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The Relationship between Knowledge and Practice in Clinical Breast Examination among Women in Baghdad, Iraq

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Abstract

Background: Breast cancer is the most commonly worldwide diagnosed cancer in women. Regular screening can help in early detection and hence reduction in the mortality of breast cancer.

Aim: This study aims to determine both the level of knowledge, attitude, and practice in clinical breast examination in women and the relationship between knowledge and practice.

Subjects and Method: A cross-sectional analytical study included 657 non-randomly selected women visiting primary health care centers in Baghdad city with an average of age between (20-59) years old. Data collection was performed within a three-month period starting from February 2019 on. A designed questionnaire was adopted and filled out through direct face-to-face interviews.

Results: Only 51.8% ever heard of clinical breast examination. The mean knowledge score for clinical breast examination was (51.2±44). Only 5.5% of women performed regular clinical breast examinations. Participants who adequately practice clinical breast examination had a statistically significance higher mean score of knowledge than those without adequate clinical breast examination (100 vs 44.2), (P<0.001).

Conclusion: The study has concluded that practices of clinical breast examination were inadequate in the majority of participants and need to be improved by educational programs.

Keywords: Breast cancer, Clinical Breast Examination, Knowledge, Practice, Iraq.

Introduction

Breast cancer (BC) is the most common cancer in women in both developed and developing areas [1]. It represents 30% of all incident cancer cases among women over the world [2] .

A total of 1,783 BC deaths were reported in Iraq, accounting for 1.22% of all deaths. The age-adjusted death rate is 15.07 per 100,000 populations, ranking Iraq number 115 in the world, according to the latest data published by World Health Organization (WHO) in 2020 [3]. In developing countries, high death rates are due to the lack of early detection programs, resulting in many women presenting with late stages of BC, in addition to a scarcity of adequate diagnosis and treatment services [4]. The chance of survival increases by early detection and early treatment of BC. Early detection of BC includes Breast Self-examination (BSE), Clinical Breast Examination (CBE), and mammography. For early detection of BC, the American Cancer Society (ACS) recommends CBE and mammography. Although CBE is a relatively simple and inexpensive method, the effectiveness of CBE in reducing BC mortality has not been directly tested in randomized trials [5]. To reduce the risk of BC, it is important to be aware of the symptoms and to undergo early detection [6]. Over the past few decades, BC survival rates in the 'Western' world have increased significantly due to improved health-seeking behavior by women, access to diagnostic facilities, and well-organized population-based screening programs, in addition to the stage-appropriate treatment of cancer [7].

Previous studies were performed in different places of the world including Iraq to assess the level of knowledge and the practice of women in early detection procedures, especially for BSE [8-10]. One of these studies was conducted among women in Mosul in Iraq which found that only 9.6% of them practiced CBE [8]. To the researchers best knowledge, few or no published articles in Iraq study the knowledge, attitudes, and practice regarding CBE. So, indirect evidence suggested by eleven systematic reviews published in the last three decades clarified that a well-performed CBE is as effective as mammography regarding mortality despite CBE's apparent lower sensitivity (40–69% vs 77–95%). Greater sensitivity was found among Asian and younger women. Furthermore, CBE contributed to the shift of diagnosis from advanced to early-stage cancer in about 17 to 47% of cases [11]. Hence, this study is expected to enable healthcare professionals and planners to modify, emphasize, strengthen, and select the best and most effective health education programs and breast awareness campaigns.

Subjects and Methods

Study Design and Setting: A cross-sectional analytical study was performed in six primary health care centers (PHCCs) in Baghdad city. These PHCCs were providing early detection programs to all attendant women, including physical breast examinations, in addition to increasing awareness about breast self-examination. To be engage in this program, all doctors and nursing staff were involved and taught properly. Data collection was completed over three months starting in February 2019 .

Study Population: A purposive sample included women between 20 to 60 years old and visiting PHCCs in Baghdad city for different reasons other than breast problems and those presenting with any acute problem during the period of the study. Women with a family history of BC (first-degree relatives) and those with past

or present breast problems requiring medical care were excluded from the study.

Sample Size and Sampling Method: The sample size was calculated according to the cross-sectional survey formula [12]; the final sample size was 667 after being multiplied by 2 and adding (15%) non-response rate. The prevalence of BC screening practices used in this formula was 28% according to a recent study conducted in the Kingdom of Saudi Arabia (KSA) [13].

Participants were selected by using a non-probability purposive sampling procedure in each PHCC. The study aim was explained to all women attending the center consecutively with inclusion criteria, and their verbal consent to participate was obtained. Participants were directly interviewed either while waiting for a doctor to see them or afterward.

Data Collection Tool: An interview was done by using a structured questionnaire developed from a previous similar study [14,15] and designed for the purpose of the current study and adapted to best suit the Iraqi community. It was translated from English to Arabic, tested for validity by two expert professionals, and then its reliability was tested by a pilot study. It was divided into two major parts: the first includes socio-demographic characteristics like age, educational level, and employment while the second includes knowledge, practice, and attitudes towards CBE .

Variables: knowledge of CBE was evaluated by three items; each measures knowledge and correctly identifies 1 score; any incorrect answer was scored zero. The scores of knowledge items were summed and then multiplied by 100 divided by the total count of items to yield a knowledge score. Attitude regarding CBE was measured on an ordinal scale using “Likert Type” scale of 5 grades from 1 (strongly disagree) to 5 (strongly agree). The practice was either adequate or not according to National Comprehensive Cancer Network guidelines for average-risk, asymptomatic women [16]. The criteria of adequate practices for CBE, are for every 3 years for women of 20-39 years, while annual CBE starts from age of 40. Women who adequately practiced CBE scored 100 whereas those who were inadequately practiced CBE scored zero.

Ethical Consideration: Before the study, official approval from the University of Kufa and the Faculty of Medicine was obtained. Participants verbally consented to participate in the study after an explanation of the rationale for the study and their freedom to refuse to answer any question and leave at any time.

Statistical Analysis: A computer-aided data analysis was performed by using SPSS version 26. frequencies and percentages were used to represent nominal and ordinal variables, while means and standard deviations were used to represent quantitative variables. Chi-square tests were used to assess associations between categorical variables. Statistical significance of the difference in mean for quantitative variables was assessed using independent samples t-tests. P values less than or equal to 0.05 were considered statistically significant.

Results:

Out of those 667 eligible women, only 10 (1.5%) were not responding, with a response rate of (98.5%). The mean age was of (37.6±11.3) years. Regarding educational attainment, (22.8%) of the participants were illiterate while (20.2%) of them were with university and higher educational attainment. All other educational levels were below the above two levels in percent. The majority of respondents (71.1%) never worked outside

home (housewives), and none of them were part-time workers or students.

Table 1 shows that nearly half of the sample was ever heard of CBE. Ever heard of CBE was significantly associated with selected socio-demographic variables except for age which had no significant association. Higher education and higher social class were mostly associated with ever heard of CBE.

Table 2 found that all those who heard about CBE knew that it is done by doctors or nurses. 87.9% and 85.9% respectively knew the correct starting age of CBE and that CBE should be part of the routine medical checkup for women. Specific attitude items related to CBE showed that 90% of them believed that CBE is useful in detecting cancer early. 4.4% felt comfortable when obtaining it. The majority felt embarrassed to obtain a CBE. Mean knowledge and attitude scores for CBE of the study subjects were also mentioned in table 2.

In table 3, around three-quarters of the study subjects never practiced CBE throughout their lives. Only 5.5% of respondent women in this study adequately practiced CBE according to the recommendation.

Women who adequately practiced CBE had a higher mean knowledge score than those without adequate CBE practice (100 vs 44.2), the difference in mean score of the knowledge was highly significant (P<0.001) as demonstrated in table 4.

Table 1: Frequency distribution of ever heard of CBE according to socio-demographic variables of 657 selected women.

Socio-demographic variables	Ever heard of CBE				Total		P value
	Yes		No				
Age in years(Mean ± SD)	37.5±12.4		37.6±10		37.5±11.3		0.85 [NS] (t-test)
Categorical variables	**No.**	**%**	**No.**	**%**	**No.**	**%**	
Educational levels							<0.001
No formal education	25	(16.7)	125	(83.3)	150	(100.0)	(Chi-square)
Primary school	40	(32.0)	85	(68.0)	125	(100.0)	
Intermediate school	46	(36.8)	79	(63.2)	125	(100.0)	
Secondary school	112	(90.3)	12	(9.7)	124	(100.0)	
University/higher degree	117	(88.0)	16	(12.0)	133	(100.0)	
Employment status							0.007
Never worked	225	(48.2)	242	(51.8)	467	(100.0)	(Chi-square)
Was employed but not now	15	(50.0)	15	(50.0)	30	(100.0)	
Full–time employee	100	(62.5)	60	(37.5)	160	(100.0)	
Social classes							<0.001
High social class	166	(73.1)	61	(26.9)	227	(100.0)	(Chi-square)
Middle high class	34	(33.3)	68	(66.7)	102	(100.0)	
Middle low class	90	(42.5)	122	(57.5)	212	(100.0)	
Low social class	50	(43.1)	66	(56.9)	116	(100.0)	
Total	340	(51.8)	317	(48.2)	657	(100.0)	

CBE: clinical breast examination; SD: Standard Deviation

Table 2: Frequency distribution of positive knowledge and attitude items for CBE among 340 women who ever heard about CBE.

Positive knowledge items for Clinical Breast Examination	No.	%
CBE is the examination of the breast done by a doctor or a nurse	340	100.0
CBE should be started at an early age (20 years)	299	87.9
CBE should be part of the routine medical checkup for women	292	85.9
Knowledge score	Mean (SD) 47.2 (48.0)	Range (0 - 100)
Attitude items for Clinical Breast Examination	**No.**	**%**
Feeling embarrassed to obtain a CBE	320	94.1
Feeling comfortable when obtaining a CBE	15	4.4
Believe that CBE is useful in detecting cancer early	306	90.0
Attitude score	Mean (SD) 34.8 (34.3)	Range (0 - 95)

Table 3: Frequency distribution of CBE practice among 657 women.

Frequency of having Clinical Breast Examination	No.	%
Never	484	73.7
Less frequent than once per 5 years	15	2.3
At least once every 5 years	117	17.8
At least once in three years	11	1.7
At least once a year	30	4.6
Adequacy of practicing clinical breast examination		
Adequate**	36	5.5
Not adequate	621	94.5

**Every 3 years for women (20-39) years, an annual examination for women 40 years and older.

Table 4: Comparison of the mean knowledge score of CBE between those who adequately practiced it and those who did not.

Knowledge score for CBE*	Practice of CBE		P (t-test)
	Not adequate	Adequate**	
Mean	44.2	100	<0.001
SD	47.6	0	
N	621	36	

*Clinical Breast Examination.

**Every 3 years for age (20-39), and yearly afterward.

Discussion:

BC is the most frequently diagnosed cancer in women. Meanwhile, early diagnosis and management is a fundamental step for increasing survival and improving the quality of life. Therefore; this study aims to evaluate the knowledge, attitudes, and practices of CBE among women. Although BSE and mammography had been investigated in Iraq, there is limited research on CBE.

BC is the most frequent cancer in women. Even though, about half of the responders reported that they had ever heard about CBE, the majority never practiced it in their lives, and only 5.5 % of respondents adequately performed CBE. However, this rate of practice is considered good concerning previous studies done in Iraq [17].

Regardless of the frequency of practicing CBE, a study in Vietnam showed that 51 % of the sample ever practiced it [18] while 19.8% of women attending PHCCS in Najran, Saudi Arabia, visit their doctors for this examination[14]. There were 28.7% of Jordanian women who mention performing CBE otherwise [19]. Another study conducted among Saudi women found that 8.8% of eligible women performed CBE on a regular annual basis [13]. The low practice of BC screening may explain the late diagnosis and thereby high mortality rate of BC among Iraqi women [3]. This low rate of practice can be related to the low knowledge and attitude levels related to this screening behavior.

Although women in this study had a mean knowledge score of (47.2±48) for CBE, those women with adequate practice had a (100) mean knowledge score. The adequate practice of CBE was positively associated with knowledge of CBE. The fact that being knowledgeable about CBE was significantly associated with CBE adequate practice emphasizes the importance of increasing knowledge level to increase regular practice. Previous studies found that there was a significant association between knowledge about BC and adopting preventive practices [20,21]. Others found no significant effect of knowledge on the adequate practicing of CBE [22,23]. In addition, lack of knowledge about screening is the major barrier to increasing screening. These results support the importance of women's education about methods for early detection of BC and it is essential to disseminate the information in an easily understandable way. It was obvious that the majority of the study subjects were embarrassed about practicing CBE even though they believed in its benefit, because of the sensitive nature of the Iraqi community and their religious beliefs. This might be one of the reasons for inadequate practice in this study. Nevertheless, this study showed a limitation regarding the examination of only one item regarding barriers to CBE. Therefore, interventions for Iraqi women should highlight the benefits of CBE (i.e., early diagnosis of BC, increasing survival). On the other hand, barrier identification is a very important issue in intervention strategy.

Limitations:

There were some limitations in the current research. Firstly, the results of the present study were based on responses of present PHCCs attendant women in Baghdad. So the findings cannot be generalized to all women. Secondly, informational bias may have existed in that the knowledge, attitudes, and behaviors stated by the participants (recall bias); this could affect the precision of the data concerning their ability to recall previous events, behaviors, and expenses.

Conclusions and Recommendations.

The high incidence rate, the young age, and the late stage at presentation all made BC a health priority in Iraq.

The majority of women in the current study were not well informed on pertinent issues surrounding CBE. In addition, the majority were with inadequate practices. A positive relationship between knowledge and practice indicates a good chance of a successful awareness program regarding early detection in the future. Educational programs are highly recommended for motivating women to adhere with clinical breast examinations as well as breast self-examination.

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