	10(10.3)	48(49.5)

Table5 showed that the majority of the students reported that they do not perform BSE once month (62.9%) and 42 students (43.3%) reported never learning the correct method of BSE or have been taught on it by health staff 44(45.4%). 48 students (49.5%) reported that they always if notice breast abnormality directly go to public health care. 62 students (93.9%) reported that their parents never advise them to do BSE and 45 students (46.4%) never advise to their friends to do BSE or discuss the importance of it with them**.**

Relationship between knowledge towards BSE and selected variables
Table 6. Relationship between mean of total knowledge and age, academic level, family history, information of BSE, and residence area.

Items	Mean of	N	Std. Deviation	F	Sig
Age					
18 -20 years	0.4737	57	0.18830		
Above 20 years	0.6413	40	0.16559	20.523	0.000
Academic level					
First year	0.4250	44	0.19485		
Second year	0.5750	24	0.13752	17.295	0.000
Third year	0.6667	15	0.13715		
Fourth year	0.7250	14	0.06430		
Family history					
Yes	0.4821	14	0.22154		
No	0.5530	83	0.19181	1.564	0.214
Information of BSE					
Yes	0.5958	59	0.15180	12.198	0.001
No	0.4605	38	0.22991		
Residence area					
Urban	0.5420	50	0.20785	0.002	0.968
Rural	0.5436	47	0.18639		

Table 6 revealed that a highly statistically significant relation between age groups and academic level with total mean knowledge of BSE (p>0.000). Also it was revealed that no statistical significant relation between total mean knowledge of BSE and family history with breast cancer, information of breast BSE, and residence area.

Relationship between knowledge towards BSE and practice of BSE
Table 7 Relationship between the mean of total knowledge and practice of BSE

Items	Mean of	N	Std. Deviation	t.	Sig
Knowledge	0.5428	97	0.19672		
Practice	2.3402	97	0.99455	19.466	0.000

Table 7 revealed that a highly statistically significant relation between knowledge and practice of BSE (p>0.000).

9. 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 female nursing students who are going to be the future health personnel is necessary and recommended (Çavdar, 2007). The present study was conducted to determine knowledge, attitude and practice among female nursing university students towards BSE. The result of the current study revealed that our participants had limited knowledge about BSE. Approximately only 15.5% of the respondents had good overall knowledge. The study was appropriate in this age group as they fall within the age bracket of university life and emerging adulthood who are always eager to find out information about things happening around them hence a deadly disease like breast cancer should not be strange to them as well as breast self examination which has to do with looking out for changes on their own breast. It found that more than one half of students (58.8%) had age from eighteen to twenty years old and the majority (85.6%) had negative family history with breast cancer. Nearly half of them live in urban area and in the first year (51.5% and 45.4%) respectively. Around two thirds (60.8) were received information about breast self exam, where (82.5%) with regular menstrual cycle. More than half of the sample (54.6%) were monthly income more than 5000 NIS.   The major source of information about BSE was mass media in the study. Similar observation was reported in Bassey et al study (2011) where 58.6% of the respondents' first source of information was obtained from television/ radio, also supported by **Irurhe** et al. study(2009). Media played a significant role as the main source of information about breast cancer; therefore an important effort should be intensified in using these media to create breast cancer awareness within the Palestinian community. This will emphasize the message of early detection which will reach large number of people in the community. The least reported source of information was the relatives of the respondents (3.4%). This is one of the gaps existing in family life education as parents and care givers have no time to discuss pertinent health issues with their children. It may also be due to the fact that some of the parents have no information or knowledge on some of these topics and as such have little or nothing to discuss. From the study, 43.3% of respondents had a poor knowledge level of BSE which helped early detection of breast cancer. This is inconsistent with the study done by Yakout et al. (2013), Memis (2009), Parajul and Mandal (2010) and Bassey et al. (2011) showed that most of the respondents were aware about BSE. This poor level of knowledge of respondents could be attributed to the age and negative family history of breast cancer. More than three quarters (75.3) of participants had positive attitude towards BSE. No negative attitude has been reported in the present work. Our findings are similar to (Bassey, 2011) study in which the attitude of respondents to breast self-examination was good.In the current study only 4.1% practice BSE always every month and 62.9% reported that they never performed it . Our findings are similar to (Al-Sharbatti et al., 2013) study in which 3% % of female university students in Ajman were performing BSE monthly and 22.7% of the students were performing BSE irregularly. In other studies the percentage of BSE performance have been found to be 39.5% among nursing students (Juanita et al., 2013).The above mentioned studies revealed the low prevalence of youth monthly performing BSE all over the world. Only 14.4% learned the correct method of BSE and 43.3% reported that they never learned, this could be attributed to the fact that most of the total sample were junior nursing students (first and second year) who did not receive yet in-depth breast cancer curriculum. A highly statistically significant relation between age groups and academic level with total mean knowledge of BSE (p= 0.000). This could be attributed to the fact that 60% of the total sample size in the current study were junior nursing students (first and second year) who did not receive yet in-depth breast cancer curriculum. A highly statistical significant difference was found between overall knowledge and practice of BSE (P= 0.000) illustrating the desire among this population to acquire correct knowledge regarding BSE. Also, this finding brings to light that if awareness and health education programs are conducted in an intensive and planned form, it might result in positive healthy practices.

10. Conclusion

Although there was lack of knowledge about BSE yet, the positive attitude towards BSE was encouraging. Most female nursing 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 nursing university 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 inadequate knowledge and practice of BSE among students in Arab American university. More utilization of Media as an important source of breast self exam is important to improve awareness among the community.

11. Recommendation

Based on the research conducted, it is recommended that there is a need to create awareness about the importance of SBE amongst female nursing students so as to improve the practice of it. Furthermore, public awareness on the importance of SBE should be intensified using mass media and the health service personnel should promote SBE during their contact with female clients. In order to function as effective promoters of breast cancer control through early detection, nurses/nursing students should possess the accurate knowledge and the appropriate attitude and practice concerning the disease and its early detection. Nurses should adopt such

preventive screening procedures and act as role models for the community.

12. Acknowledgement:

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