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Screening Motives among Attendants of Breast Cancer-Early Detection Clinics, in Iraq

Marwah Imad Al Ameen[1], Khalid Kareem Rajab[2], Besmah Mohammed Ali[3], Jawad Kadhim Al Diwan[4]

[1]FABHS.CM, Al Karamah Teaching Hospital-Baghdad/Iraq, [2]Prof. (Consultant Surgeon. FICMS), College of Medicine, Mustansiriyah University/Iraq, [3]FICMS.CM, Gazi Al Hariri hospital- Baghdad/Iraq, [4]Prof. (MSc, DCN, FIBMS, FFPH), Dept. Family and Community Med. College of Medicine, University of Baghdad/Iraq

Abstract

Background and Objectives: The early detection model for breast cancer in Iraq is a combined program of an early diagnosis for symptomatic attendants and an opportunistic unsystematic breast clinical examination screening that mainly depend on attendants' request. With an aim to initiate breast cancer screening program, the current study's objective is to illustrate the prevalence and motives of screening behavior among attendants.

Method: A cross sectional study was conducted for a period of three months, interviewing 500 randomly selected attendants of two breast cancer early detection clinics in Baghdad city. Data presented in frequency and percentages and analyzed by binary logistic regression, $P \leq 0.05$ reflected a significant association.

Results: The results showed that only 42 (8.4%) attended the breast clinics with screening intention. *Being employed* (OR= 3.198; 95% C.I.= 1.284 – 7.964; P=0.013) or a student (OR=6.605; 95% C.I.= 1.125 – 38.759; P=0.037)*, of high socioeconomic status* (OR=2.695; 95% C.I.= 1.036 –7.012; P =0.042) *and having a positive family history of breast cancer* (OR= 5.17; 95% C.I.= 2.466 –10.855; P <0.001) *were significant reasons for breast cancer screening.*

Conclusions: Reforming the health system and tackling access barriers to screening should be endorsed through applying multiple components interventions to increase women participation in the service with a special focus on the less empowered under-served ones.

Keywords *: Breast cancer; early detection; Screening; Screening intention; Screening motives.*

Introduction

Breast cancer; the most frequent cancer among women, impacting 2.1 million new cases each year, contributing about 11.6% of the total cancer incidence burden worldwide. In 2018, it is estimated that 627,000 women died from breast cancer-that is approximately 15% of all cancer deaths among women. [1] In Iraq, it stands as the second cause of cancer mortality (12.01%) and the commonest cancer among Iraqi women (34.27%) with 4922 newly diagnosed cases in 2016, of them 828 (16.8%) women were below 40 years of age. In Baghdad; the capital city of Iraq, breast cancer incidence reaches to 41.65 per 100,000 women. [2]

Early detection practices are the most important ways to catch breast cancer early and increase survival rates, hence it is the second pillar of the national cancer control program (NCCP) with the principles of providing national educational campaigns about early warning signs of breast cancer via mass media involvement and school curricula, in addition to strengthening the efficacy of breast early detection program and encouraging researches in the area. [3]

The early detection model of breast cancer in Iraq is a combined program of an early diagnosis for symptomatic attendants presenting with breast pain, mass and nipple discharge etc. and an opportunistic unsystematic breast clinical examination screening. [4,5] That might be followed by mammograms (for 40 years and older women) or ultrasound (for women younger than 40 years of age), these are provided on a woman's request or by her physician's recommendation.

Therefore, screening is not regulated, there are no centrally prearranged invitations nor a follow-up system for screening. [6]

According to the triple assessment protocol trailed in the breast early detection clinics, patients with positive radiological evaluation (mammography and/ or ultrasound) are sent for tissue sampling through fine needle aspiration or excisional biopsy. [5] Due to lack of awareness and screening opportunities, breast cancer is usually detected at a later stage. According to the national Iraqi cancer registry in 2016, more than 80% of cases presented with infiltrative ductal carcinoma as their main morphology. [2,7]

Justification of the issue:

It had been reported that making the decision to implement screening as part of breast cancer control strategy should be preceded by promoting education not only to public but also to health care professionals. [5] Yet resource limitations dictate the national priorities. Regularly monitoring cancer control activities to ensure they are effective and remain effective is essential. [8] As a result, providing information on the prevalence of screening among breast clinics attendants would reproduce the public willingness to screen plus it will provide a feedback results on the awareness campaigns that had been ongoing since establishment of the NCCP program from one hand, and identifying the demography of screeners would serve as a contrast to find out those who need to be targeted by the awareness campaigns from the other hand.

Research questions:

1. Do people visit the early detection clinics for screening?

2. What is the prevalence of screen-attendants?

3. What motivate attendants to screen for breast cancer?

Aim

Initiating breast cancer screening program.

Objectives:

1. Prevalence of breast cancer-screeners among attendants of breast clinics.

2. Demographic characteristics of the screeners.

Patients & Methods

A cross sectional study was conducted from the first of November 2018 to the end of January 2019, in two major hospitals in Baghdad- Iraq (Al Yarmook Teaching Hospital and Al Eliwiya Maternity Hospital). Each hospital had an active, functioning and fully equipped breast cancer early detection clinic (i.e. with an ultrasound, mammography and fine needle aspiration units attached to the breast clinic). These clinics are installed in the outpatient wards of the hospitals. Using the sample size equation [9]: $n= [z^2. p(1-p)] / E^2$ where n is the sample size, Z is the critical value in a two-tailed test and equals to 1.96, E is the sampling error equals to 5%, P is the estimated prevalence, here it is considered 0.50.

Through systematic random sampling, 500 randomly selected attendants were approached, verbal consents were obtained after explaining the aim and objectives of the study. Interviews were completed within facility premises using a structured questionnaire that was developed based on literature review, meeting with focus group and supervisors' experiences. The requested information was age of respondent, educational achievement, employment, husbands' education, area of residency, reasons for attending the clinic, source of referral to the breast clinic, family history of breast cancer and a set of questions regarding socioeconomic status (SES) which was determined using a newly proposed Iraqi scale. [10]

The questionnaire was tested and piloted on twenty-five clinic-attendants and changes were made accordingly. The questionnaires which were distributed during the pilot phase were not used in the final analysis. Data were coded and analyzed using s*tatistical package for the social sciences* version 18. Binary logistic regression was used to identify the demographic predictors for screening among attendants. P value equal or less than 0.05 was considered significant.

Results

Majority of women who attended the breast early detection clinics were symptomatic. Figure (1) illustrates the reasons for attending the breast clinics among the studied sample. The mean age for symptomatic attendants (complaining) was 42±11.8 years ranging from 16 up to 66 years. While the average age for the

asymptomatic group (screening) was 44.5 ±10.4 years, within a range of 22 to 63 years.

Figure (1): Distribution of the sample according to reasons of attendance the breast clinics (n=500)

The main complaint was having breast pain (245; 49%), followed by feeling a lump (150; 30%), nipple discharges (45; 10.8%) and other symptoms (9; 1.8%). *Only 42 (8.4%) attended the breast clinics with screening intention. Eleven (26.2%) women were employed and three participants were university students at the time of the interview.* As for the source of referral to the breast clinic, *18 (42.9%) women were self-referred, 13 (31%) had a friend or a family member registered in the same breast clinic and 11 (26.2%) were recommended to screen their breasts regularly by their private physicians. Table (1) demonstrates the distribution of the studied sample by the sociodemographic characteristics according to reason for visiting the breast clinic.*

Logistic regression analysis was employed to predict the probability that a participant would attend breast clinic for screening. The predictor variables were age, residency, employment status, family history of breast cancer, socioeconomic status, participants' and their husbands' education levels. A test of the full model versus a model with intercept only was statistically significant, $X^2(15, N = 500) = 58.035$, $p < 0.001$. Table 2 shows the logistic regression coefficient, Wald test, and odds ratio for each of the predictors.

Having a positive family history of breast cancer is 5.173 times more likely to attend breast clinic for screening than those with no such history. High socioeconomic status women were 2.695 times more likely to screen for breast cancer. Being employed or student were 3.198 and 6.605 times more likely to request breast cancer screening respectively.

Table (1) the distribution of the sample by demographic characteristics according to the reasons of attendance (n=500)

Demographic Characteristics		Reasons for attendance	
Asymptomatic (Screening) 42(100%)		Symptomatic (complaining) 458 (100%)	
Age (in years)	Below 40	12 (28.6%)	186 (40.6%)
	40 and above	30 (71.4%)	272 (59.4%)
Participants' Education level	Illiterate	4 (9.5%)	70 (15.3%)
	Primary	9 (21.4%)	114 (24.9%)
	Secondary	10 (23.8%)	100(21.8%)
	High school	7 (16.6%)	77(16.8%)
	Institutions and universities	12 (28.6%)	97 (21.2%)
Husbands' Education level	Illiterate	1 (2.4%)	46 (10.0%)
	Primary	1 (2.4%)	62 (13.5%)
	Secondary	5 (11.9%)	90 (19.7%)
	High school	13 (31.0%)	101(22.1%)
	Institutions and universities	22 (52.4%)	159 (34.7%)
Employment	Housewife	28(66.7%)	385(84.1%)
	Employed	11 (26.2%)	61 (13.3%)
	Students	3 (7.1%)	12 (2.6%)
Residency	Urban	36(85.7%)	381(83.2%)
	Rural	6 (14.3%)	77(16.8%)
SES	Low	12(28.6%)	237(51.7%)
	Middle	8(19%)	118 (25.8%)
	High	22(52.4%)	103 (22.5%)
Family History of Breast Cancer	No	17(40.5%)	370(80.8%)
	Yes	25(59.5%)	88 (19.2%)

Table (2) Binary logistic regression analysis of screening motives among attendants (n=500)

	B	Wald X^2	P value	OR	95% C.I. for OR	
					Lower	Upper
Age ≥ 40 years	0.468	0.849	0.357	1.597	0.590	4.324
Participants' Education level			2.037			
Primary	0.068	0.009	0.924	1.071	0.261	4.396
Secondary	0.171	0.057	0.812	1.186	0.291	4.835
High	-0.360	0.204	0.651	0.698	0.147	3.320
Institutional and higher	-0.590	0.537	0.464	0.554	0.114	2.687
Rural residency	0.868	1.989	0.158	2.382	0.713	7.956
Husbands' education level			6.917			
Primary	0.204	0.020	0.889	1.227	0.070	21.596
Secondary	1.036	0.784	0.376	2.817	0.284	27.898
High	2.127	3.362	0.067	8.392	0.864	81.556
Institutional and higher	1.872	2.537	0.111	6.503	0.649	65.125
Positive family history of Breast Cancer	1.644	18.893	0.000	5.173	2.466	10.855
Socioeconomic Status			6.841			
Middle	-0.048	0.007	0.932	0.953	0.312	2.906
High	0.991	4.129	0.042	2.695	1.036	7.012
Employment status			8.567			
Employed	1.162	6.236	0.013	3.198	1.284	7.964
Students	1.888	4.372	0.037	6.605	1.125	38.759
Constant	-5.571	20.119	0.000	0.004		

Discussion

Nearly one out of twelve clinic-attendants, was there *for screening purposes, this low (8.4%) percent is consistent with another Iraqi study* where only 9.5% of women visited the breast center for routine screening. [11] While in Jordan the percent rises to 25.4% (16.8% had clinical breast examination and 8.6% had periodic mammography screening). [12] This might be explained by the neglection of screening education and promotion, which is probably related to Iraq's unique situation of conflicts (wars and civil wars) that in turn modified priorities. Breast cancer screening and even clinical services on breast cancer have been neglected particularly due to lack of available equipment, funds, organizational structure and quality criteria. [7]

Having breast pain was the main complaint for visiting the breast clinic followed by feeling a lump, which goes in line with a previous study. [11] Lack of women knowledge about breast cancer screening would result in missed screening opportunity. [13] When public screening-demands are low, doctors' words remain a proven influence for pursuing screening particularly when clients don't fully realize the idea of visiting the health facility without having symptoms. *[6, 14-16] It had been reported that the most frequent reasons for not going to breast cancer screening exams regularly were absence of breast problems. [17] Henceforth increasing population demand for screening together with healthcare providers' delivery interventions [18] through engagin*g community and family physicians in screening services might be useful to increase service beneficiaries; since these physicians are the health

promoters, educators and the preventive force for the health system. [19, 20]

Similar to reported findings in literature, employed ladies are more empowered, financially capable of seeking screening and most likely will self-refer to the breast clinic. Being a student means more exposure to educational campaigns whether via media or school curriculum that in turn influence a positive attitude toward screening. Having a relative diagnosed with breast cancer might rise the perceived risk of breast cancer and eventually motivates screening behavior. [12,14, 21,22]

Therefore; in the absence of a breast cancer screening program, it appears clearly that the most empowered women are the ones who are motivated for requesting screening whether it might be due to their knowledge or ability to pay for services, or due to perceived risks of breast cancer. This sequentially indicates a need to reform awareness campaigns and extend its audience further to the less privileged. Initiating a breast cancer screening though is still a goal, yet increasing women participation in the early detection service and mainly among the screening group might be the first step to attain that goal.

Conclusion and Recommendations

There is an urgent need to increase both public and healthcare providers' awareness about screening, reforming the health system and tackling access barriers to screening should be endorsed through applying multiple components interventions to increase women participation in the service with a special focus on the less empowered under-served ones.

Ethical Clearance: The Research Ethical Committee at scientific research by ethical approval of both environmental and health and higher education and scientific research ministries in Iraq

Conflict of Interest: The authors declare that they have no conflict of interest.

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