

## Knowledge, Awareness, and Practice of Breast Self-Examination Among An-Najah National University Female Students

Hamzeh Al Zabadi<sup>\*1</sup>, Besan Ahmad<sup>2</sup>, Wala`a Kathem<sup>2</sup>, Ekhlash Kokash<sup>2</sup>, Moaed Saed<sup>2</sup>, Mohammad Husean<sup>2</sup>

<sup>1</sup>Public Health Department, Faculty of Medicine and Health Sciences, An-Najah National University, Nablus, Palestine. <sup>2</sup>Nursing Department, Faculty of Medicine and Health Sciences, An-Najah National University, Nablus, Palestine.

\*Corresponding author: halzabadi@gmail.com

Received: (22/12/2016), Accepted: (2/3/2017)

### ABSTRACT

Young breast cancer patients have a lower rate of survival than old age. Yet, breast self-examination makes women more "breast aware", which in turn may lead to an earlier diagnosis of breast cancer. We aimed to describe the degree of awareness, knowledge and practice regarding self-breast examination among An-Najah National University female students in Palestine. A descriptive cross-sectional design using a previously standardized and validated questionnaire was conducted. Data was collected from a convenient sample of 180 female students from An-Najah National University. Statistical Package for Social Sciences (SPSS) was used for data entry and analysis. Nearly, 63.8% of the total sample reported that they have heard about breast self examination and 96.2% reported that breast self examination is important. However, only 36% self-reported they perform the test. The most frequent reported barriers for breast self examination was lack of knowledge. Nearly, 9.2% reported that if they notice a mass in the breast, they don't know what to do. This study pointed to the insufficient knowledge, awareness and practice of university female students about breast self examination. The results should be generalized with caution. However, they provide useful baseline information that could be used to formulate health education and intervention tools aimed at increasing awareness and promote screening of breast cancer among young females at universities level in Palestine.

**Keywords:** Awareness; Breast cancer; Female; Palestine; Students.

### INTRODUCTION

Breast cancer is the most common female cancer worldwide representing nearly 23% of all cancers in women. Although uncommon, it is the most frequent cancer in women under 40 years old, accounting for 30-40% of all incident female cancer (1,2).

In Palestine, breast cancer comes in the third leading cause of death among the Palestinians and constitutes around 10.7% of all deaths. It is the first cancer type reported with 16.9% of the total cancer cases reported in Palestine (3). In the meanwhile, young breast cancer patients have a lower rate of survival than old age due to being diagnosed at advanced stages. Women's knowledge and views about breast cancer and its treatment may contribute considerably to early interventions and improve patients' quality of life. On the other side, knowledge deficiency may lead to delayed presentation with

advanced stages when little or no benefit is derived from any form of therapy. For presentation at an early stage, women must be "breast aware"; they must be capable of identifying symptoms of breast cancer through routine practice of screening (4,5).

Breast self-examination (BSE) is an important screening measure for detecting breast cancer in its early stage that could prevent serious and fatal complications (6). In the Arab region, in Yemen, a sample of 425 female university students was assessed and found the majority of participants had low level of knowledge of breast cancer (58.6%). While only 1.4% had gained high level of knowledge and 95.3% of participants believed that breast cancer is a serious disease (7).

There is evidence that women who correctly practice BSE monthly are more likely to detect a mass in the early stage of its

development, and early diagnosis has been reported to provide effective treatment and to yield a better survival rate (8).

Studies have shown that about 11% of all new cases of breast cancer are found in women younger than 45 years of age (2). Many factors can influence breast cancer risk, and most women who develop breast cancer do not have any known risk factors or a history of the disease in their families and usually lack some information about breast self examination.

Unfortunately, despite the benefits of regular breast self examination, few women actually examine themselves. Indeed, a majority do not even know how to do a BSE (9, 10). We aimed to assess awareness, knowledge and practice of breast self examination among young female students at An-Najah National University in the West Bank, Palestine. To the best of our knowledge, this is the first study in Palestine and among very rare studies in the region that assess these factors among university female students.

## **MATERIALS AND METHODS**

### **Study design, setting, population and sample size**

This is a descriptive cross-sectional study. It was conducted at An-Najah National University (old and new campus) in the period from 20<sup>th</sup> October to 1<sup>st</sup> December 2016. An-Najah University is the university with the highest number of students in Palestine with almost 26000 registered students where half of them are nearly females. The study population was An-Najah National University female students aged between 17-30 years old from all faculties. A convenient sampling technique was applied to collect data from 180 female students.

We cannot estimate the response (distribution) rate as we aimed to have a convenient sample of 180 participants and once we collected this sample number we ended data collection. In fact, the researchers gave the questionnaire to the students and remained nearby until the participants filled it. Roughly, we can say however, that the

vast majority (95%) of those who received the questionnaire agreed and filled it

### **Data collection tool**

Data was collected by a previously validated and standardized questionnaire through self-administered method. The questionnaire was adapted from previous literature based on different studies (7-8, 11, 12).

The questionnaire included items addressing socio-demographics, knowledge of risk factors for breast cancer, knowledge of early warning signs, methods of early detection. It also included items regarding knowledge of Breast Self-Examination methods and the correct time to perform it and reasons for not performing the test. Finally it included the participants' source of information on breast cancer.

### **Pilot testing**

A pilot testing was conducting on the preliminary version of the questionnaire on 20 female university students before starting the study. This testing aimed to assess the easy flow and understandability of the questions and time needed to complete the questionnaire. Based on the results, minor modifications have been conducted to adapt to the Palestinian situation.

### **Ethical and administrative considerations**

The study was approved by An-Najah National university's Institutional Review Board (IRB) in 17<sup>th</sup> October 2016 with archived number 31 September 2016. Appropriate administrative permission was taken through the management hierarchy at the university. Subjects received explanation about the purpose, privacy and confidentiality of information collected and were informed that there was no potential risk from their participation. A verbal consent was obtained from each subject before participating in the study.

### **Statistical analysis**

All data entry and analysis were performed by the Statistical Package for Social Sciences program (SPSS) for descriptive analysis.

## RESULTS

### Socio-demographic characteristics of the study participants

Descriptive statistics for socio-demographic information are shown in Table

1. The participants aged between 17 to 30 years old with a mean age of 21.3 years. The highest percentage (22.8%) was from economy faculty and nearly 92.8% were single.

**Table (1):** Socio-demographic characteristics of the study participants

Variable	Frequency (%)
<b>Faculty/department</b>	
Economic	41 (22.8)
Literal	37 (20.6)
Education	20 (11.1)
Sciences	7 (3.9)
Media	1 (6)
Engineering	18 (10.0)
Medicine department	32 (17.8)
Pharmacy department	17 (9.4)
Law	1 (6)
Nursing department	2 (1.1)
IT	4 (2.2)
<b>City</b>	
Nablus	98 (54.4)
Tulkarem	27 (15.0)
Salfeet	13 (7.3)
Ramallah	2 (1.1)
Qalqelia	20 (11.1)
Jenin	11 (6.1)
Jerusalem	2 (1.1)
Hebron	7 (3.9)
<b>Year University</b>	
First	50 (30.6)
Second	50 (30.6)
Third	30 (16.7)
Fourth	35 (19.4)
Fifth	15 (2.8)
<b>Martial states</b>	
Single	167 (92.8)
Engaged	11 (6.1)
Married	2 (1.1)

### Knowledge regarding breast cancer

Some of the participants were not aware of the early signs of breast cancer such as changes in color or shape of the nipple (only 36.7% was the total agreement), even though they appreciated the need for monthly breast

self-examination. Furthermore, only 32% reported that obesity is a risk factor of breast cancer. When asking them "Do you think that redness in the breast is one of the symptoms of breast cancer" only 30.2% reported yes. Further details are shown in Table 2.

**Table (2):** knowledge about breast cancer related factors.

<b>Variable</b>	<b>Frequency (%)</b>
<b>Early screening of breast cancer increases the likelihood of treatment</b>	
Yes	173 (96.1)
No	5 (2.8)
I do not know	2 (1.1)
<b>Age increases the likelihood of developing breast cancer</b>	
Yes	108 (60)
No	35 (19.4)
I do not know	37 (20.6)
<b>Smoking increases the likelihood of developing breast cancer</b>	
Agree	107 (59.4)
Disagree	25 (13.9)
I do not know	48 (26.7)
<b>Obesity increases the risk of breast cancer</b>	
Agree	59 (32.8)
Disagree	55 (30.6)
I do not know	66 (36.7)
<b>Exposure to radiation increases the likelihood of developing breast cancer</b>	
Agree	159 (88.3)
Disagree	9 (5)
I do not know	12 (6.7)
<b>Breast-feeding reduces the risk of breast cancer</b>	
Agree	160 (88.9)
Disagree	3 (1.7)
I do not know	17 (9.4)
<b>Genetic factors could be considered as risk factors for breast cancer</b>	
Agree	136 (75.6)
Disagree	24 (13.3)
I do not know	20 (11.1)
<b>Secretions from the nipple (other than the milk) could be considered among the symptoms of breast cancer</b>	
Yes	152 (84.4)
No	11 (6.2)
I do not know	17 (9.4)
<b>Change in the color or texture of the breast could be considered as signs of breast cancer</b>	
Yes	118 (65.6)
No	62 (34.4)
<b>Changes in the nipple color, or position and/or nipple rash could be considered as signs of breast cancer</b>	
Yes	66 (36.7)
No	114 (63.3)
<b>Do you think that redness in the breast is one of the signs of breast cancer</b>	
Yes	55 (30.6)
No	19 (10.6)
I do not know	106 (58.9)
<b>Changes in the shape, size of the breast is one of the signs of breast cancer</b>	
Yes	118 (66.5)
No	62 (33.5)
<b>Effective treatment could cure breast cancer</b>	
Yes	92 (51.1)
No	25 (13.9)
I do not know	63 (35)

### Awareness and practice regarding breast cancer

Nearly, 63.8% of total sample reported that they have heard about breast self examination and 96.2% of them reported that breast self examination is important. However, 64.3% of the sample did not perform the examination. The most frequent reported barriers for breast self examination were lack of knowledge. Only 3.8% reported that they perform breast self examination on

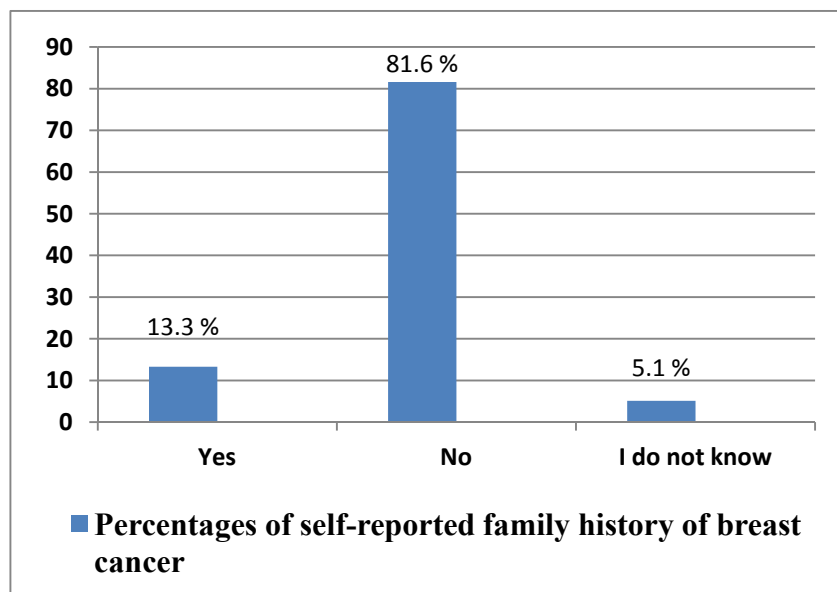
a monthly regular basis. About 9.2% of participants reported that if they notice a mass in the breast they don't know what to do. Further details are shown in Table 3.

### Self-reported family history of breast cancer

The study has shown that the prevalence of breast cancer among the study participants' families was 13.3% as shown in figure 1.

**Table (3):** Awareness and practice regarding breast cancer related factors.

Variable	Frequency (%)
<b>If you notice a mass in the breast</b>	
You go to the doctor	152 (82.2)
Embarrass to go to the doctor	6 (3.2)
Neglect and forget it	5 (5.4)
I do not know what to do	17 (9.2)
<b>Ever heard of breast self-examination</b>	
Yes	118 (63.8)
No	62 (36.2)
<b>Do you know the correct way to practice breast self-examination</b>	
Yes	66 (35.7)
No	114 (64.3)
<b>Appropriate time to perform breast self-examination</b>	
Pre-menstrual week	55 (29.7)
During the menstrual period	19 (10.3)
After the menstrual period a day or two	106 (60)
<b>How often do you perform breast self-examination</b>	
Regularly (every month)	7 (3.8)
Irregularly (once every two months or more)	28 (17.8)
I do not perform self-examination	145 (78.4)
<b>The reasons why you do not perform breast self examination</b>	
I do not know how to perform it	77 (44.3)
Afraid of the results	18 (9.7)
Forget to use it	39 (21.1)
I am not interested in it	37 (20)
Not sure of its effectiveness	9 (4.9)
<b>Do you think that breast self-examination is important</b>	
Yes	173 (96.2)
No	7 (3.8)

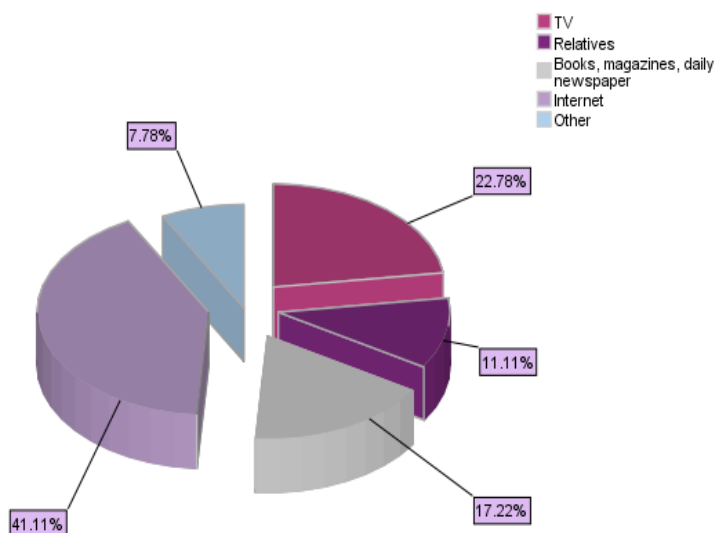


**Figure (1):** Distribution of self-reported family history of breast cancer among the study participants

#### Self-reported source of information about breast cancer

The sources of information about the breast cancer among the study participants are shown in figure 2. They were distributed as; internet (41.1%), television and radio

(22.7%), printed material in journals, books and newspapers (17.2%) and family/physicians (11.1%). The highest percentage of the information source came from the internet source (41.1%). Figure 2

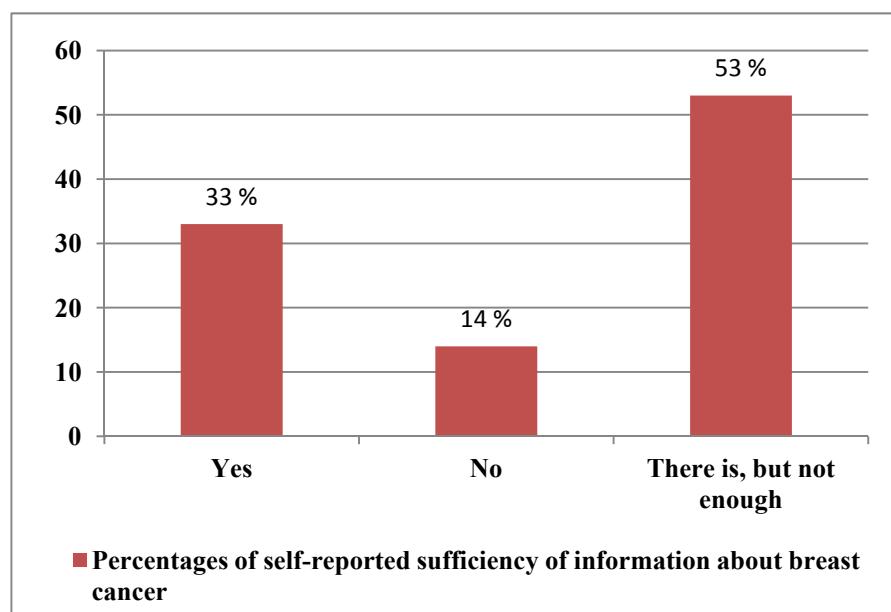


**Figure (2):** Distribution of self-reported source of information about breast cancer among the study participants presents the details about source of information regarding breast cancer.

### Self-reported sufficiency of information about breast cancer

Nearly, 53% of the study participants reported and agreed that there was no

sufficient awareness about breast cancer at the university. Details are shown in figure 3.



**Figure (3):** Distribution of self-reported sufficiency of information about breast cancer among the study participants.

### DISCUSSION

The study results indicated that some of participants were not aware of some of the early signs of breast cancer such as changes in color or shape of the nipple, even though they appreciated the need for monthly breast self-examination. This result is in agreement with other studies (13). Also, about 96.1% of participant agreed that early screening for breast cancer increases the likelihood of treatment which is in agreement with other previous studies that reported early diagnosis of breast cancer can lead to increased survival rates and more effective treatment (14, 15).

The result showed that nearly 63.8% of sample heard about breast self examination and 96.2% of participant reported that breast self examination is important, but 64.3% of

sample don't perform the examination and the most frequent reported barriers for this was lack of knowledge. This, in our opinion, could reflect the social and cultural barriers in our community regarding the sensitivity of this body organ in females which in turn, we should work on raising the awareness among the population to modify this false understanding when it comes to the health and periodical screening to avoid deterioration in females quality of life

resulted from breast cancer. Furthermore, although a low percentage (9.2%) reported that if they notice a mass in the breast they don't know what to do, this could also be related to insufficient knowledge and awareness about this serious disease among the female students. The results are in accordance with other studies that indicated

insufficient level of practice and attitudes regarding breast cancer self examination (7).

It was found that only 17.4% of the participants perform breast self examination and that 55.9% mentioned lack of knowledge about the technique of breast self examination as a barrier for not practicing it. The results also showed that 13.3% of the participants self-reported family history of breast cancer (16). This again showed a low level of practice regarding breast self examination and highlight a major Public Health issue regarding health promotion at the level of this disorder. This could necessitate a structural interventional and educational program at the universities level to introduce better knowledge and motivate female students to follow their body changes regarding this disease.

Around half of the sample agreed there was no sufficient awareness about breast cancer at the university level and this also necessitate the need for an early educational interventional workshops or programs at the university level to increase the awareness level among the university female students.

Regarding the sources of information about breast cancer, the highest percentage reported that internet was their main source of information (41.1%). This is in accordance to other studies regarding the sources of information about breast self examination among respondents (11), but does not match with some other studies where they reported that the media was found to be the most common source of information followed by the health workers that accounted for 45.5% and 32.2%; respectively (12).

Like all epidemiological studies, this study is limited by the descriptive cross-sectional design. Therefore, we were not able

to test the hypotheses by this design, however, we were only able to generate the hypotheses and report frequencies of the outcome. Over and/or under-estimation for some self-reported events by the study participants could have also been occurred although we used a validated and standardized questionnaire. By using a convenient sampling technique, selection bias might have been occurred as well. We are also fully aware that multivariate statistical modeling was not assessed in this study. However, we only aimed to conduct a baseline study that urge further future analytical studies to test hypotheses and examine possible associations. Further limitations could be encountered due to small sample size. However, we do believe that such a sample size used in this design is sufficiently enough to address the objectives and highlight the existence of this health issue.

## CONCLUSIONS

The study points to the insufficient knowledge of university students about breast self examination. These results may provide useful data that may be used by the department of health at universities and the Palestinian health authorities to formulate health education programs aimed at increasing awareness and promote screening/early detection of breast cancer among the young adult females at the level of the universities in Palestine. However, generalization of our data to all educated females at the Palestinian universities should be interpreted with caution.

We recommend an educational intervention program that could enhance the knowledge of the university female students about breast self examination and increase



their practice in this regard. This program should not only increase the knowledge but also should shed the light toward the cultural barriers among the Palestinian females about the importance and effectiveness of practicing breast self examination.

### CONFLICT OF INTERESTS

The authors declare that they have no competing interests.

### ACKNOWLEDGEMENTS

The authors are grateful to all participants in this study for the time they devoted and their understanding. Sincere thanks to An-Najah University administration for its permission to conduct this study inside the university. This study was part of a graduation project for the nursing students from the faculty of medicine and health sciences at An-Najah University.

### Funding

None.

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