Original Article

Women's Knowledge about Breast Self-Examination

Assessment of Women's Knowledge about Breast Self-Examination at Al-Yarmouk Teaching Hospital

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ABSTRACT

Objective: To assess women's information and knowledge about breast self-examination and identify the relationship between social and demographical characteristics (age, level of education and marital status) with breast self-examination knowledge.

Study Design: Descriptive study

Place and Duration of Study: This study was conducted at the Al-Yarmouk Teaching Hospital in Baghdad from 27th June 2022 to 22nd May 2023.

Methods: This descriptive study was conducted at Al-Yarmouk Teaching Hospital in Baghdad including 100 women.

Results: Majority of participants were aged 20–29 years (33%), had completed high school (42%), and were married (84%). Overall, participants demonstrated adequate knowledge of breast self-examination, although gaps were identified in specific items 3, 7, and 14. No significant association was found between age and overall knowledge, except for awareness of breast self-examination importance ($P \leq 0.05$). Educational level showed a significant relationship with most knowledge items, while items 10, 12, and 13 were not significant. Marital status was significantly associated with knowledge of breast self-examination timing, technique, steps, and perceived importance, while other items were not significant ($P \leq 0.05$).

Conclusion: Differences were observed in women's knowledge of breast self-examination, with noticeable improvement after participants benefited from motivation related to the examination.

Key Words: Assessment, Women's, Knowledge, Breast self-examination

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INTRODUCTION

Cancer is a major contributor to the global disease burden, with newly diagnosed cases increasing from about 10.2 million in 2002 to nearly 15 million annually. Approximately 60% of cases occur in developing countries, reflecting a rising burden in low- and middle-income regions.[1] Breast cancer is one of the most common cancers in women worldwide and a major cause of cancer-related morbidity and mortality.

It is a heterogeneous disease characterized by uncontrolled malignant cell growth in the breast, most commonly originating in the ducts or lobules, with the ability to invade surrounding tissues and metastasize to distant organs.[2] Cancer incidence varies geographically, with lower age-standardized rates in developing countries compared to industrialized nations. In the Eastern Mediterranean region, non-communicable diseases have increased due to demographic shifts, urbanization, and lifestyle changes. In Iraq, breast cancer is a major public health concern, significantly contributing to cancer incidence among women.[3] It has been showed that a significant proportion of breast tumors about 70% are initially detected by women themselves by noticing abnormal tenderness or lumps. Hence, learning regular breast self-examination (BSE) is essential for early breast abnormalities detection. This would significantly enhance the likelihood of successful treatment, increases the availability of treatment options and significantly improves the chances of recovery.[1,2] One of the main benefits of regular breast examination is to allow females to be familiar and aware about the normal feel and look of their breasts helping in identify any changes early. Slight asymmetry between the right and left breasts is common, however any changes beyond should be referred to specialist's consultant. Although most breast

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changes are not cancerous, only a professional evaluation can confirm this.[4]

Women who are liable to be affected by breast cancer are especially encouraged to be aware about an early detection importance through the routine of BSE.[5] Through practicing BSE, breast cancer physical signs and symptoms for example; lumps, swelling, distortion, dimpling of the skin, nipple pain, scaliness, or nipple retraction can be detected.[6] To increase knowledge about BSE and encourage breast cancer early detection, health education interventions are essential. These include educational programs and training that explain techniques, benefits, and practice of BSE, helping women to understand the correct examination performance and recognize any potential abnormalities. Such training has been shown to significantly improve women's awareness, beliefs, and frequency of BSE practice, by this means supporting earlier presentation to healthcare providers when changes are detected. In Iraq, factors such as war, environmental pollution, and lifestyle transition have a main contribution to a significant increase in cancer incidence. Despite of the available medical interventions, the lack of effective cancer prevention strategies has led to many cases being diagnosed at advanced stages which reduces the chances of successful treatment.[7,8]

METHODS

This descriptive study was conducted at Al-Yarmouk Teaching Hospital in Baghdad from 27th June 2022 to 22nd May 2023 letter No. 91 date 5th May 2022 and included 100 women aged 20 years and above. The study consisted of two parts: demographic data age, educational level, and marital status and a structured questionnaire of 14 items assessing women's knowledge about breast self-examination, with responses classified as "I know" (3), "I'm not sure" (2), and "I don't know" (1). Content validity of the instrument was established by a panel of 10 experts from relevant specialties. Data were analyzed using SPSS version 25, and the Chi-square test was applied.

RESULTS

Majority were between 20-29 years old (33%), high school 42%, married 84% [Table 1]. Most of women answered (I know) BSE except items 3, 7 and 14 who answered (I don't know) [Table 2]. No significant relationship between women's age and their knowledge about BSE except item 4 where they realized the importance of BSE at P≤0.05. It showed that most items recorded a high significant related to women's level of education and their knowledge about BSE while items 10, 12, 13 were non-significant at P≤0.05 (Tables 3-4). Items (the best time to do BSE is the first week after the menstrual cycle ended, I know how to examine my breast (steps I have to follow during examination), evaluate other advices about importance of BSE have significant, while the rest items have no significant at P≤0.05 (Table 5).

Table No. 1: Demographic characteristics of women (n=100)

Variable	No.	%
Age (years)		
20-29	33	33.0
30-39	26	26.0
4049	20	20.0
50-59	16	16.0
≥60	5	5.0
Level of Education		
Neither read nor write	9	9.0
Read and write	5	5.0
Primary school	20	20.0
High school	42	42.0
Intermediate or Graduate	19	19.0
Postgraduate	5	5.0
Marital status		
Single	10	10.0
Married	84	84.0
Divorce	3	3.0
Widow	3	3.0

Table No. 2: Distribution of the women's knowledge about breast self-examination

Women's Knowledge	I Know		I'm Not Sure		I Don't Know	
	No.	%	No.	%	No.	%
Each woman has to do BSE	56	56.0	7	7.0	37	37.0
Breast self- examination is considered as the easiest way of early detection of breast cancer	52	52.0	22	22.0	26	26.0
The best time to do BSE is the first week after the menstrual cycle ended	46	46.0	4	4.0	50	50.0
Realize the importance of the BSE	72	72.0	8	8.0	20	20.0
I know how to examine my breast. (Steps I have to follow during examination	51	51.0	8	8.0	41	41.0
It is better to examine your breast in bathroom in front of a mirror	44	44.0	15	15.0	41	41.0
It is better to use water and soap or powder when start doing breast self-examination	29	29.0	17	17.0	45	45.0
Realize the natural physiological breast changes	52	52.0	19	19.0	29	29.0
Check out all reports and medical advices about breast self –examination	46	46.0	14	14.0	40	40.0
I know the risk of taking hormonal therapy without consulting my doctor	49	49.0	18	18.0	33	33.0
I abide the necessary examination for early detection of breast diseases and	62	62.0	15	15.0	23	23.0

cancer						
I realize the pathological changes that happened; breast size, bedsore & abdominal secretion	71	71.0	13	13.0	16	16.0
Evaluate others advices about importance of breast self –examination	81	81.0	13	13.0	6	6.0
Keep on my fitness by exercising	27	27.0	17	17.0	55	55.0

Table No. 3: Relationship between women's knowledge and age groups

Items	20-29			30-39			40-49			50-59			60 and above			P value
	I know	Not sure	Don't know	I know	Not sure	Don't know	I know	Not sure	Don't know	I know	Not sure	Don't know	I know	Not sure	Don't know	
Each woman has to do BSE	21	1	11	12	3	11	12	2	6	9	1	6	2	-	3	0.809
	33%			26%			20%			16%			5%			
BSE helps early detection of breast cancer	17	10	6	14	4	8	10	4	6	9	4	3	2	-	3	0.574
	33%			26%			20%			16%			5%			
Best time: first week after menstruation	18	1	14	13	1	12	5	1	14	9	1	6	1	-	4	0.472
	33%			26%			20%			16%			5%			
Aware the importance of the BSE	25	-	8	17	3	6	17	-	3	11	4	1	2	1	2	0.043*
	33%			26%			20%			16%			6%			
Know steps of BSE	25	-	8	17	3	6	17	-	3	11	4	1	2	1	2	0. 274
	33%			26%			20%			16%			6%			
BSE done in front of mirror/ bathroom	17	6	10	12	3	11	5	5	10	9	1	6	1	-	4	0.276
	33%			26%			20%			16%			6%			
Soap/water may be used in BSE	11	7	15	7	4	15	3	3	14	7	2	7	1	1	3	0.714
	33%			26%			20%			16%			6%			
Recognize normal breast changes	19	5	9	12	6	8	9	4	7	9	4	3	3	1	1	0.989
	33%			26%			20%			16%			6%			
Check out all reports and medical advices about BSE	15	4	14	12	3	11	8	6	6	9	-	7	2	1	2	0.492
	33%			26%			20%			16%			6%			
Know risks of hormones without doctor	11	4	18	14	6	6	14	3	3	9	3	4	1	2	2	0.063
	33%			26%			20%			16%			6%			
Do screening for early detection	22	5	6	15	6	5	13	1	6	11	1	4	1	2	1	0.368
	33%			26%			20%			16%			6%			
Recognize abnormal breast changes.	25	5	3	17	5	4	14	-	6	11	2	3	4	1	-	0.405
	33%			26%			20%			16%			6%			
Evaluate others' advice about BSE	30	3	-	23	1	2	15	3	2	10	4	2	3	2	-	0.135
	33%			26%			20%			16%			6%			
Maintain physical fitness through regular exercise	11	6	16	7	4	15	7	2	11	3	5	8	-	-	5	0.415
	33%			26%			20%			16%			6%			

*P=Significant (≤0.05)

Table No. 4: Relationship between women's knowledge and Level of Education

Item	No read & write			Read & write			Primary school			High school			Intermediate / Graduate			Postgraduate			P value
	I know	Not sure	Don't know	I know	Not sure	Don't know	I know	Not sure	Don't know	I know	Not sure	Don't know	I know	Not sure	Don't know	I know	Not sure	Don't know	
Each woman has to do BSE	2	-	7	1	1	3	6	1	13	25	4	13	17	1	1	5	-	-	0.001*
	9%			5%			20%			42%			19%			6%			
BSE helps early detection of breast cancer	2	4	3	2	-	3	5	5	10	23	9	10	16	3	-	4	1	-	0.004*
	9%			5%			20%			42%			19%			6%			
Best time: first week after menstruation	3	-	6	1	-	4	4	2	14	21	2	19	12	-	7	5	-	-	0.051*
	9%			5%			20%			42%			19%			6%			
Aware the importance of the BSE	2	2	5	1	1	3	12	2	6	34	2	6	18	1	-	5	-	-	0.002*
	9%			5%			20%			42%			19%			6%			
Know steps of BSE	4	-	5	3	-	2	3	3	14	21	47	17	15	1	3	5	-	-	0.010*
	9%			5%			20%			42%			19%			6%			
BSE done in front of mirror/ bathroom	1	1	7	1	1	3	3	-	17	20	10	2	14	3	25	-	-		0.000*
	9%			5%			20%			42%			19%			6%			
Soap/ water may be used in BSE	1	1	7	-	-	5	3	2	15	16	5	21	4	6	9	5	-	-	0.000*
	9%			5%			20%			42%			19%			6%			
Recognize normal breast changes	1	5	3	-	1	4	9	3	8	26	3	13	12	6	1	4	1	-	0.001*
	9%			5%			20%			42%			19%			6%			
Check out all reports and medical advices about BSE	-	2	7	1	-	4	6	1	13	25	6	11	12	3	4	2	2	1	0.003*
	9%			5%			20%			42%			19%			6%			
Know risks of hormones without doctor	3	2	4	4	-	1	8	2	10	19	10	13	12	2	5	3	2	-	0.318
	9%			5%			20%			42%			19%			6%			
Do screening for early detection	1	2	6	3	-	2	10	4	6	30	5	7	14	3	2	4	1	-	0.041*
	9%			5%			20%			42%			19%			6%			
Recognize abnormal breast changes.	5	2	2	3	-	2	13	3	4	34	4	4	12	3	4	4	1	-	0.657
	9%			5%			20%			42%			19%			6%			
Evaluate others' advice about BSE	6	1	2	4	1	-	14	4	2	39	3	-	14	3	2	4	1	-	0.248
	9%			5%			20%			42%			19%			6%			
Maintain physical fitness through regular exercise	-	2	7	-	1	4	2	3	15	8	9	25	13	2	4	5	-	-	0.000*
	9%			5%			20%			42%			19%			6%			

*P=Significant (≤0.05)

Table No. 5: Relationship between women's knowledge and marital status

Item	Single			Married			Divorce			Widow			P value
	I know	Not sure	Don't know	Know	Not sure	Don't know	I know	Not sure	Don't know	I know	Not sure	Don't know	
Each woman has to do BSE	4	1	5	51	5	28	1	-	2	-	1	2	0.212
	10%			84%			3%			3%			
BSE helps early detection of breast cancer	3	1	6	21	19	44	-	1	2	2	1	-	0.468
	3%			3%			84%			10%			
Best time: first week after menstruation	2	-	1	-	2	1	42	2	40	6	-	4	0.000*
	3%			3%			84%			10%			
Aware the importance of the BSE	-	0	3	-	0	3	16	8	60	4	-	6	0.467
	3%			3%			84%			10%			
Know steps of BSE	2	1	-	1	2	-	34	5	45	4	-	6	0.002*
	3%			3%			84%			10%			
BSE done in front of mirror/ bathroom	3	-	-	1	1	1	34	13	37	3	1	6	0.404
	10%			84%			3%			3%			
Soap/water may be used in BSE	2	-	1	2	0	1	45	15	24	5	2	3	0.968
	3%			3%			84%			10%			
Recognize normal breast changes	2	-	1	-	2	1	25	17	42	2	-	8	0.097
	3%			3%			84%			10%			
Check out all reports and medical advices about BSE	1	-	2	1	1	1	35	12	37	3	1	6	0.858
	3%			3%			84%			10%			
Know risks of hormones without doctor	1	1	1	-	-	3	27	17	40	5	-	5	0.357
	3%			3%			84%			10%			
Do screening for early detection	1	-	2	2	-	1	19	14	51	1	1	8	0.476
	3%			3%			84%			10%			
Recognize abnormal breast changes.	2	1	-	-	1	2	14	10	60	-	1	9	0.071
	3%			3 %			84%			10%			
Evaluate others' advice about BSE	-	-	3	1	2	-	5	10	69	-	1	9	0.026*
	3%			3%			84%			10%			
Maintain physical fitness through regular exercise	1	1	1	1	1	1	47	14	23	6	1	3	0.929
	3%			3%			84%			10%			

*P=Significant (≤0.05)

DISCUSSION

Most participants were aged 20–29 years (33%), had a high education level (42%), and were married (84%) [Table 1]. Lack of knowledge negatively affects screening practices and attitudes toward early detection. Education, marital status, age, and exposure to information are key predictors of breast cancer knowledge and BSE practice.[9,10] Higher knowledge is associated with increased likelihood of performing BSE, especially among educated women and those receiving training. Younger age and educational interventions are linked to higher BSE frequency.[11]

Most women reported "I know" BSE, except items 3, 7, and 14 with "I don't know" responses (50%, 45%, 55%) [Table 2]. Jahan et al[12] showed 76% had good knowledge of risk factors, 26% were unaware of symptoms, and 69.7% had never heard of BSE. Despite positive attitudes, 74% lacked access to information. Self-instruction programs significantly improved BSE skills ($t=4.23$, $p<0.0001$) and increased knowledge from pre- to post-test.

Dagne et al[13] showed that although awareness of breast cancer risk factors, symptoms, and BSE was high, actual practice was low, indicating a gap between knowledge and preventive behavior due to moderate knowledge levels. Another cross-sectional survey of 200 school teachers in Lagos, Nigeria achieved a response rate of 94%.[14] Several studies[15,16] have reported that awareness of women about BSE is generally high, only few of them actually perform it. In Nigeria, a study found that most adolescent girls were aware of BSE, but few practiced it[17], highlighting the need for interventions to improve practice and early detection. Table 3 showed that only "realize the importance of BSE" was significant, while other items were not significant regarding age group and BSE knowledge ($P<0.05$). Table 4 indicated that most items were significantly associated with education level, except items 10, 12, and 13 ($P<0.05$). Table 5 showed significant results for items related to timing of BSE,

examination steps, and valuing others' advice, while other items were not significant (P<0.05). Awogbayila et al[18] reported among market women in Owo, Nigeria found low knowledge of breast cancer risk and BSE, especially among younger and less educated women, with common misconceptions and poor screening awareness. The study recommended targeted educational interventions to improve BSE awareness and early detection in high-risk groups. Similarly, Oladimeji et al[19] reported low knowledge of the correct timing and methods of breast self-examination among Nigerian market women, especially among younger, married, and less educated participants, and recommended targeted educational interventions to improve screening practices.

CONCLUSION

Most women were aged 20–29 years (33%), high school education 42% and married 84%. Differences were observed in women's knowledge of BSE and participants' knowledge improved with motivation related to BSE.

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Maysoon A. Abdulridha, Kareem Ghadhban Sajem
Drafting or Revising Critically:	Maysoon A. Abdulridha, Majid Mohammed Hassoon
Final Approval of version:	All the above authors
Agreement to accountable for all aspects of work:	All the above authors

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