

Knowledge and Performance of Breast Self-Examination among the Iraqi Women Attending the Breast Clinic at Oncology Teaching Hospital in Baghdad

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ABSTRACT

Background: Breast self-examination is considered one of the simple noninvasive methods with very low cost, without need for special material or tool. In addition, it is very fast effective method for diagnosis of breast cancer.

Objective: To assess the level of knowledge and practice of breast Self-examination (BSE) among the Iraqi women who attend to the Oncology Teaching Hospital in Baghdad.

Material and methods: A descriptive cross-sectional study. We select any Iraqi women who attended to the Breast Clinic at the Oncology Teaching Hospital randomly regardless of the age. We collect about 150 Iraqi women with varied age, and they came from different region in Baghdad and from other governorates in Iraq.

Results: In this study we found that 64.7% of the ladies had a knowledge towards breast self-examination, but only 34% of the respondents perform it. The major reasons behind the nonperformance of the BSE were either those respondents (34.7%) have never heard about it or about 13.3% don't know how to do it. The major source of information about BSE were the health workers (14.7%) and from TV (7.3%). A significant difference was found in this study between overall knowledge and practice of breast self-examination ($P < 0.05$), and a significant difference between the overall knowledge and the educational level of the participants ($P < 0.05$).

Conclusions: We concluded that poor knowledge among right procedure and practice of breast self-examination in Iraqi women

Keywords: Breast self-examination, Oncology, Knowledge, Practice.

INTRODUCTION

Cancer of the breast is a disease that occurs when the breast cells initiate to mature out of control leading to formation of a mass that can be detected radiologically or felt on examination as a lump. This mass called a malignant tumor when the cells spread into surrounding tissues or even to other areas of the body. Adding to this, breast cancer does not afflict women only, but also men, as it has been proved by recent cases ⁽¹⁾.

Nowadays, Breast cancer appears to be the most invasive type of cancer that affect the women globally, and form the commonest cause of death in the women. The incidence rate of breast cancer varies by region. Some research found that the breast cancer viewed as "cancer of affluence". The incidence and mortality rate of breast cancer is positively related to more developed countries and high socioeconomic position. Spic-and-span studies denote a fuzzy relationship among breast cancer mortality and high/low socioeconomic position irrespective of the nature of this relationship whether negative or positive ⁽²⁾.

Risk factors of breast cancer:

There are many factors that have been exposed to surge the women's risk of developing breast cancer: Age of menarche (early), delayed menopause, short period of breast feeding and exogenous hormones such as oral contraceptives, and hormone replacement therapy. In addition to high dietary fat intake and reduced physical activity, risk of obesity and weight gain in age ≥ 18 years old ⁽³⁾.

Signs and symptoms that indicates having breast cancer:

- 1- A change in the size or shape of the breast.
- 2- A new lump or lumpiness, especially in one breast.
- 3- Some changes in the nipple like crusting and redness.
- 4- When there is some discharge from the nipple that occurs without squeezing.
- 5- Inverted nipple.
- 6- An unusual pain that continue for long time.
- 7- A change in the skin, such as puckering or dimpling (like orange peel) ⁽⁴⁾.

Factors with adequate evidence of decreased risk of breast cancer ^{(3) (5)}:

The main risk factors for emerging breast cancer aren't easily adaptable because they consequence from long time endogenous exposures. But there are some main strategies that may decrease the risk of emerging breast cancer

- 1- Breast feeding: breast feeding for long duration will decrease risk of breast cancer by the effect of tamoxifen that decrease the incidence of disease in between 30-40% in high-risk females.
- 2- Exercise: physical activity more than seven hours per week may decrease risk of developing breast cancer.
- 3- Women that become pregnant before 20 years and the women whose first full pregnancy at 35 years or older both of them have risk to develop breast cancer.

Although, these factors are helpful in preventing or reducing the risk of breast cancer, but it's not enough for removing the great numbers of breast cancer that

present mainly in the low- and middle-income countries. So, the screening of breast cancer is regarded as the main strategy in reducing the mortality due to breast cancer and to enhance the survival, because this method is helpful in identify and control the breast cancer as early as possible ⁽⁶⁾. So the screening is important because an excellent prognosis is directly associated with the stage at which the tumor is detected and how localized the lesion is. This means that the early detection of breast cancer enhances the management and treatment before the occurrence of metastasis ⁽⁷⁾.

The screening strategy including three methods: The personal examination of the breast, clinical examination of the breast and mammography. Clinical examination of the breast with mammography need hospital official visit, special equipment's and proficiency. While, the BSE is cheap and the women can perform it by themselves ⁽⁸⁾. So, for getting best results the American Cancer Society guidelines commend for primary diagnosis of CA of breast to do every year examination of breast by mammogram since the patient with in forty years old, besides to CBE in each 3 years for females in 2nd decade or 3rd decade, and each year for subjects at \geq 4th decade. Also, endorses BSE for females beginning their 2nd decade. Therefore, we focus in the BSE because it could be defined as a simple, easy, rapid and cheap method for detecting the breast cancer early ⁽⁹⁾.

The purpose of the BSE is to make the women more familiar with the appearance of their breast, to identify if there is any lump presents in the breast and to look if there is any abnormality in the breast. This test should be done each month between the 7th and 10th day of the menstrual cycle .The BSE technique including the palpation of the breast by using the tips of the fingers instead of using the palm of the hands .To do this test the women start with erect position (either sitting or standing) and then lying down. It found by doing the BSE the women can detect about 95% of breast cancer and 65% of early small breast cancer ⁽⁸⁾. However, it seems that there is low performance of the BSE and the performance differs in each country. Several causes behind this low performance such as lack of time, and self-confidence in their aptitude to achieve the technique properly ⁽⁶⁾.

Aim of the study: To assess the level of knowledge, frequency of performance, factors that affect the performance and the reasons behind non-performance of the BSE examination among the Iraqi women attended to Oncology Teaching Hospital, Baghdad City.

MATERIAL AND METHOD

A descriptive-cross sectional study that was conducted in the Breast Clinic at Oncology Teaching Hospital in Baghdad in the period between 19 July to 9 August 2017.

Study Sample

The data were collected by using a simple random sampling method, any Iraqi women who attended the breast clinic at the oncology teaching hospital randomly regardless the age. We collected about 150 Iraqi women with varying age, and they came from different region in Baghdad and from other governorates in Iraq.

Inclusion criteria: 1. Women who attended the Breast Cancer Clinic at the Oncology Teaching Hospital. 2. The Iraqi women with age above Fifteen years.

Ethical consent: An informed written consent was obtained from each patient or relative of the patient. The study was done after approval from the Ethical Committee of Baghdad Medical City. The Declaration of Helsinki, the World Medical Association's code of ethics for studies involving humans, guided the conduct of this work.

Statistical analysis

Data were transferred into computerized database using the Microsoft office, Excel program , 2022 and the statistical package for social sciences version 28 (SPSS 28). All variables were tested for errors or inconsistency using the case summaries in SPSS and descriptive statistics. No errors detected and the statistical analysis proceeded to the next steps. Descriptive statistics presented as mean, standard deviation, frequencies and proportions according to the variable type. Al statistical tests performed at a level of significance of 0.05 or less to be significant.

RESULTS

150 Iraqi women were included in this study. The age of them ranged from 15- 65 years. Majority were in the age group > 45 (n=81, 54%) and the mean age was 3.31 ± 0.868 years (Table 1).

Table (1): Age distribution of the studied group

Age group				
	Frequency	Percent	Valid percent	Cumulative percent
15-25	6	4.0	4.0	4.0
26-35	22	14.7	14.7	18.7
36-45	41	27.3	27.3	46.0
46-65	81	54.0	54.0	100.0
	150	100.0	100.0	
Mean \pm SD	3.31\pm0.868			

Regarding the educational level, the majority didn't complete the primary school (n=46, 30.7%) and about thirty participants (20%) completed intermediate school, 26 of them (17.3%) were Illiterate, twenty -five (16.7%) completed the high school and only twenty -three of the participants (15.3%) completed the university (Table 2).

Table (2): Educational level of the studied group

Educational level				
	Frequency	Percent	Valid percent	Cumulative percent
Illiterate	26	17.3	17.3	17.3
Elementary school	46	30.7	30.7	68.0
Middle school	30	20.0	20.0	37.3
High school	25	16.7	16.7	84.7
University	23	15.3	15.3	100.0
Total	150	100.0	100.0	

According to the knowledge of BSE, about ninety-seven (64.7%) of participants reported that they know how to do the BSE, but Fifty -three (35.3%) of them reported they have never heard about it. The majority of the participants did not perform the BSE (n=99, 66%) and only fifty-one (34%) of them performed it (Table 3).

Table (3): Knowledge about the BSE

Did you know the BSE	Frequency	Percent	Valid percent	Cumulative percent
I know the BSE	97	64.7	64.7	64.7
I have never heard of it	53	35.3	35.3	100.0
Total	150	100.0	100.0	

Regarding the women who performed the BSE, the majority of the participants performed the BSE because they had a positive family history of breast cancer (n=14, 9.3%) and about thirteen women (8.7%) performed it because they afraid from having breast cancer in the future. In addition, some of these women (n=11, 7.3%) did the BSE because they want to exam/ine their breast regularly, and the others (n=8, 5.3%) did it because they had alarming symptoms (such as ulceration in the nipple or bleeding exudates or change in the position of nipple or change in the size and skin of the breast). Finally, only five of these participants (3.3%) practiced the BSE because of doctors' advice (Table 4).

Table (4): Practice of BSE in the studied group

Why do you practice BSE				
	Frequency	Percent	Valid percent	Cumulative percent
I might have breast cancer in the future	13	8.7	25.5	25.5
To examine my breast regularly	11	7.3	21.6	47.1
Doctor advice	5	3.3	9.8	56.9
Because of alarming symptoms	8	5.3	15.7	72.5
Breast cancer in the family	14	9.3	27.5	100.0
Total	51	34.0	100.0	

Regarding the performance of BSE in relation to the menstrual cycle, most of the participants (n=33, 22%) were not restricted by the menstrual cycle to do the BSE, but they do it in any day, and about thirteen participants (8.7%) did it after the menstrual cycle, while only five participants (3.3%) did it before the menstrual cycle (Table 5).

Table (5): Time of performing BSE

	Frequency	Percent	Valid percent	Cumulative percent
Pre-menstrual cycle	5	3.3	9.8	9.8
After the menstrual cycle	13	8.7	25.5	35.3
On any day	33	22	64.7	100.0
Total	51	34.0	100.0	

According to the source of knowledge of how to perform the BSE about twenty two of participants (17.4%) taught from health workers and about eleven participants (7.3%) said she taught from the TV, nine of them (6%) taught from internet (Table 6).

Table (6): Source of knowledge about BSE in the studied group

Who taught you to performing the BSE				
	Frequency	Percent	Valid percent	Cumulative percent
Health-worker	22	14.7	43.1	43.1
Relatives	5	3.3	9.8	52.9
Friends	4	2.7	7.8	60.8
From TV	11	7.3	21.6	82.4
From the internet	9	6.0	17.6	100.0
Total	51	34.0	100.0	

According to the non-performance of SE, majority of participants about fifty–two (34.7%) don't perform it because they have never heard about it, and twenty of them (13.3%) don't know how to do it, while seven of these women (4.7%) know how to do it but they miss the optimal time. Some of the participants (n=6, 4%) scared being diagnosed with breast cancer, so they did not perform the BSE and the others (n=6, 4%) were so busy to make it. In addition, only two of these participants (1.3%) did not perform because they forgot and about one participant (0.7%) thought that BSE was not important and wasted her time (Table 7).

Table (7): Participants do not perform the BSE in the studied group

Why you do not perform the BSE				
	Frequency	Percent	Valid percent	Cumulative percent
I do not know how to do it	20	13.3	20.2	20.2
I know how to do the BSE, but I miss the optimal time	7	4.7	7.1	27.3
I have never heard of the BSE	52	34.7	52.5	79.8
I do not think it is important, I think wastes my time	1	0.7	1.0	80.8
I do not have any symptoms	5	3.3	5.1	85.9
I scared of being diagnosed with breast cancer	6	4.0	6.1	91.9
I am busy to make it	6	4.0	6.1	98.0
Forgetfulness	2	1.3	2.0	100.0
Total	99	66.0	100.0	

Concerning the participants who did not perform the BSE, about 62 (41.3%) did not visit the doctor for performing the clinical breast examination and

checking up, while only thirty-seven participants (24.7%) went to the doctor for checking up. The reason behind not visiting the doctors were: no symptoms (n=22, 14.7%), too scared to go and see the doctor what might find (n=15, 10%), too many things to worry about it (n=14, 9.3%), having no time to go to the physician (n=9, 6%) and hard to create an appointment with physician (n =2, 1.3%) (Table 8).

Table (8): Doctor performing the BSE in the studied group

Do you go to the doctor for performing the BSE and checking up				
	Frequency	Percent	Valid percent	Cumulative percent
Yes	37	24.7	37.4	37.4
No	62	41.3	62.6	100.0
Total	99	66.0	100.0	
Why you do not go to the doctor				
Too scared to go to the doctor and diagnosed with breast cancer	15	10.0	24.2	24.2
hard to create an appointment with physician	2	1.3	3.2	27.4
have no time to go to the physician	9	6.0	14.5	41.9
Too many other things to worry about	14	9.3	22.6	64.5
No symptoms	22	14.7	35.5	100.0
Total	62	41.3	100.0	

Generally, we asked the participants who not perform the BSE if they want to know how to do the BSE and we watched that about fifty-seven (38%) of the participants were interested in this and wanted to know and perform it, but forty-two participants (28%) were not interested in this (Table 9).

Table (9): Knowledge about performance of BSE in the studied group

Do you want to know how the BSE is done				
	Frequency	Percent	Valid percent	Cumulative percent
Yes	57	38.0	57.6	57.6
No	42	28.0	42.4	100.0
Total	99	66.0	100.00	

Correlation between knowledge and practice of BSE:

There is a significant, positive correlation between the knowledge and the practice of the BSE (p<0.05). So, this mean that any increase in the level of knowledge about the benefit of the BSE as a helpful method for early diagnosis of breast cancer and knowing how to do

this test in proper way lead to increase the practice of it regularly and properly among the women and this eventually will lead to decrease the mortality of breast cancer. So, we should focus on increasing the knowledge about this test among the Iraqi women especially those who are illiterate and those who didn't complete the primary school because we found that there was a significant positive correlation between the knowledge about the BSE and the educational level of the participants in this study ($P < 0.05$). This means that the highly educated women tend to be more familiar about the breast cancer and know how to do the BSE in proper way more than women who have a low educational level.

DISCUSSION

Cancer of the breast is considered as one of the most common global malignancies that happened in females, and it is the most common cancer take place in Iraqi ladies. According to the newest Iraqi Cancer Registry, Cancer of breast account for around 1/3rd of the recorded woman cancers in our country, specified that this type of cancer is the foremost cancer place among ladies⁽¹⁰⁾. **Yip et al.**⁽¹¹⁾ reported that in breast cancer the survival rate was lowered if there is impediment in management of the disease. The last study showed that about 2/3rd of women revealed that they heard about BSE (64.7%), while 34% of women described that they practiced BSE. This may be attributed to the weakness in health education programs about the disease. **Casmir et al.**⁽⁸⁾ concluded that health belief model suggests that when a female observes herself at risk so they practice herself to do breast self-examination (BSE). In **Parsa P et al.**⁽¹²⁾ stated that majorities of the Malaysian women teachers heard about the examination of breast by herself, however only less than one fifth of them specified that they make BSE on a consistent monthly base⁽¹²⁾. Similar results were also reported among adolescent girls in Colombo⁽¹³⁾. In our study, only 30 women performed the BSE regularly, 4.7% did BSE every week and 9.3% every month. The main three causes to do BSE were 8.7% they might have breast cancer in the future, 9.3% had family history of breast cancer and 7.3% to examine their breast regularly. The 66% not doing BSE because 34.7% never heard of the BSE and 13.3% did not know the technique. Most of the participants in this study said that they would see a doctor as soon as they can if they noticed a change in breast (24.7%) and 41.3% will not see a doctor. The cause of not seeing a doctor was that they were too scared of finding a lump (10%) and 14.7% they had no symptoms so they did not need to go to doctor and 9.3% said that they had many other things to worry about. Regarding the source of knowledge about BSE, 43.1% (valid percentage) of the Iraqi women in this study learned the BSE from health-worker, which was lower than that reported (94%) in California⁽¹⁴⁾ and the second source from TV (21.6%), while a little from friends, relatives and internet. In

comparing the knowledge of BSE, about 64.7% of Iraqi women had knowledge about the BSE, which is higher than that reported (7.6%) in India⁽¹⁵⁾.

CONCLUSIONS

We concluded a poor knowledge among right procedure and practice of breast self-examination in Iraqi women.

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REFERENCES

1. **Girish C, Vijayalakshmi P, Mentham R et al. (2014):** A review on breast cancer. International Journal of Pharma and Bio Sciences, 4: 47-54.
2. **Bahk J, Jang S, Jung-Choi K (2017):** Increased breast cancer mortality only in the lower education group: age-period-cohort effect in breast cancer mortality by educational level in South Korea, 1983-2012. International Journal for Equity in Health, 16: 1-9.
3. **Bray F, McCarron P, Parkin D (2004):** The changing global patterns of female breast cancer incidence and mortality. Breast cancer research, 6: 1-1.
4. **Breast screen Victoria (2015):** Signs & symptoms of breast cancer, available at: <https://www.breastscreen.org.au/PDFs/SignsAndSymptomsOfBreastCancer.pdf>.
5. **Anal HP (2021):** Anal Cancer Prevention (PDQ®) Health Professional Version. Book from National Cancer Institute (US), Bethesda (MD), 07 Jul 2021. Available at: <https://pubmed.ncbi.nlm.nih.gov/26389323/>.
6. **Sun Y, Zhao Z, Yang Z et al. (2017):** Risk factors and preventions of breast cancer. International journal of biological sciences., 13:1387.
7. **Kayode F, Akande T, Osagbemi G (2005):** Knowledge, attitude and practice of breast self-examination among female secondary school teachers in Ilorin, Nigeria. European journal of scientific research, 10: 42-7.
8. **Casmir E, Anyalewechi N, Onyeka I et al. (2015):** Knowledge and practice of breast self-examination among female undergraduates in south-eastern Nigeria. Health, 7: 1134.
9. **Nemenqani D, Abdelmaqsoud S, Al-Malki A et al. (2014):** Knowledge, attitude and practice of breast self-examination and breast cancer among female medical students in Taif, Saudi Arabia. Open Journal of Preventive Medicine, 29: 69-77
10. **Al Alwan N (2022):** General Oncology Care in Iraq. In: Cancer in the Arab World, Springer, Pp: 63-82.
11. **Yip C, Taib N, Mohamed I (2006):** Epidemiology of breast cancer in Malaysia. Asian Pacific Journal of Cancer Prevention, 1: 369.
12. **Parsa P, Kandiah M, Parsa N (2011):** Factors associated with breast self-examination among Malaysian women teachers. East Mediterr Health J, 17: 509-16.
13. **Ranasinghe H, Ranasinghe N, Rodrigo C et al. (2013):** Awareness of breast cancer among adolescent girls in Colombo, Sri Lanka: a school based study. BMC public health, 13: 1-7.
14. **Jacob T, Penn N, Brown M (1989):** Breast self-examination: knowledge, attitudes, and performance among black women. Journal of the national medical association, 81: 769.
15. **Sideeq K, Ayoub T, Khan S (2017):** Breast self-examination: assessing its knowledge attitude and practice among ethnic Kashmiri females. International Journal of Community Medicine and Public Health, 4: 3288.