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Research Article

Breast Cancer Awareness Among Zayed University Female Students

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Abstract

Background/Aim: Breast cancer is one of the most common cancers among female population worldwide. In the United Arab Emirates, breast cancer accounts for 31-43% of all cancer types. Recently, breast cancer incidence has declined as a result of development of better diagnostic techniques. Good knowledge and awareness about early detection of signs and symptoms of the disease are the most important keys for reducing morbidity and mortality. This study aims to evaluate the level of awareness about the risk factors of breast cancer, as well as, the knowledge about screening methods among female students at Zayed University in Abu Dhabi. **Method:** A random cross-sectional survey was carried to evaluate the level of awareness about breast cancer among female students at Zayed University. A total of 100 females aged 18-31 from different colleges were included in the study. Data were analyzed using SPSS 21 program. Chi-square test was used together with Fisher's exact test, as appropriate. P value <0.05 was considered significant. **Results:** The results show that there is a lack of knowledge and awareness about the risk factors for breast cancer. Only 12% of the participants knew that physical inactivity is a risk factor. However, 29% of the participants knew that obesity is a risk factor. Knowledge about screening methods was poor and varied according to the marital and educational status of the students. Only 17% of the total participants have done breast self-examination. Single women had less frequently performed breast self-examination compared to married women. Although 40% of the participants knew about ultrasound, only 22% of the students did have the knowledge about the proper age of mammogram screening. **Conclusion:** The results point to the lack of awareness among female students about breast cancer, the risk factors and screening methods. Therefore, effective educational programs are required to improve the knowledge level of university students regarding breast cancer and related practices.

Keywords: breast cancer, Zayed University, awareness, screening

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1. Introduction

Cancer is the leading cause of death in developed countries and the second leading cause of death in developing countries. About 12.7 million cancer cases and 7.6 million cancer deaths are estimated to have occurred in 2008 world-wide [13].

Breast cancer is categorized as the second highest cancer type in the world after lung cancer. According to Globocan 2012, the estimated incidence of breast cancer in relation to overall cancers in both genders was about 11.9% [12]. Furthermore, breast cancer is one of the leading causes of mortality world-wide among all cancers [5, 9].

When comparing both genders, breast cancer is rare in males, whereas in females, breast cancer has an increased frequency world-wide. According to Global Cancer Statistics in 2008, breast cancer accounts for 23% of the total new cancer cases and 14% of the total new cancer deaths. In males, breast cancer represents only 1% of cancers that occur in men, and about 0.2% of all cancer types reported in male population [11, 13].

A recent report has highlighted the fact that rates of breast cancer is rising and that it is the most common form of cancer in the population of the United Arab Emirates (UAE). Moreover, women from the Arab countries, including the UAE, tend to develop breast cancer at least a decade sooner than in Western countries [2].

The development of cancer can be associated with several risk factors. Studies have reported several risk factors that may lead to the developing of breast cancer. Most important factors are nulliparity, the use of the oral contraceptives, postmenopausal hormone therapy, age at which a woman gives birth to her first child, exposure to radiation, the dietary factors such as high alcohol consumption, high-fat, and processed meat diet [7, 13, 15].

Good knowledge and awareness about breast cancer and the risk factors of the disease are the most important keys for reducing morbidity and mortality [10]. 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 [14]. Therefore, the current study was undertaken to assess the level of awareness and knowledge about breast cancer, the risk factors and the practices related to breast cancer screening among female students at Zayed University in Abu Dhabi.

2. Method

A random cross-sectional survey of university students using self-administered questionnaire was carried to evaluate the level of awareness about breast cancer among Zayed University female students. The survey was modified from [16]. A total of 100 female students aged 18–31 from different colleges were included in the study. All participants have agreed to complete the questionnaire. The questionnaire was written in both Arabic and English to make it clearer for the participants. This study was conducted after obtaining an approval from Institutional Surveys Committee at Zayed University. All data were analyzed using SPSS 21 program, Chi-square test together with Fisher's exact test. P value <0.05 was considered statistically significant.

3. Results

Table 1 describes the socio-demographic nature of the respondents and their knowledge of risk factors and screening methods. Female students were aged between 18 and 31 and most were single. Participants were at different educational levels; 41% were in the academic bridge program (ABP), 13% were in general education and 46% were in their major. Results concerning the knowledge of the risk factors of breast cancer were variable. Only 12% of the participants knew that physical inactivity is a risk factor. Only 29% and 38 % of the participants knew about obesity and family history as risk factors, respectively. However, 60% of the participants were aware that high fat diet is a risk factor. The most common known risk factor responded to by the participants was non breast feeding (96%). Interestingly, only 17% of the participants have done breast self-examination. 40% of the participants knew about ultra sound, however, only 30 % of the participants knew about mammogram as screening methods.

Table 2 shows the relation between social status and the knowledge about the risk of developing breast cancer. More than 80% of the single female students believed that they are not at risk of developing breast cancer. However, half of the married students did not believe in being at risk of developing breast cancer. In total, only 18.0% of the total participants believed they may develop breast cancer. As a result, married students were more aware of the risk of developing breast cancer than single ones ($p=0.05$).

Table 3 shows the relation between social status and breast self-examination. Single women had less frequently performed breast self-examination compared to

| Variable | Count | 100% |
|---|----------|-------------|
| Age | | |
| 18-21 | 66 | 66% |
| 22-25 | 28 | 28% |
| >26 | 3 | 3% |
| Social status | | |
| Single | 91 | 91% |
| Married | 9 | 9% |
| Educational level | | |
| ABP | 41 | 41% |
| General education | 13 | 13% |
| Major | 46 | 46% |
| Risk factors | | |
| Obesity | 29 | 29% |
| High fat diet | 60 | 60% |
| Non breast feeding Physical inactivity Family history | 96 12 38 | 96% 12% 38% |
| Screening methods | | |
| Done breast self-examination | 17 | 17% |
| Breast ultra-sound knowledge | 40 | 40% |
| Mammogram knowledge | 30 | 30% |

TABLE 1: Demographic characteristics of participants and their knowledge of risk factors and screening methods. ABP: Academic bridge program.

married women ($p=0.04$). Only 14.3% of the single females do undergo breast self-examination. However, in married females, 44.4% undergo self-examination. In total, majority of participants do not undergo self-examination (83.0%).

Table 4 shows the association between university level and the belief of the risk of developing breast cancer at elder age or due to gender, respectively. Greater education was associated with greater belief of cancer at elder age ($p=0.006$). More than 50% of the ABP group were not aware about the relation between getting older and the risk of developing breast cancer. However, both general education and the major students believe that getting older will increase the chance of developing breast cancer. Greater education was also associated with greater concern of breast cancer due to gender ($p=0.017$). Within the ABP group, majority of the students agreed that being a female is

| | | | Breast cancer risk | | Total |
|---------------|------------------------|------------------------|--------------------|-------|--------|
| | | | No | Yes | |
| Social status | Single | Count | 77 | 14 | 91 |
| | | % within Social status | 84.6% | 15.4% | 100.0% |
| | Married | Count | 5 | 4 | 9 |
| | | % within Social status | 55.6% | 44.4% | 100.0% |
| Total | Count | | 82 | 18 | 100 |
| | % within Social status | | 82.0% | 18.0% | 100.0% |

TABLE 2: Relation between social status and the knowledge about the risk of developing breast cancer.

| | | | Breast self-examination | | Total |
|---------------|------------------------|------------------------|-------------------------|-------|--------|
| | | | No | Yes | |
| Social status | Single | Count | 78 | 13 | 91 |
| | | % within Social status | 85.7% | 14.3% | 100.0% |
| | Married | Count | 5 | 4 | 9 |
| | | % within Social status | 55.6% | 44.4% | 100.0% |
| Total | Count | | 83 | 17 | 100 |
| | % within Social status | | 83.0% | 17.0% | 100.0% |

TABLE 3: Relation between social status and breast self-examination.

associated with an increased risk of developing breast cancer (51.2%). The majority of general education students showed that being a female is associated with developing breast cancer with a percentage of 84.6%. In the major group, 76.1% of the students believed that gender is associated with greater risk of development of breast cancer and 23.9% had an opposite opinion. Only 33.0% from the total study population were less concerned about gender as a risk factor for breast cancer. Comparing all university education levels, the general education showed the highest level of awareness about the association of gender and developing breast cancer.

The level of university education had a positive relationship with the level of awareness about the breast screening methods; ultra sound and mammogram ($p=0.017$) (Table 5). Participants with ABP level of university education showed the lowest level

| University level | | Breast cancer at elder age | | Breast cancer for female | |
|--------------------------|---------------------------|----------------------------|---------|--------------------------|---------|
| | | Lesser | Greater | Lesser | Greater |
| ABP | Count | 23 | 18 | 20 | 21 |
| | % within University level | 56.1% | 43.9% | 48.8% | 51.2% |
| General education | Count | 2 | 11 | 2 | 11 |
| | % within University level | 15.4% | 84.6% | 15.4% | 84.6% |
| Major | Count | 13 | 33 | 11 | 35 |
| | % within University level | 28.3% | 71.7% | 23.9% | 76.1% |
| Total | Count | 38 | 62 | 33 | 67 |
| | % within University level | 3.0% | 62.0% | 33.0% | 67.0% |

TABLE 4: Association between university level and the belief of the risk of developing breast cancer at elder age or due to gender.

of knowledge about breast ultra sound screening. Out of 41 students, only 10 students (24.4%) knew about ultra sound screening. For general education, 5 out of 13 students (38.5%) knew about ultra sound screening. Major students were the most aware about breast ultra sound screening. Out of 46 students, 25 students knew about ultra sound screening. In total, 60% of the students did not have knowledge about breast ultra sound screening.

As the level of education increases, the awareness about the proper age of mammogram screening increases ($p=0.059$). Out of 41 students, only 5 students (12.2%) knew about the proper age of mammogram screening. For general education, 2 out of 13 students (15.4 %) knew about the proper age of mammogram screening. Major students were the most aware about the proper age of mammogram screening. Out of 46 students, 15 students (32.6%) knew about the proper age of mammogram screening. In total, only 22% of the students did have the knowledge about the proper age of mammogram screening.

4. Discussion

This cross-sectional study provides an insight into the level of awareness and knowledge about breast cancer, the risk factors and screening methods among female students at Zayed University in Abu Dhabi. Our overall results showed a general lack of knowledge about breast risk factors. Only 38% of the participant students knew that

| University level | | Breast screening Ultra sound knowledge | | Mammogram age | |
|-------------------|---------------------------|--|-------|---------------|-------|
| | | No | Yes | Don't know | Know |
| ABP | Count | 31 | 10 | 36 | 5 |
| | % within University level | 75.6% | 24.4% | 87.8% | 12.2% |
| General education | Count | 8 | 5 | 11 | 2 |
| | % within University level | 61.5% | 38.5% | 84.6% | 15.4% |
| Major | Count | 21 | 25 | 31 | 15 |
| | % within University level | 45.7% | 54.3% | 67.4% | 32.6% |
| Total | Count | 60 | 40 | 78 | 22 |
| | % within University level | 60.0% | 40.0% | 78.0% | 22.0% |

TABLE 5: Association between university levels and the knowledge about breast ultra sound screening and the age for mammogram screening

family history of breast cancer is a risk factor, while only 29% knew that obesity is a risk factor and only 12% of the participants knew that physical inactivity is a risk factor. The most common known risk factor responded to by the participants was non breast feeding. This result is consistent with the finding of Dandash and Al Mohaimeed (2007) who also showed that non breast feeding was the most frequently reported risk factor [6]. This might reflect the religious culture that encourages breast feeding in UAE. Some studies that were done in the GCC countries showed contrasting results. [4] conducted a cross sectional questionnaire in Al-Ain city in UAE to evaluate the knowledge, attitude, and practices related to breast cancer and screening among Arabic women.

Consistent with our results, the responses to knowledge-based questions indicated low levels of knowledge about breast cancer. Only 30% of the women knew that a family history of breast cancer was a risk factor to the disease [4]. However, a recent cross-sectional survey was conducted over 4 months at two private clinics in Riyadh, Saudi Arabia. The study included 174 randomly selected Saudi female patients. The results of the study showed that approximately half of the participants had good

knowledge about breast cancer risk factors. Interestingly, family history of breast cancer was the most common known risk factor responded to by the participants (84%) [3].

Breast self-examination is one of the most important steps in detecting and identifying breast tumors at an early age [1]. Our results show that single women had less frequently performed breast self-examination compared to married women. In total, majority of participants did not undergo self-examination. The low prevalence of breast self-examination can be partially attributed to the overall poor knowledge about breast cancer. The results are consistent with a cross sectional study conducted in Al Ain, UAE which also showed low level of awareness about breast self-examination [4]. Only 12.7% of a large study population practiced breast self-examination. In contrast to our findings, the results by [3] showed that 81.6% of the participants had good knowledge about breast self-examination.

Recently, Elobaid et al. conducted a research to assess breast cancer screening knowledge in Al Ain city. The sample for the survey was selected from the community, cultural and religious centers. The screening uptake in this group was: 34.1% breast self-examination, clinical breast examination 49.4% and mammography 44.9%. Almost 38% claimed good knowledge of breast self-examination procedures due to fear of finding something [1, 8].

Almost all of the female students in our study never heard about Breast Ultra Sound and how and when is it done (60.0%). On the other hand, out of all students whom had knowledge about the ultra sound screening, only 40.0% did undergo the screening process. Interestingly, our results regarding the mammogram screening are consistent with the results obtained by Elobaid et al. (2014) who showed low scoring level of screening knowledge. About 16% of the participants did not know the exact age for doing the mammogram screening. Moreover, in our study, majority of the participants did not have the knowledge about the mammogram screening and about 78.0% did not know in which age group it should be done. Although the belief of the risk of developing breast cancer (due to elderly or due to gender) increased at university level (General education and major students), only major students were the most aware about ultrasound screening method and the proper age of mammogram screening.

The results of our study and related studies in the literature show insufficient awareness and knowledge about many aspects related to breast cancer and acknowledge the negative impact on the practices of breast self-examination and other screening methods [1]. Control of modifiable breast cancer risk factors such as maintain a healthy weight, regular exercise and reducing the intake of fatty food will have an impact

on reducing the incidence of breast cancer. Furthermore, early detection of sign and symptoms will contribute to the decrease in the prevalence of the disease and will promote the increase in individuals' health literacy. It is important that health care providers deliver the message of the necessity for regular breast cancer screening. National awareness and screening programs have to be improved to increase the awareness about the proper age and time for performing the screening tests.

5. Conclusion

The study showed moderate knowledge of risk factors for breast cancer. In addition, the study showed the lack of knowledge and practice of breast self-examination. Knowledge about screening methods varied according to the marital and educational status of the students. Community-based efforts are required to increase the level of knowledge and awareness about breast cancer, the risk factors and the screening methods among university students in the UAE.

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