

## Original Research Article

# Knowledge of breast cancer and its risk factors among Al-Quds university students in Palestine

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## ABSTRACT

**Background:** Cancer is a major public health problem globally. The incidence of cancer is escalating rapidly in many low- and middle-income countries like Palestine due to the epidemiological transition. This could be due to lack of awareness, knowledge and beliefs about breast cancer and its management among females. Aims and objectives was to determine knowledge of breast cancer risk factors, symptoms and early detection methods among Al-Quds University female students.

**Methods:** A descriptive cross-sectional study conducted over a period of 6 months in Al-Quds University. Study population was 332 female university students. Data was collected by using self-administered questionnaire.

**Results:** The most widely known risk factors by the students were old age 62.7%, followed by obesity 44% and never being pregnant 30.7%. Approximately half of the students (48.8%) identified breast lump as a symptom for breast cancer. However, non lump symptoms were less known and less than half were aware of other warning signs. Only 48.5 % of students identified correctly the appropriate time to perform breast self examination.

**Conclusions:** The findings of this study showed a low level of knowledge on breast cancer risk factors, early warning signs and BSE among female university students. Therefore, effective educational programs are required to improve the knowledge level of university students regarding breast cancer and related practices.

**Keywords:** Breast cancer awareness, Breast-self examination, Health education, Symptoms and risk factors

## INTRODUCTION

Breast cancer in women is a major health burden both high recourse and low recourse countries.<sup>1</sup> It is the second leading cause of death in women worldwide.<sup>2</sup> It is one of the most commonly diagnosed cancers worldwide after lung cancer. It poses a global public health concern with over one million new cases diagnosed annually, resulting in over 400,000 annual death and about 4.4 million women living with the disease, in actual fact, one out of eight women will be affected during their lifetime.<sup>3</sup> The global burden of breast cancer is predicted to exceed 2 million by the year 2030, with growing proportions from developing countries.<sup>4</sup> Recent global cancer

statistics indicate rising global incidence of breast cancer and the increase is occurring at a faster rate in populations of developing countries that hitherto enjoyed low incidence of the disease, where the estimated incidence of breast cancer in relation to overall cancers in both genders was about 11.9%.<sup>4-6</sup>

Late-stage diagnosis of the disease contributes to the high mortality rate among women due to breast cancer, which can be reduced and at the same time patient prognosis can be improved by can be reduced by the early diagnosis of disease, as well as by early treatment initiation.<sup>7,8</sup> With the rising breast cancer incidence in Palestine and disproportionately higher mortality (PMOH, 2016, it is

essential to understand the level of cancer literacy.<sup>9,10</sup> An assessment of existing levels of cancer awareness is a pre-requisite for planning comprehensive health programs, early detection and treatment campaigns, that effectively engage communities of women and men.<sup>11</sup>

According to the previous study in Palestine, breast cancer represents 30.6% of total women's cancer cases and the incident rate increased from 78.9 per 100,000 women in 2014 to 83.9 per 100,000 in 2015.<sup>9,10</sup> Breast cancers are categorized as 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 cancer in young is generally more aggressive and associated with lower survival rates in young women and a poorer prognosis in older women, making early detection even more crucial and emphasizing the importance to raise breast cancer awareness among young females.<sup>12,13</sup>

The American Cancer Society recommends breast self-examination (BSE) as one of the many early detection strategies to detect breast cancer. BSE is a simple, inexpensive, non-invasive technique that can effortlessly be taught, and it should be strongly recommended for all women.<sup>14</sup>

Preventive behaviour is essential for reducing cancer mortality. Good knowledge and awareness about breast cancer and the risk factors of the disease are the most important predisposing factor for reducing morbidity and mortality.<sup>15</sup> Early approaches for the detection of breast cancer (breast self-examination and clinical breast examination) increase the chance for successful treatment which results in the improvement of survival rate and quality of life.<sup>16</sup> Beside this, several studies also showed that knowledgeable women are more likely to adhere to recommended breast cancer screening.<sup>17</sup>

### **Statement of problem**

The level at which patients present their cases of breast cancer at an advanced stage when little or no benefit can be derived from any therapy is the hallmark of this disease amongst Palestinian women. Recent global cancer statistics indicate rising global incidence of breast cancer and the increase is occurring at a faster rate in populations of developing countries that hitherto enjoyed low incidence of the disease.

Being worried by the prevailing situation on women as decision makers and health care givers in their families across the globe, makes the need to create awareness and screening program necessary for early detection of the disease among young female (the female undergraduates of University of Al-Quds), and here lies the role of health education in creating awareness that brings about behaviour modification.

### **Significance of the study**

The result of the study will help female students in recognizing the early signs and symptoms of breast cancer, which may include lumps, change in color of the breast, retraction of the nipple, and abnormal discharge from the nipples. This study will go a long way to educate people about symptoms and the risk factor of breast cancer since more than 30% of the case of breast cancer can be reduced by modifying our life styles. The result of the findings intends to spur students to carry out examination on their breast, and this will act as secondary prevention by making early diagnosis and prompt intervention possible to save lives.

The present study aimed to determine knowledge of breast cancer risk factors, symptoms and early detection methods of breast cancer among Al-Quds University female students.

### **METHODS**

This was a descriptive cross-sectional study done over a period of 6 months, from February 2018 to July 2018.

#### **Study population**

Undergraduate students at non health related disciplines were included based on a belief that they possess less health information compared to the general public. The study sample included 380 female students at non health related disciplines, who were available on the day of data collection, who agreed to participate in the study and who returned a completely filled questionnaires (response rate=87.4%).

#### **Study tool**

A self administered questionnaire in Arabic language was distributed by fourth year nursing students to study participants in order to clarify any item if needed A Clinical oncology consultant evaluated content and face validity of the questionnaire. Moreover, the questionnaire was pilot tested on 20 students (not included in study sample) to check the clarity of the questions. Results of the pilot test were used to adjust the wording of some questions in order to make them easier to understand. The Cronbach's alpha of study questionnaire is 0.85. The questionnaire covered the following items

#### **Part one**

Socio-demographic data such as age, marital status, discipline, academic year.

#### **Part two**

- Knowledge of risk factors for breast cancer was determined with 13 questions. The answers were "true", "false" and "don't know". This part assessed

the knowledge of breast cancer risk factors using the guidelines of the American Cancer Society (2008),

- Knowledge of early warning signs, methods of early detection and different treatment of breast cancer.

**Data management and statistical analysis**

Data collected were revised, coded and computerized. Data entry using Statistical Package for Social Science (SPSS) version 23 was used. Frequency tables and a chart were utilized to describe nominal variables.

**RESULTS**

**Characteristics of study participants**

Table 1 shows the socio-demographic characteristics of the respondents. Of 332 participants in this study 56.0% were students at faculties of humanities. Approximately one third of study participants 29.5% were second year faculty students, 25.0% were first year, 23.5% were fourth year and 22.0% were third year faculty students. Only 23.8% of students reported a family history of breast cancer. The educational level of the father among the respondents was found that the majority 176 (53.0%) were high school education, 97 (29.2%) were graduated, 47 (14.2) primary education completed, and the rest 12 (3.6) were not educated. In terms of mother education, 169 (50.9%) were high school education, 96 (28.9) were graduated, 50 (15.1) primary education completed, and the rest 17 (5.1) were not educated.

**Table 1: Sample characteristics.**

Characteristics	Frequency and percentage (%)
<b>Faculty year of study</b>	
First	83(25.0)
Second	98 (29.5)
Third	73 (22.0)
Fourth	78 (23.5)
<b>Faculty</b>	
Scientific faculties	146 (44.0)
Faculties of humanities	186 (56.0)
<b>Family history of breast cancer</b>	
Yes	78 (23.8)
No	216 (65.9)
Don't know	34 (10.4)
<b>Father education</b>	
Not educated	12 (3.6)
Primary education	47 (14.2)
High school education	176 (53.0)
College	97 (29.2)
<b>Mother education</b>	
Not educated	17 (5.1)
Primary education	50 (15.1)
High school education	169 (50.9)
College	96 (28.9)

**Knowledge of breast cancer risk factors**

Most students had low level of knowledge of breast cancer risk factors. The most widely known risk factors by the students were old age 62.7%, obesity 44.0% and never being pregnant 30.7%. High level of estrogen was not known as risk factors for breast cancer by vast majority of the students (Table 2).

**Table 2: Knowledge of breast cancer risk factors.**

Variable	Correct answer-N (%)	Incorrect answer-N (%)
Old age	208 (62.7)	124 (37.3)
Never being pregnant	102 (30.7)	230 (69.3)
High fat diet	53 (16.0)	279 (84.0)
Obesity	146 (44.0)	186 (56.0)

**Knowledge of symptoms, early detection measures and lines of treatment**

More than one third of the students 38.3% identified breast lump as a symptom for breast cancer. However, non lump symptoms were less known and less than half were aware of other warning signs such as change in shape/or retraction of nipple and bloody nipple discharge accounting for 48.8% and 29.8% respectively. Further, as many as 63.3% of students identified breast self examination, mammogram and breast U/S as an early detection measure for breast cancer (Table 3).

**Table 3: Awareness of breast cancer symptoms among female students at Al-Quds university.**

Variable	Yes		No		Don't know	
	N	%	N	%	N	%
<b>Warning signs of breast cancer</b>						
Breast lump	162	48.8	30	9.0	140	42.2
Bloody nipple discharge	99	29.8	20	6.0	213	64.2
Change in shape and/or breast size	127	38.3	50	15.1	155	46.6
Redness of breast skin	112	33.7	10	3.0	210	63.3
Lump under armpit	158	47.6	25	7.5	149	44.9
<b>Early detection measures</b>						
Breast self examination	88	26.5	40	12.0	204	61.4
Mammogram	61	18.4	80	24.1	191	57.5
Breast U/S	29	8.7	60	18.1	243	73.2
(Breast self examination, Mammogram, Breast U/S)	210	63.3	20	6.0	102	30.7

### Knowledge of breast self examination (BSE)

When the students were asked about their knowledge regarding BSE, it was found that only 88 (26.5%) participants were well informed that BSE is used as a screening method for breast cancer. Only 188 (56.6%) participants correctly identified that BSE should be performed monthly on a regular basis, though only 161 (48.5%) respondents knew the correct timing for performing BSE (Table 4).

**Table 4: Breast cancer screening practices and cancer risk estimation.**

Variables	N (%)
<b>Can BSE help in the early detection of breast cancer?</b>	
Correct response	88 (26.5)
Incorrect response	244 (73.5)
<b>Frequency of self-breast examination:</b>	
Correct response (monthly)	31(9.4)
Incorrect response (yearly, occasionally)	188 (56.6)
<b>When is the appropriate time for performing BSE?</b>	
Correct response (a week after menses)	161 (48.5)
Incorrect response (a week before menses, during menstruation)	171 (51.5)

### DISCUSSION

Raising awareness among women for early detection and reporting of breast cancer are the most important keys to increase life quality, survival and to overcome the ever increasing burden of this deadly disease. On the other hand, awareness deficit in breast cancer is associated with delayed reporting and higher mortality.

In the present study data was collected regarding the knowledge of signs and symptoms of breast cancer. It was observed that only few number of participants were aware about the signs and symptoms. Majority of them did not know pain/ulcer in the breast, swelling under armpit, and change in the size/shape of the breast as one of the sign and symptoms of breast cancer. Similar findings were observed in the study done by Sami Abdo Al- et al.<sup>19</sup> Our studies also showed only 38.3% of the respondents were clear that lump in the breast as one of the sign and symptom of breast cancer. This finding seems to be inconsistent with the study done by Monteazeri et al.<sup>20</sup> Regarding the risk factors, it was reported 16.0%, 62.7%, 30.7% and 44% has agreed that high fat diet, increase in the age, no breast feeding and obesity respectively are one of the risk factors to develop breast cancer. More or less similar observation was noticed in the study done by Ahuja et al.<sup>21</sup>

This study showed that female university students may not have adequate knowledge about BSE as less than half (48.5%) of the students had knowledge about appropriate time to perform BSE. Our findings are comparable to a study of Iheanacho, Ndu and Emenike in which 36% of

female university students have knowledge on the appropriate time to perform BSE.<sup>22</sup> Further, 144 participants were not aware of the frequency of BSE and they wrongly believed that it should be performed either annually or weekly.

Risk of having breast cancer can be reduced by preventive measures such as monthly self-breast examination, not smoking, maintaining a healthy weight and regular exercise. The result of this study suggests the need of more education programs on BSE and screening method of breast cancer to increase the knowledge and awareness among university female students about this deadly disease.

### CONCLUSION

Health behaviours acquired early in life have an influence on future health. Knowledge of common risk factors as well as early warning signs and symptoms of breast cancer are highly deficient in this study population. There is a need to raise the knowledge of university students about the risks of breast cancer and benefits of early detection. Health care workers should develop effective breast health programs targeting youth to help females to gain healthy habits starting very early during their formative years.

### Recommendations

The important points of reference on the posterolateral surface of the skull are asterion, inion, apex of the mastoid process and suprameatal crest. The objectives of the present study were to determine the type of asterion depending on the presence or absence of sutural bone, to measure the linear distances of asterion from various bony landmarks, the nearest distance of the same from sigmoid and transverse sinus and also the thickness at the centre of the asterion that may be of importance to anthropologists, anatomists, forensic pathologists and neurosurgeons.

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