Baseline Needs Assessment for Breast Cancer Awareness among Patients in Iraq

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Abstract: *Background: Breast Cancer is the most common malignancy among the Iraqi population; the majority of cases are still diagnosed at advanced stages with poor prospects of cure. Early detection through promoting public awareness is one of the promising tools in its control. Objectives: To evaluate the baseline needs for breast cancer awareness in Iraq through exploring level of knowledge, beliefs and behavior towards the disease and highlighting barriers to screening among a sample of Iraqi women complaining of breast cancer. Methodology: Two-hundred samples were enrolled in this study; gathered from the National Cancer Research Center of Baghdad University and the Oncology Teaching Hospital of the Medical City throughout the year 2015. The study population comprised two groups: the first included 100 female patients who were receiving treatment for breast cancer (Group A), while another 100 randomly selected apparently healthy women served as Control (Group B). Those were asked to complete a structured questionnaire which was designed to explore the level of knowledge, beliefs, behavior towards breast cancer and the barriers to early diagnosis. The studied variables included the socio demographic and clinical data, women needs and beliefs regarding breast health and cancer care, and the barriers to screening. Results: Ninety percent of patients with breast cancer in Group I recorded a minimum score of Good; they answered confidently that the disease is common among women, can be curable when detected at early stages and is not contagious. They also displayed a significantly higher attitude regarding performing BSE, receiving routine CBE check up and having the courage to be informed about the diagnosis of cancer. Although both groups believed that early detection of cancer should be promoted culturally, Group I displayed a stronger reaction to place this approach as a priority in the community. Overall, both groups did not believe that the disease is usually fatal, could bring disgrace to the family leading to divorce, and did not consider mammography as an embarrassing procedure against religious beliefs. Nevertheless, the majority refused to be examined by a male doctor and to undergo screening mammography if they have no complaints. Conclusion: Feasible strategies should be more promptly adopted to overcome barriers to early detection of breast cancer among the Iraqi patients; focusing on promoting public health education and ensuring the availability of accessible well equipped diagnostic facilities.*

Keywords: Baseline needs assessment, knowledge, attitude, beliefs, barriers, breast cancer, Iraq

1. Introduction

Breast cancer is the most important and frequently diagnosed cancer among women worldwide and the leading cause of cancer-related deaths in developing countries (1). The poor survival is a consequence of the late stage at presentation reflecting the limited access to screening, diagnostic and treatment facilities together with the lack of awareness on the significance of early detection of breast cancer among the population (2). It has been documented that early diagnosis, as a principal component of an early detection program, can be achieved by educating both the public and health care professionals yielding substantial improvement in the outcome of the disease (3).

In Iraq breast cancer has ranked the first malignancy among the Iraqi population in general and the leading cause of death among women following cardiovascular diseases (4,5). The peak age incidence rates are noted among middle aged women who often present with advanced stages documenting high mortality incidence ratios (5,6). Earlier studies illustrated significant knowledge gaps about the importance of breast cancer among the Iraqi population; emphasizing the urgent need for promoting early detection through elevating the level of awareness (7, 8). National Guidelines have recommended that Iraqi women should start screening by mammography after the age of 40 years preceded by annual clinical breast examinations (CBE) together with performing monthly breast self-examinations (BSE) (9).

The aim of this study is to evaluate the baseline needs for breast cancer awareness in Iraq through exploring the level of knowledge, beliefs and behavior towards the disease and by identifying barriers to early diagnosis among a sample of Iraqi women complaining of breast cancer compared to a group of apparently healthy individuals.

2. Methodology

In this case control study samples were collected from the National Cancer Research Center of Baghdad University and the Oncology Teaching Hospital of the Medical City Hospital in Iraq throughout the year 2015. The study population comprised two groups whose ages ranged between 18 and 67 years: The first included 100 female patients who were receiving treatment for breast cancer (Group A), while another 100 randomly selected apparently healthy women, visiting the hospital for other complaints, served as Control (Group B).

A comprehensive structured questionnaire format was designed to explore the level of knowledge, beliefs, behavior towards the disease and the barriers to early diagnosis among the two studied groups. Completed written consents were obtained from the respondents before handing that

questionnaire which consisted of two parts: Part l comprised items to evaluate the socio-demographic and clinical variables (including age, marital status, educational level, occupation, personal history of any other cancer and family history of breast cancer). On the other hand, Part II included questions designed to elicit the levels of knowledge about breast cancer, attitudes, beliefs and barriers to diagnostic mammography.

3. Statistical Analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS version 16). Descriptive and Inferential statistical procedures were applied to evaluate the frequencies, percentages, arithmetic means, standard deviations and the difference between the two studied groups (t test).

The knowledge score was measured as a 3 point scale where yes= 1, not sure=2 and no=3; with a calculated mean that considered a high assessment (H) corresponding to (equal or more than 2) and a low assessment (L) equivalent to (less than 2). The overall knowledge score was classified as Poor, Just Passed, Fair, Good, Very Good and Excellent corresponding to (<50), (50-59), (60-69), (70-79), (80-89) and 90 and over) respectively. Regarding the assessment for the Attitude (Table 3), Beliefs (Table 4) and Barriers (Table 5), some items were scored in a 5-point scale where always=1, often=2, sometime=3, rarely-=4 and never=5. The cut- off point and the mean of value of the two levels were considered accordingly.

4. Results

Table 1: Assessment of Knowledge about Breast Cancer in Both Groups.

	Items	Breast Cancer Group I			M & SD	Control Group II			M& SD	t test/ Sign. P<0.05
		True N %	False N %	Don't Know N %		True N %	False N %	Don't Know N %		
1.	BC is a common cancer in women	95	0	5	2.9 0.386	86	4	10	2.76 1.161	0.067 **S**
2.	BC can occur in men	69	12	19	2.5 1.388	50	16	34	2.16 1.214	0.006 **S**
3.	BC can be treated	89	1	10	2.79 0.687	78	2	20	2.58 0.700	0.039 **S**
4.	BC can be curable if detected in early stage	93	0	7	2.86 1.548	82	2	16	2.66 1.815	0.041 **S**
5.	BC can affect old and young women	95	3	2	2.93 1.3	93	3	4	2.89 1.466	0.455
6.	BC can affect women of all racial backgrounds	93	2	5	2.88 1.385	84	1	15	2.69 1.643	0.048 **S**
7.	BC can affect women of all economical classes	97	0	3	2.96 0.327	93	1	6	2.87 0.613	0.144
8.	BC is not a contagious disease	94	4	2	2.92 0.523	86	4	10	2.76 0.389	0.025 **S**
9.	Aging is a major risk factor for BC	54	28	18	2.36 0.882	53	24	23	2.3 1.243	0.678
10.	Positive family history is a major risk factor for BC	64	20	16	2.48 1.69	68	0	22	2.26 1.706	0.859
	Total of Mean				2.758 1.011				2.593 1.195	0.291

There were significant differences in the answers between Groups I and II regarding questions 1,2,3,4,6 and 8 at p <0.05. Those suffering from breast cancer answered confidently that the disease is common among women but can occur in men, can be treated and is curable when detected at early stages, can affect women with different races and is not contagious (Table 1)..

Table 2: Knowledge Score Levels in Both Study Groups.

	ITEMS	Breast Cancer Group I		Control Group II	
		Number	%	Number	%
1	Poor < 50	1	1	5	5
2	Pass 50-59	2	2	4	4
3	Fair 60-69	6	6	13	13
4	Good 70-79	14	14	21	21
5	V. Good 80-89	23	23	17	17
6	Excellent > 90	54	54	40	40
	Total	100	100%	100	100%
	Mean ± SD	84.30±13.578		77.30±17.283	

t test showed significant levels at P<0.01

Significant differences between the Knowledge scores among the respondents in both groups were displayed at p value < 0.01. Within Group I over 90% had recorded a minimum score of Good while more than 50% had excellent knowledge score levels (Table 3).

Table 3: Attitudes regarding Breast Complaints

	Items	Group I				Group II				t test/sig P<0.05
		N*	Mean	SD	Ass	N	Mean	SD	Ass	
1.	If you have a breast complaint warranting check up, will you go to the doctor?	99	1.12	0.385	H	99	1.86	1.161	H	.000 S
2.	Have you ever had a CBE?	100	1.93	0.687	H	99	2.137	0.700	L	. 000 S
3.	Does your doctor offer CBE as part of your routine check up?	98	2.12	1.548	H	100	3.41	1.815	L	.000 S
4.	Do you check your breasts by BSE?	99	1.95	1.304	H	99	2.71	1.466	L	.000 S
5.	Does your doctor or nurse recommend CBE to you?	98	1.83	1.385	H	99	2.54	1.643	L	.001 S
6.	Are you interested in learning how to perform CBE?	99	1.62	0.327	H	100	1.24	0.613	H	.007 S
7.	Have you ever had a mammogram?	98	1.62	0.523	H	100	2.71	0.389	L	.000 S
8.	If your doctor suggests a mammogram will you get it done?	98	1.40	0.882	H	100	2.01	1.243	H	.000 S
9.	If you have no breast complaint will you have a screening mammogram?	98	2.64	1.676	L	99	3.26	1.663	L	.010 S
10.	.If you have a breast complaint will you get a diagnostic mammogram?	99	1.58	1.011	H	98	2.05	1.287	H	.004 S
11.	If you have a breast abnormality warranting biopsy, will you get it done?	99	1.58	1.196	H	99	1.91	1.221	H	.054
12.	Do you prefer to have the medical work up examination for your breasts outside the country?	99	3.66	1.655	L	100	3.68	1.588	L	.919
13.	Do you have the courage to be informed about a diagnosis of BC?	99	1.98	0.496	H	95	1.17	0.724	H	.000 S
14.	Do you get encouragement from family and friends to take of care of your breast health?	100	1.24	0.712	H	99	1.81	1.226	H	.000 S
15.	Are you interested in learning more about breast cancer to lower your risk factors?	97	1.26	0.600	H	98	1.55	0.932	H	.000 S
	Total of mean		1.73	.995	H		2.20	1.188	H	.016 S

Ass. = assessment; SD = stander deviation; N = number of respondents.

It was demonstrated that the attitudes towards breasts complaints in both groups were fairly good regarding visiting the doctor, preferring a female physician, undergoing a previous CBE, having the desire to be instructed on the technique, the acceptance and the feasibility to undergo mammographic and biopsy examinations when requested. Positive behavior was also illustrated with respect to being informed about the diagnosis of cancer, receiving encouragement from families and friends to take care of their breasts and the interest in learning more about the risk factors of the disease.

Nevertheless, Group I displayed a significantly higher attitude regarding performing BSE, receiving routine CBE check up by their examining doctor, recommendation for CBE by the nurse, experiencing a previous mammographic examination and having the courage to be informed about the diagnosis of cancer. On the other hands, overall, the majority of the respondents in both groups demonstrated that they refuse a screening mammography if they have no complaints but nevertheless they prefer to have the medical breast work up examinations inside the country (Table 3).

Table 4: Beliefs Regarding Breast Cancer Screening

	Items	Breast Cancer Group I				Control Group II				t test/sig P<0.05
		N=100	Mean	SD	Ass.	N=100	Mean	SD	Ass.	
1.	Do you know that early detection of BC can improve survival?	100	1.06	0.312	H	98	1.08	0.398	H	.670
2.	Do you think screening for BC can detect early stages?	100	1.28	0.792	H	98	1.58	1.035	H	.055
3.	Is screening for BC a priority for you?	100	1.49	1.010	H	97	1.84	1.143	H	.022 S
4.	Do you think BC is always a fatal disease?	100	2.55	1.395	L	98	2.74	1.295	L	.052
5.	Do you feel that BC diagnosis can bring disgrace to the family?	100	3.96	1.483	L	98	3.76	1.429	L	.324
6.	Do you think a woman may get divorced because of her BC diagnosis?	100	3.68	1.213	L	99	3.24	1.348	L	.017 S
7.	Is screening for BC acceptable in your culture?	100	1.36	0.798	H	99	1.73	1.168	H	.010 S
8.	Do you have public educational sessions/campaigns about BC awareness in your country?	100	1.71	0.626	H	98	1.66	0.780	H	.107
9. 0	Do you think it is important to educate men in your country about BC?	100	1.06	0.404	H	98	1.16	0.579	H	.081
10. 1	Do you think that BC awareness campaign should target the whole family (husband and children) and not only women?	100	1.04	0.281	H	99	1.13	0.509	H	.076
11. 2	Do you think getting advocacy from the religious figures in your country can be helpful in increasing awareness about BC?	100	1.92	1.390	H	99	2.24	1.526	H	.121
12. 3	Do you think electronic messages including text messages on cellular phones can be a good tool to advocate for BC awareness in your country?	99	1.81	1.140	H	99	1.90	1.147	H	.577
13. 4	Do you think the media (TV and Radio) is a good tool to advocate for BC awareness in your country?	100	1.32	0.750	H	95	1.52	0.874	H	.094
	Total of mean		1.84	.87	H		1.93	.938	H	0.197

[*] Ass. = assessment; SD = stander deviation; N = number of respondents.

Although our assessment in both groups illustrated a belief that early detection and screening of cancer should be promoted culturally in order to diagnose breast cancer earlier and improve survival, nevertheless, those complaining of breast cancer elicited a significantly stronger reaction regarding placing those approaches as acceptable priorities in the community emphasizing the necessity to include the families in the awareness campaigns to avoid the negative social consequences of the disease. Interestingly, both groups did not believe that the disease could bring disgrace to the family leading to divorce and is not usually fatal (Table 5).

Table 5: Barriers to Mammography Screening.

	Items	Breast Cancer Group I				Control Group II				t test/ sig P<0.05
		N=100	Mean	SD	Ass.	N=100	Mean	SD	Ass.	
1.	Are you embarrassed to have a mammogram?	97	3.30	1.690	L	99	3.22	1.706	L	.752
2.	Do you think Mammogram examination is painful?	97	2.51	0.732	L	100	1.97	0.648	H	.000 S
3.	Is screening for BC against your religious beliefs?	100	2.89	0.454	L	98	2.64	0.245	L	.435
4.	Do you think having a mammogram can cause cancer?	99	2.37	0.620	L	98	2.09	0.707	L	.264
5.	Would you refuse having a male doctor examining your breasts?	100	2.15	1.388	H	100	1.96	1.214	H	.304

Ass. = assessment; SD = stander deviation; N = number of respondents.

Table 5 revealed that both groups did not consider mammography as an embarrassing procedure against religious beliefs that could cause cancer. However, those who did not have breast cancer thought that it is painful and the majority in both groups refused to be examined by a male doctor.

5. Discussion

Globally, breast cancer has recently been considered as a main public health problem. The International Agency for Research on Cancer (IARC) estimated that 292,677 cases of cancer were newly diagnosed among female population in the Eastern Mediterranean Region (EMR) and 176,139 died of the disease (1). In Iraq the latest Iraqi Cancer Registry demonstrated that 4,115 cases of breast cancer were reported accounting for 34% of the registered female cancers, with an incidence rate approximating 22 per 100,000 female population. The highest frequency is usually observed among middle aged Iraqi women where there is a tendency for the disease to be diagnosed at advanced stages yielding a relatively high mortality incidence ratio (1,4-6). The poor survival which is obviously attributed to the lack of strategic well designed diagnostic policies coupled with inadequate treatment facilities, could be substantially improved by promoting early detection (2,3,7-10).

Lifestyle modification through assuming positive attitudes to maintain breast health care could encourage women to adopt preventive measures against breast cancer thus reducing the risks of the disease. The findings of this survey revealed that there was significant difference in the level of knowledge between the two studied groups; higher scores were registered by those suffering from breast cancer who answered confidently that the disease is common among women, may affect men, can be curable when detected at early stages and is not contagious. Overall, more than 84% of the respondents had recorded a minimum score of Good; such results being significantly higher than those illustrated in previous studies conducted by the same investigators four years ago reflecting the fruitful benefits of promoting breast cancer awareness among the community (7,8).

Earlier findings from Iraq have displayed that merely 32% of patients tend to seek medical advice within the first month after detecting a lump in their breasts (5). Delay in medical consultation and neglecting physical checkups were considered the most common personal barriers among Egyptian women (11). In an earlier study from Baghdad, it was demonstrated that although 90% of an educated sample of women have heard about BSE, only 43% of those actually practiced the technique (6).

Thus the results of the current study were also higher than those reported in Egypt, Morocco, Pakistan, and other studies from the region (11-14). Indeed, other surveys exploring the level of knowledge, attitude and practice towards breast cancer have illustrated significantly deficit knowledge scores among the EMR (7,8,11-14). The low level of awareness regarding the symptoms, signs and curability of breast cancer are socioeconomic and cultural barriers that often lead to advanced clinical stages at diagnosis and consequently lower survival rates. It is strongly recommended that wherever such barriers exist, the relevant authorities should prioritize their efforts to their removal (9).

Although no population-based screening program has been initiated yet in Iraq, nevertheless, a national program for early detection of breast cancer was organized in 2001. Emphasizing the role of public education and research as basic pillars in the adoption of a national cancer control strategy, the Iraqi National Cancer Research Center, which was established in 2012, developed under supervision of IARC/WHO a comprehensive information system data-base to compare the demographic characteristics, clinico-pathological presentations and management outcomes among patients affected with breast cancer in the EMR (15). Based on that data base it was documented in a recently published report that 46% of patients diagnosed with breast cancer were in their premenopausal age, merely 7% had their first child birth after the age of 35 and only 8.5% were nullipara. However, in that survey 46% of the affected females were diagnosed in Stages III and IV; 65.5% of those had positive lymph node involvement at the time of initial diagnosis (5).

Interestingly, it was revealed in this study that the attitudes in both groups were relatively good regarding seeking medical advice, undergoing CBE, having the desire to be instructed on the technique of BSE and to undergo mammographic and biopsy examinations when requested.

Such positive interventions have been promoted in Iraq as well as in other neighboring countries (16-19). Positive behavior was also illustrated in the current study with respect to having the readiness to accept the diagnosis of cancer, the desire to take care of their breast health and the interest in learning more about the risk factors of the disease. Both groups believed that early detection and screening should be culturally promoted among the community. It was logical to find that those who had breast cancer displayed a significantly higher attitude regarding performing BSE, receiving CBE checkups and diagnostic mammographic examination. They also elicited a significantly stronger reaction to address those approaches as priorities in the agenda of the policy decision makers emphasizing the necessity to include all members of their families in the awareness campaigns in order to avoid the negative social consequences of the disease.

Contrary to what was reported in Jordan (19,20) the respondents in our study did not believe that breast cancer could bring disgrace to the family leading to divorce nor that the disease is usually fatal. Although those who were free of the disease thought that mammography is a painful procedure, yet both groups did not consider it an embarrassing procedure against religious beliefs that could cause cancer and preferred to have the diagnostic examinations inside the country. Nevertheless, they refused to undergo mammography if they have no complaints; still reflecting the necessity to overcome the existing barriers to screening. Relatively similar findings were reported in another study from Gaza which illustrated that despite of the misconception about breast cancer religion and culture were not barriers to mammography (21). The unwillingness to have a mammogram unless recommended by a physician was the most common barrier among women in Egypt (22).

In conclusion, the aforementioned findings supported other studies in the region which emphasized that misconceptions manifested in social and cultural attitudes could affect breast cancer preventive behaviors (1,18-23). Identifying barriers to breast cancer screening in the local community could aid in removing those obstacles by designing successful national cancer control strategies. Disseminating accurate information through public health awareness campaigns, circulating guidelines on early detection of breast cancer among primary health care providers associated with social support are essential ingredients to motivate Iraqi women to adopt protective healthy lifestyle measures.

References

[1] Globocan 2012, International Agency for Research on Cancer, Lyon, IARC Press, 2013.
[2] Sankar R, Alwan N & Denny L (2013): "How Can We Improve Survival from Breast Cancer in Developing Countries?" Future Medicine, Breast Cancer Management, 2 (3): 179-183.
[3] Towards a Strategy for Cancer Control in the Eastern Mediterranean Region. 1st. ed. Regional Office for the Eastern Mediterranean. World Health Organization, 2010.
[4] Iraqi Cancer Board (2015). Results of the Iraqi Cancer Registry 2012. Baghdad, Iraqi Cancer Registry Center, Ministry of Health.
[5] Alwan NAS (2016): Breast Cancer among Iraqi women: Preliminary Findings from a Regional Comparative Breast Cancer Research Project. Journal of Global Oncology, ASCO; 2 (1): 1-4.
[6] Alwan NAS (2010). Breast cancer: demographic characteristics and clinico-pathological presentation of patients in Iraq. EMHJ; 16(11):1159-64.
[7] Alwan N et al (2012). Knowledge, attitude and practice regarding breast cancer and breast self-examination among a sample of the educated population in Iraq. EMHJ, 18 (4):337-45.
[8] Alwan N et al (2012). Knowledge, Attitudes and Practice towards Breast Cancer and BSE in Kirkuk University, Iraq. Asian Pacific Journal of Reproduction, Elsevier, 1 (4): 308-311.
[9] Al Alwan N (2015): Establishing Guidelines for Early Detection of Breast Cancer in Iraq. Int. J. of Advanced Research. 3 (12): 539-555
[10] Allam MF, Abd Elaziz KM (2012). Evaluation of the level of knowledge of Egyptian women of breast cancer and its risk factors. A cross sectional study. J Prev Med Hyg.; 53(4):195-8.
[11] Ghanem S, Glaoui M, Elkhoyaali S, Mesmoudi M, Boutayeb S, Errihani H (2011). Knowledge of risk factors, beliefs and practices of female healthcare professionals towards breast cancer, Morocco. Pan Afr Med J;10:21.
[12] Miller A. Early Detection of Breast cancer in the Eastern Mediterranean Region: Practices and Lessons learned. WHO, EMRO, 2015
[13] Maqsood B, Zeeshan MM, Rehman F, Aslam F, Zafar A, Syed B, Qadeer K, Ajmal S, Imam SZ (2009). Breast cancer screening practices and awareness in women admitted to a tertiary care hospital of Lahore, Pakistan. J Pak Med Assoc..59(6):418-21.
[14] Alwan N (2013). Iraqi Initiative of a Regional Comparative Breast Cancer Research Project in the Middle East, Journal of Cancer Biology & Research, 2014; 2 (1): 1016 – 1020.
[15] Khazaee-Pool M, Montazeri A, Majlessi F, Rahimi Foroushani A, Nedjat S, Shojaeizadeh D (2014): Breast cancer-preventive behaviors: exploring Iranian women's experiences, BMC Women's Health. 10;14(1):41. doi: 10.1186/1472-6874-14-41.
[16] Kratzke C, Vilchis H, Amatya A (2013). Breast Cancer Prevention Knowledge, Attitudes, and Behaviors Among College Women and Mother–Daughter Communication. Journal of Community Health; 38 (3): 560-568
[17] Al Alwan NAS and Mualla FHM (2014). Promoting Clinical Breast Examination as a Screening Tool for Breast Cancer in Iraq. Iraqi National Journal for Nursing Specialities; 27 (1): 76-82.
[18] Othman AK, Kiviniemi MT, Wu YW, Lally RM (2012). Influence of demographic factors, knowledge, and beliefs on Jordanian women's intention to undergo mammography screening. J Nurs Scholarsh,; 44 (1): 19-26
[19] Taha H, Al-Qutob R, Nyström L, Wahlström R, Berggren V (2012). "Voices of Fear and Safety"

Women's ambivalence towards breast cancer and breast health: a qualitative study from Jordan. BMC Women's Health, 12:21. http://www.biomedcentral.com/1472-6874/12/21

[20] R. Shaheen,, P.J. Slanetz a, S. Raza b, M.P (2011). Barriers and opportunities for early detection of breast cancer in Gaza women, Rosen , The Breast 20, S30eS34

[21] Mamdouh H, El-Mansy H, Kharboush I, Ismail H (2014). Barriers to breast cancer screening among a sample of Egyptian females, Journal of Family and Community Medicine, Vol 21 Issue 2 | 119-124

[22] Alwan NAS and Al-Attar (2016). Evaluating the Effect of an Educational Teaching Model on the Knowledge about Breast Cancer among Female University Students in Iraq., JJ Cancer Sci. Res. 2(1): 026

[23] Adib SM, El Saghir NS, Ammar W.(2009). Guidelines for breast cancer screening in Lebanon Public Health Communication. J Med Liban.; 57(2):72-4.