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# Exploring Breast Cancer Awareness Levels among Female University Student in Mosul

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**Article Informations**

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**A B S T R A C T**

Background: Breast Cancer is a significant cause of morbidity and mortality in developed as well as developing Nations and it play a very important role in the global disease burden. Objective: The aims of this study are to assess the knowledge regarding breast cancer among female students at the university of Mosul. Methods: The participants in this cross-sectional study were 230 college students from the University of Mosul. The research started from (1st of October 2022 to the 1st January2023). Results: In the age (22 – 25) year revealed the highest percentage of study sample was 47.09%, And 227(87.3%) urban residency, single (83.5). The internet was primary sources of information in (30%). All participants reported nipple discharge as a symptom (100%). Conclusion: This study find that the study sample had adequate information on several aspects of breast cancer except low Knowledge about risk Factors.

## Introduction

Breast cancer is the most prevalent tumor in women and generally the second most common cancer globally, with approximately 1.4 million cases diagnosed annually (1). It is the most dangerous cancer affecting women and a primary cause of illness and death worldwide (2). Breast cancer is defined as the uncontrolled growth of cell found in the breast. These cells frequently create a mass of lump that can be visible on an x-ray or felt as a protrusion. Cancer can be classified as malignant if the cells infect nearby tissues or disseminate to distant region of the breast through metastasis. This kind of Carcinoma is predominantly observed in (3).Breast cancer is frequently asymptomatic in its early stages. As the neoplasm growth, the major symptoms such as a lump in the breast, axilla, or both begin to appear. As the disease advances, advanced breast cancer symptoms may include bone pain, breast soreness or discomfort, skin ulcers, swelling of the lymph nodes in the axilla, and weight loss. (4).Breast tissues are exposed to reproductive hormones in different ways due to many additional risk factors (5). Gaining weight or being overweight or obese, using the postmenopausal hormone for an extended period of time, drinking excessively, and not getting enough exercise are some of the controllable factors (5, 6).Additional reproductive variables increase the likelihood of breast cancer consist of a long menstrual history (starting menstruation at a younger age and/or experiencing menopause at a later age), nulliparity (never having given birth), having the first child after the age of 30, and current use of hormonal contraception (7, 8).Risk factors for breast cancer encompass an extended menstrual history (early onset of menstruation and/or late onset of menopause), nulliparity, delayed childbirth after the age of 30, and current use of hormonal contraception. Improving survival rates and women's quality of life can be achieved by early detection of breast cancer, which is why it is an important public health strategy in all settings (9). Early symptoms can be detected with regular screening, the components of breast cancer screening encompass breast self-examination (BSE), clinical breast examination, and mammography (10). In the meanwhile, it is important to avoid and recognize this illness early by the initial detection of masses with breast self-examination (BSE).The disparity can be inflated because of the poor levels of knowledge, screening methods, and diagnoses in the developing (12). Research has shown, however, that women's health-seeking habits may be greatly influenced by aspects pertaining to their awareness, knowledge, and perceptions of the disease (13, 14).Over the past three decades, breast cancer has been the most common form of cancer, accounting for 19.4% of all newly diagnosed cases, 34.7% of cancers in women, and 22.5% of cancer-related deaths among Iraqi women (15).

**OBJECTIVES:**

The aims of this study are to assess the knowledge regarding breast cancer among female students at the university of Mosul.

## Martial and Methods:

A descriptive cross-sectional study was conduct at Mosul University from October 1st to January 1st to evaluate the level of knowledge and factors linked to breast cancer among a group of college-educated women. Participants' ages ranged from 18 to 33 and came from a variety of workplaces; “with a total number of participants 230 included in the study”. The students participating in this study were interviewed using a questionnaire to assess the knowledge regarding breast cancer among female students, the respondents were given a brief idea of the study objectives, and their knowledge of breast cancer the questionnaire Structured consists of 3 parts: The First Part: Socio-demographic characteristics such as (age, marital status, educational level, residence , source information ), The second part Signs and Symptoms consists (Chest pain, Secretions from the nipple, Change in the skin and its heat, Presence of a mass or tumor, Change in shape and size). The third Part: Risk factors that of infection (Smoking, taking contraceptive, refrain from breastfeeding, exposure to radiation, aging), and factors reduce the incidence of infection (Breastfeeding, avoid obesity, reducing fat, exercise) Four parts: was related to knowledge about practicing BSE.

Statistical analysis was performed by entering and coding data using Microsoft Excel 2021 for each questionnaire, and using the SPSS version statistical program (28). The statistical approach to the data consists of a descriptive approach that includes a scale (frequencies, percentage, mean scores, standard deviation and chi-square)., and $p < 0.05$ was accepted as Statistically significant.

## Results:

Table (1) shows that Age in the studied sample ranged 18– 33 years, the highest percent in the age group (20 – 25) years, they are accounted 106 (47.09%). Respectively, the vast majority of residency of the studied women are classified as urban resident, and they are accounted 227(87.3%). Regarding Marital status the highest percentage in single they are accounted 192 (83.5).

**Table 1:** Distribution of the study sample according to Socio Demographic Characteristics

| Item parameter | | Frequency | Percentage |
|---|---|---|---|
| Age | 18-21 | 106 | 46.1 |
| | 22-25 | 108 | 47.0 |
| | 29-26 | 13 | 5.7 |
| | 30-33 | 3 | 1.3 |
| Residence | Urban | 206 | 89.6 |
| | Rural | 24 | 10.4 |
| Marital status | Single | 192 | 83.5 |
| | Married | 35 | 15.2 |
| | Divorced | 2 | 0.9 |
| | Widow | 1 | 0.4 |

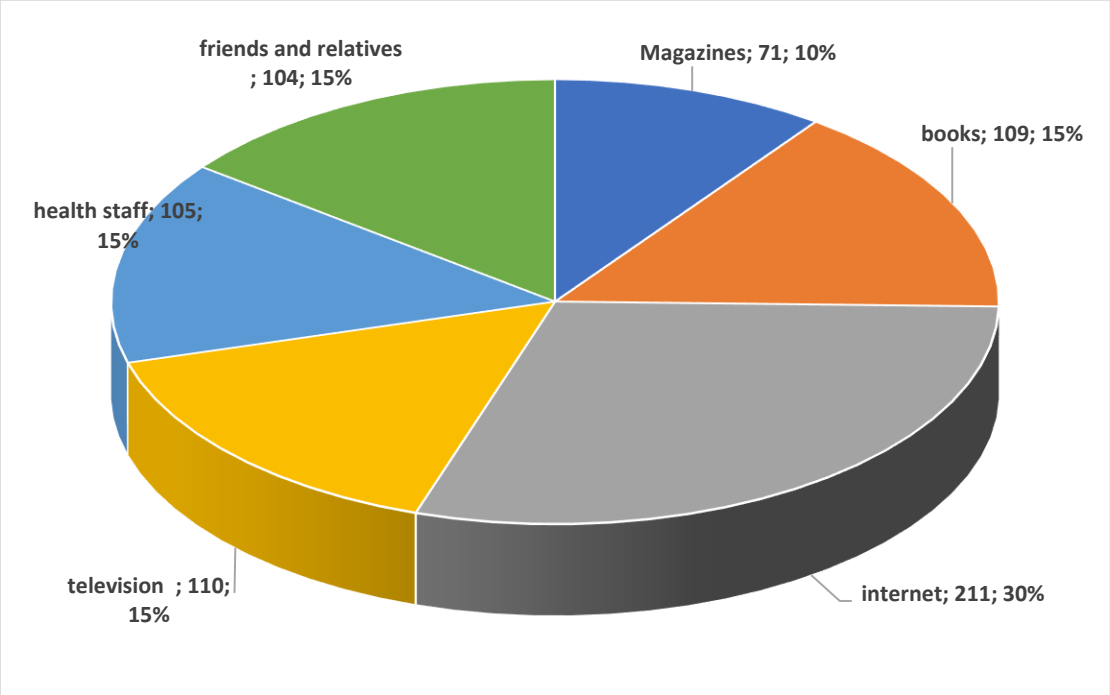


**Figure 1:** The percentage of Source information about breast cancer among the study sample:

Table (2) Shows that signs and symptoms in the study sample the vast majority had secretion from the nipple (100%). Respectively the presence mass or tumor that (87.4%). Regarding the shape and size are accounted (78.3%). Relative to chest pain (63.0%). While change in the skin and its heat are accounted (35.7%) Fig(3) .

**Table 2:** Distribution of study sample by their clinical Signs and Symptoms

| Item parameter | | Frequency | percentage | Mean | Standard division | Assessment |
|---|---|---|---|---|---|---|
| Chest pain | yes | 145 | 63.0 | 0.63 | 0.5 | Good |
| | No | 85 | 37.0 | | | |
| Secretions from the nipple | yes | 230 | 100.0 | 1 | 0.0 | Good |
| | No | 0 | 0 | | | |
| Change in the skin and its heat | yes | 82 | 35.7 | 0.36 | 0.5 | Poor |
| | No | 148 | 64.3 | | | |
| Presence of a mass or tumor | yes | 201 | 87.4 | 0.87 | 0.3 | Good |
| | No | 29 | 12.6 | | | |
| Change in shape and size | yes | 180 | 78.3 | 0.78 | 0.4 | Good |
| | No | 50 | 21.7 | | | |

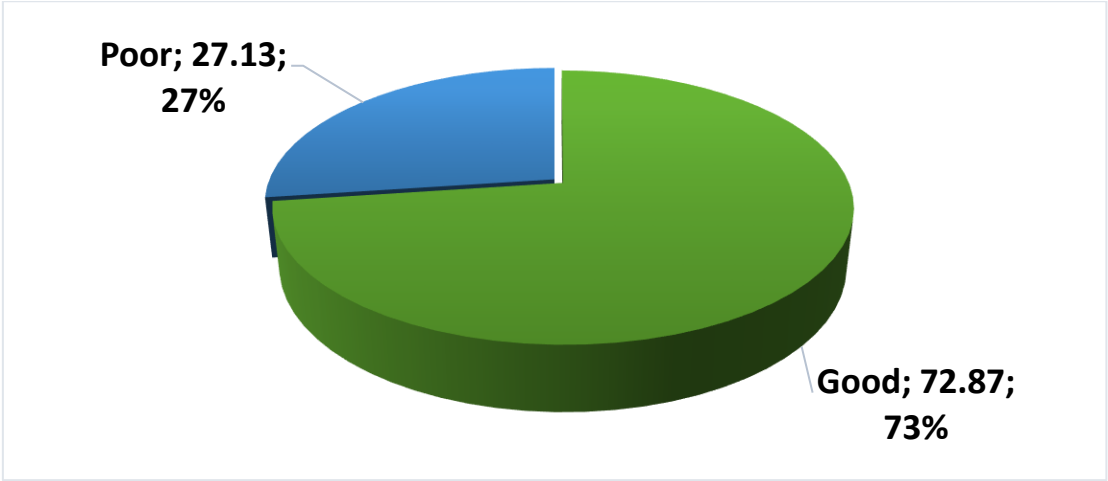


**Figure 2:** Illustrate the Knowledge of signs and symptoms in the study sample

Table (3) Shows that risk factor for breast cancer in the study sample the vast majority had aging 64.3%. Respectively smoking (49.1%) the presence mass or tumor that (87.4%). Regarding the change in the skin and its heat (35.7%). Relative to Change in shape and size are accounted (78.3%). While chest pain (63.0%).

**Table 3:** Distribution of risk Factors contribution to breast cancer for study sample

| Factors contributed to infection | | Frequency | percentage | Mean | Standard division | Assessment |
|---|---|---|---|---|---|---|
| Smoking | yes | 43 | 18.7 | 0.19 | 0.39 | Poor |
| | No | 187 | 81.3 | | | |
| Taking contraceptive | yes | 81 | 35.2 | 0.35 | 0.48 | Poor |
| | No | 149 | 64.8 | | | |
| Refrain from breastfeeding | yes | 61 | 26.5 | 0.27 | 0.44 | Poor |
| | No | 169 | 73.5 | | | |
| Exposure to radiation | yes | 113 | 49.1 | 0.49 | 0.50 | Poor |
| | No | 117 | 50.9 | | | |
| aging | yes | 148 | 64.3 | 0.64 | 0.5 | Good |
| | No | 82 | 35.7 | | | |

Table (3) Shows that factor reduce breast cancer in the study sample the vast majority had Breastfeeding 88.7 %. Respectively avoid obesity 71.3%. Relative to exercise 18.3% while Reducing fat 10.4 %.

**Table 4:** Distribution of study sample about factor reducing infection

| Factors reduce infection | | Frequency | Percentage | Mean | Standard division | Assessment |
|---|---|---|---|---|---|---|
| Breastfeeding | Yes | 204 | 88.7 | 0.89 | 0.32 | Good |
| | No | 26 | 11.3 | | | |
| Avoid obesity | Yes | 164 | 71.3 | 0.71 | 0.45 | Good |
| | No | 66 | 28.7 | | | |
| Reducing fat | Yes | 24 | 10.4 | 0.10 | 0.31 | Poor |
| | No | 206 | 89.6 | | | |
| Exercise | Yes | 42 | 18.3 | 0.18 | 0.39 | Poor |
| | No | 188 | 81.7 | | | |

Table (5) Shows that Early diagnosis helps in treatments (61.7%). Respectively study sample Did you hear about breast self-examination (93.0%). Regarding the study sample Did you practice the self-examination (58.3%). While (60.4%) is the Genetic disease Fig(4).

**Table 5:** The Knowledge of study sample about breast cancer

| Item parameter | Frequency | percentage | Mean | Standard division | | Assessment |
|---|---|---|---|---|---|---|
| Early diagnosis helps in treatments | Yes | 142 | 61.7 | 0.62 | 0.49 | Good |
| | No | 88 | 38.3 | | | |
| Did you hear about breast self-examination | Yes | 214 | 93.0 | 0.93 | 0.26 | Good |
| | No | 16 | 7.0 | | | |
| Did you practice the self-examination | Yes | 134 | 58.3 | 0.58 | 0.49 | Good |
| | No | 96 | 41.7 | | | |
| Did you encourage prevalence health awareness about the disease | Yes | 69 | 30.0 | 0.30 | 0.46 | Poor |
| | No | 161 | 70.0 | | | |
| Educational campaigns about breast cancer are sufficient | Yes | 225 | 97.8 | 0.98 | 0.15 | Good |
| | No | 5 | 2.2 | | | |
| It is considered communicable disease | Yes | 25 | 10.9 | 0.11 | 0.3 | Poor |
| | No | 205 | 89.1 | | | |
| Incurable disease | Yes | 97 | 42.2 | 0.42 | 0.5 | Poor |
| | No | 133 | 57.8 | | | |
| Is the Genetic disease | Yes | 139 | 60.4 | 0.6 | 0.5 | Good |
| | No | 91 | 39.6 | | | |
| Is the most common and important cancer | Yes | 182 | 79.1 | 0.79 | 0.4 | Good |
| | No | 48 | 20.9 | | | |

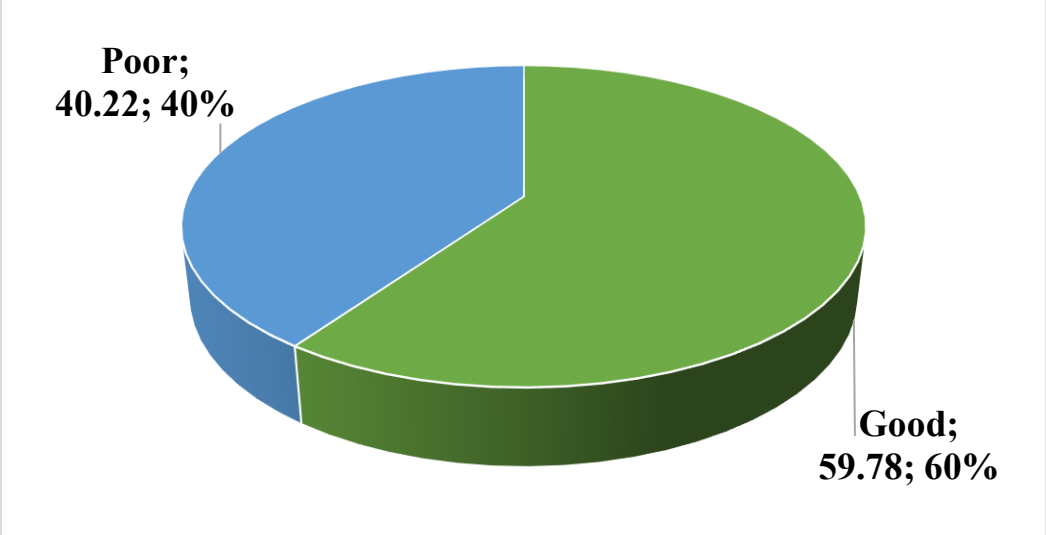


**Figure 4:** The Knowledge of study sample about information of breast cancer

## Discussion

The purpose of the present research was to evaluate the level of knowledge that women possessed regarding breast cancer. The result showed socio - demographic characteristics that the vast majority the age group of 22-25 years about 47.0%, these findings were agreed to those obtained from two studies done in Iraq and Saudi Arbia (16,17), and most of them are living in urban areas 89.6%, Although the highest percentage of respondents were single 83.5%, this finding agrees with study done in Iraqi (18). In respect to the main source of information about breast cancer most of the studied cases 30% was the internet, this finding similar reported in Iraq and Malaysia (18,19). The current generation prefers to search for information on the internet rather than another method.

Our result regarding clinical Signs and Symptoms that the vast majority of the participants mentioned (100%) were Secretions from the nipple, this result agrees to a study conduct of Jordanian women (20). Therefore, it is important updating campaign knowledgeable about breast warning signs, it helps women recognize enabling them to report any abnormalities promptly, leading to early identification and better treatment results.

It is important for student women to have knowledge about the risk factors and manifestations of breast cancer in order to give high-risk women with valuable information about screening recommendations (21). In the present study, (49.1%) that participants had knowledge that risk factors increasing with aging. This result is consisted with previous studies conduct in Pakistan and Bangladesh (22, 23). 88.7% the highest percentage to reducing breast cancer were in breast feeding according to the study sample. This result is agreement in current out in Britain (24).

Clinical breast self-examination is utilized for initial detection of breast cancer. It was reported (93.0%) had hear about breast self- examination. This result agrees with a study conducted in Malaysia and Gaza (25,19). (58.3%) indicated that participating they did perform BSE. This result similar to the study in Gaza, that confirm the potential effectiveness of social media in promoting health (19).

## Conclusion:

The student's sample have a good knowledge of breast cancer, except for the risk factors associated with it

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