Knowledge of Women Attending Two Primary Health Care Centers / Sulaimany City/Iraq Regarding Breast Cancer

Bushra Muhammed Ali

Department of Community and Family Medicine/ College of Medicine/ Sulaimany University

Abstract:

Background: Breast cancer in Iraq is the most dangerous disease which has the highest incidence that threats women lives in Iraq for the last twenty years.
Objectives: To assess the knowledge level of women about breast cancer in relation to some socio-demographic and other relevant factors.
Subjects and methods: A cross-sectional study included women attending Ibrahim Pasha and Ali Kamal Health Centers/Sulaimany City. Data were collected by self-administered and interviewing questionnaires from 1st October to 31th December 2012. Total number of the women was 802. The data were analyzed using SPSS version 19.0.
Results: There was a significant association between the knowledge score of breast cancer risk factors and protective factors (P=0.001) with the age and level of education. There is a significant association between those with knowledge score of risk factors and protective factors of breast cancer and history of breast mass (P= 0.045, family history of breast mass (P= 0.042). There is a significant association between knowledge score of symptoms of breast cancer and age (P= 0.001) occupation (P= 0.0002), marital status (P= 0.041), those with use of hormonal replacement therapy (P= 0.016) and had history of breast infection (P= 0.031).
Conclusion: Participants had an accepted knowledge about breast cancer. There was a significant association between the knowledge level of women about breast cancer in relation to some socio-demographic, and other relevant factors.
Key words: Awareness, Breast cancer, Sulaimany.

Introduction:

Breast cancer is one of the most common cancers among females worldwide. Global statistics shows that the annual incidence of breast cancer is increasing and this is occurring more rapidly in countries with previous low incidence rates. Nearly 1 in 8 women will develop breast cancer [1, 2].

Seventy percent of breast tumors is discovered by women themselves, so it is important to learn how to practice breast self-examination regularly [3]. Early diagnosis is essential to breast cancer survival, when diagnoses at local state, (97%) of women are still alive 5 years later. The 5 years survival rate decrease to (21%) when the disease diagnosed after spreading to other sites [2].

In Kurdistan/Iraq, breast cancer is predominantly a disease of premenopausal women having multiple pregnancies. For younger patients, breast cancer incidence was similar to the west and possibly higher than many middle eastern countries but unlike the west the estimated rates decline markedly in the elderly [4]. The etiology of breast cancer is unknown; numerous risk factors may influence the development of it including genetic, socio-biological, hormonal,

environmental toxins, and psychological factors [5,6]. The chance of an individual developing cancer depends on both genetic and non-genetic factors. A genetic factor is an inherited, unchangeable trait, while non-genetic factors may include diet, exercise, or exposure environmental factors [7]. Primary prevention of breast cancer includes educating women on its risk factors and influencing behavioral changes, such as healthy eating and exercise as well as secondary prevention in the form of breast screening has been introduced in an attempt to decrease the mortality from the disease [8].

Objectives:

(1) To assess the knowledge level of women about breast cancer in relation to some socio-demographic and other relevant factors.

(2) To identify the relation between knowledge of women about breast cancer and history of breast disease.

Subjects and methods:

This is a cross-sectional study which was approved by ethics committee of School of Medicine, University of Sulaimany. Data were collected over the period from 1st October to 31th December 2012 by self-administered and interviewing questionnaires from 1000 women attending the two primary health care centers. After filtration of the questionnaires; only 802 women included in the study. Ibrahim Pasha and Ali Kamal health centers are covering a wide area of different socio-economic status population. Ibrahim Pasha health center was established in 1965 while Ali Kamal health center in 1998. Both centers contain departments of antenatal care, internal medicine, ophthalmological care, dental care, dressing unit, etc.

Those who were very tired, mentally retarded patients, age less than 18 years old are excluded from the study.

The questionnaire contained 4 questions regarding socio-demographic characteristics including age (year), level of education, occupation and marital status. Other part of the questionnaire included 4 questions regarding medical background whether the patients had breast mass (benign or malignant), use of hormonal replacement therapy (HRT combined one which contains estrogen and progesterone), had history of breast infection and had family history of breast mass (benign or malignant) was asked and the answers were categorized to three groups including first degree relative (mother, siblings or offspring), second degree relative (aunt, niece, or grant mothers) and other members who live/ lived in the family such as mother in law, which could make the patient has more knowledge of risk factors, protective factors and the symptoms of breast cancer.

The last part of the questionnaire included questions to assess the knowledge about factors increasing breast cancer (age, personal history, family history, alcohol consumption, smoking, obesity, radiation, HRT contains estrogen and progesterone). Protective factors like monthly breast self-examination is the best method for detecting breast mass early, breast feeding, eating fruits and vegetables which contained antioxidants, exercise, having children, and symptoms of breast cancer like (breast lamp, enlarged lymph node in the axilla, change in the breast size, shape, breast skin dimpling, nipple inversion, spontaneous single nipple discharge) were asked as close-ended questions with answers of "No""Yes"

and "Don't know". The correct answer coded as 1 the wrong as 0, and do not know as 2, for each participant calculated the total score according to the response answer, the scores for the answering the questions of factors increasing and protective factors of breast cancer between 0-26, those who were being under the score 0-8 regarded as wrong answers, those under the score 9-17 regarded as right answers and those under the score 18-26 regarded as do not know the answers. The scores of answering the questions about the symptoms between 0-14, those under the score 0-4 regarded as wrong answers, those under the score 5-9 regarded as right answers and those under the score 10-14 regarded as do not know the answers.

Statistical analysis:

The data was entered to Microsoft Excel sheet and was analyzed using SPSS version 19.0 software program. Frequencies were calculated for categorical variables. Chi square and Fisher exact tests were used to find association between knowledge scores and other variables. P-value of < 0.05 was regarded as statistically significant.

Results:

(Table 1) shows the knowledge score of the women regarding factors increasing, protecting and symptoms of the breast cancer. The highest percentage of the factors increasing, protecting (76.1%) and symptoms of the breast cancer (45.15%) under the correct knowledge score (9-17) and (5-9) respectively.

(Table 2) Shows the women distribution according to the socio-demographic in relation to the knowledge score about risk factors increasing and factors protective breast cancer. The highest frequency among the (9-17) score for the age of 41-50 years (91.8%). Level of education: college and institute and postgraduate (91.89%), Retired (100 %), and widow (92.6%). There is a significant association between the age, level of education and the knowledge score of risk factors increasing and factors protective breast cancer P= 0.001. There is no significant association between occupation and marital status with knowledge score of risk factors increasing and factors protective breast cancer.

(Table 3) shows the patients distribution according to the socio-demographic in relation to the knowledge about symptoms of breast cancer. The highest frequency among the (5-9) score for the age of 41-50 years (69.9%), level of education: college, institute and postgraduate (95%), retired (69.2%), widow (62.96%). There is a significant association between the age $P = 0.001$, level of education P = 0.001, occupation $P = 0.0002$, marital status $P = 0.041$ with knowledge score of symptoms of breast cancer.

(Table 4) shows patients distribution according to the conditions in relation to the knowledge about risk factors increase and factors protect breast cancer. The highest frequencies among the (9-17) score were for those had history of breast mass (100%), use of HRT (90.6%), had history of breast infection (81.8%) and those with family history of breast mass (first degree relative 89.4%). There is a significant association between those who had history of breast mass $P = 0.045$ and family history of breast mass $P = 0.042$ and knowledge score of risk factors increase and factors protect breast cancer. Regarding those who use of hormonal replacement therapy and had

history of breast infection there is no significant association.

(Table 5) shows patients distribution according to conditions in relation to the knowledge score about symptoms of breast cancer. The highest frequencies among the (5-9) score were for those had history of breast mass (65.2%), use of HRT (75%), had history of breast infection (69.1%) and those with family history of breast mass (first degree relative 68.87%). There is a significant association between those who use of hormonal replacement therapy $P = 0.016$, had history of breast infection $P = 0.031$and knowledge score of symptoms of breast cancer .Regarding those who had history of breast mass and family history of breast mass there is no significant association.

Table (1): Distribution of the women according to the knowledge score about factors increasing, protecting and symptoms of breast cancer.

Breast Cancer Knowledge Score	No.	%
Knowledge about factors increasing and protecting		
0-8 (wrong answer score)	37	4.6
9-17 (right answer score)	610	76.1
18-26 (do not know answer score)	155	19.3
Total	802	100
Knowledge about symptoms		
0-4 (wrong answer score)	107	13.35
5-9 (right answer score)	365	45.5
10-14 (do not know answer score)	330	41.15
Total	802	100

Table (2): Patients distribution according to the socio-demographic in relation to the knowledge score about risk factors and factors protect breast cancer.

	Knowledge score about increased risk factors and protective factors			Total	*P* value
	0-8 N (%)	9-17 N (%)	18-2 N (%)		
Age groups in years					0.001
20 and less	29(7.97)	231(63.46)	104 (28.57)	364	
21-30	6 (2.84)	178 (84.36)	27 (12.79)	211	
31-40	2 (1.72)	101 (87)	13 (11.2)	116	
41-50	0 (0.0)	67 (91.8)	6 (8.2)	73	
51-≥60	0 (0.0)	33 (86.84)	5 (13.16)	38	
Level of education					0.001
Illiterate	30 (8.26)	233 (64.18)	100 (27.5)	363	
Read and write	6 (2.8)	176 (82.6)	31 (14.55)	213	
Primary	1(0.86)	101 (87)	14 (12)	116	
Secondary	0 (0.0)	66 (90.4)	7 (9.6)	73	
College, Institutes and Post graduate	0 (0.0)	34 (91.89)	3 (8.11)	37	
Occupation					0.067
Employed	12 (6.7)	146 (82.0)	20 (11.2)	178	
Retired	0 (0)	13 (100.0)	0 (.0)	13	
Self-employed	7 (3.2)	176 (80.7)	35 (16)	218	
Housewife	9 (4.5)	129 (64)	63 (31.3)	201	
Student	9 (4.7)	146 (76.0)	37 (19.3)	192	
Marital status					0.311
Single	19 (7.8)	159 (65.1)	66 (27)	244	
Married	17 (3.3)	418 (80.2)	86 (16.5)	521	
Widow	0 (.0)	25 (92.6)	2 (7.4)	27	
Divorced	1(10.0)	8 (80.0)	1 (10.0)	10	

(0-8) wrong answers score (9-17) right answers score (18-26) do not know score

Table (3): Patients Distribution according to the socio-demographic in relation to the knowledge score about symptoms of breast cancer.

	Knowledge score about clinical symptoms			Total	*P* value
	0-4 N (%)	5-9 N (%)	10-14 N (%)		
Age in years					0.001
20 and less	69 (18.95)	106 (29.1)	189 (51.9)	364	
21-30	21 (9.95)	108 (51.1)	82 (38.8)	211	
31-40	10 (8.6)	76 (65.5)	30 (25.86)	116	
41-50	4 (5.5)	51 (69.9)	18 (24.65)	73	
51- ≤ 60	3 (8)	24 (63)	11 (29)	38	
Level of education					0.001
Illiterate	57 (15.7)	31 (8.53)	275(75.75)	363	
Read & write	48 (2.5)	134 (62.9)	31(14.55)	213	
Primary	1 (0.86)	99 (85.3)	16(13.8)	116	
Secondary	1 (1.3)	67 (91.8)	5(6.84)	73	
College, Institute, & post graduate	0 (0.0)	35 (95)	2(5)	37	
Occupation					0.0002
Employed	29(16.3)	88 (49.4)	61 (34.26)	178	
Retired	1(7.7)	9 (69.2)	3 (23.0)	13	
Self-employed	35(16.0)	111 (50.9)	72 (33.0)	218	
Housewife	18(8.95)	73 (36.3)	110 (33.0)	201	
Student	24(12.5)	84 (43.75)	84 (43.75)	192	
Marital status					0.041
Single	42 (17.2)	69 (28.27)	133 (54.5)	244	
Married	61 (11.7)	276 (52.97)	184 (35.3)	521	
Widow	2 (3.7)	17 (62.96)	8 (3.7)	27	
Divorced	2 (20.0)	3 (30.0)	5 (50.0)	10	

(0-8) wrong answers score (9-17) right answers score (18-26) do not know score

Table (4): Patients distribution according to conditions in relation to the knowledge score about risk factors increasing and factors protective breast cancer.

	Knowledge score about risk factors and protective factors			Total	*P* value
	0-8N (%)	9-17 N (%)	18-26 N (%)		
Had history of breast mass					
No	37 (4.7)	587 (75.63)	155 (19.89)	779	0.045
Yes	0 (.0)	23 (100.0)	0 (.0)	23	
Use of HRT					
No	37 (3.77)	581 (75.45)	152 (19.7)	770	0.277
Yes	0 (0)	29 (90.6)	3 (9.4)	32	
Had history of breast infection					
No	37 (4.9)	565 (75.6)	145 (19.4)	747	0.292
Yes	0 (0)	45 (81.8)	10 (18.18)	55	
Family history of breast mass					
No	32 (5.8)	395 (71.7)	124 (22.5)	551	
1st degree relative	2 (1.3)	135 (89.4)	14 (9.3)	151	0.042
2nd degree relative	2 (2.6)	61 (79.2)	14(18.18)	77	
Other family member.	1 (4.3)	19 (82.6)	3(13.0)	23	

(0-8) wrong answers score (9-17) right answers score (18-26) do not know score

Table (5): Patients distribution according to conditions in relation to the knowledge score about symptoms of breast cancer.

	Knowledge score about clinical symptoms			Total	*P* value
	0-4 N (%)	5-9 N (%)	10-14 N (%)		
History of breast mass					
No	104 (13.3)	350 (45)	325 (41.7)	779	0.343
Yes	3 (13)	15 (65.2)	5 (21.8)	23	
Use of HRT					
No	107 (13.9)	341 (44.3)	322 (41.8)	770	0.016
Yes	0 (.0)	24 (75)	8 (25)	32	
Had history of breast infection					
No	104 (14)	327 (43.7)	316 (42.3)	747	0.031
Yes	3 (5.4)	38 (69.1)	14 (25.5)	55	
Family history of breast mass					
No	88 (15.97)	199 (36.1)	264 (47.9)	155	
1st degree relative	14 (9.27)	104 (68.87)	33 (21.85)	151	0.921
2nd degree relative	3 (3.9)	47 (61.0)	27 (35.0)	77	
Other family member	2 (8.7)	15 (65.2)	6 (26.08)	23	

(0-4) wrong answer score (5-9) right answer score (10-14) do not know score

Discussion:

In this study about (76.1%) within (9-17) score (the correct answers) of risk factors increased and factors protect breast cancer. There was a significant association between the age, and the knowledge score of risk factors increasing and factors protective breast cancer. It was found that the highest percentage among those 41-50 years (91.8%), this is explained by that middle aged women having led a disease they were likely to get the disease now, and were therefore interested in acquiring information about breast cancer. This could also be due to adequate perception in this group of women this goes with a study done by Javandi in Iran found that older women were more knowledgeable as opposed to younger women [(9)]. On the other hand this finding was not seen in two Jordanian studies, one conducted by Petro-Nustus at the Hashemite University [(10)], and another by Madanat [(11)].

Regarding level of education, there is a significant association between the level of education and the knowledge score of risk factors increased and factors protect breast cancer and it was found whenever the level of education increased the highest percentage of the sample had gotten the information, this goes in constant with a study done by Alam in Saudi Arabia [(12)]. Petro- Nustus [(10)] and Haji Mahmoodi in Tahran/Iran [(13)] who found that with more qualified women being significantly more aware than women who were only primary school educated and illiterate ones. This may be due to reading more books, magazines and getting the information by using the internet other social media to get more information.

While for the occupation there is no significant association between occupation and knowledge score of risk factors increased and factors protect breast cancer, although women working outside their homes were more exposed to information as employed, retired (was working outside) and self- worker, their percentage (82.0%), (100.0%) and (80.7%) respectively. Madanat found that profession of women significantly influenced breast cancer awareness, he concluded that professionals were more knowledgeable about breast cancer risk factors and also more frequently than those who were housewives [(11)]. This is explained by, since women who were housewives were pre-occupied with their daily chores and hardly ever seemed to find time for themselves, it seems improbable that they would go out of their way to specially have a clinical breast examination by a physician even if they know that breast cancer is a life threatening disease.

Concerning the marital status, the highest frequency among those who get married, married (80.2%) widow (92.6%) and divorced (80.0%). More than the single women (65.1%) within the (9-17) score. This means that women in general search for information about prevention of breast cancer during getting married because they are liable for breast infection during breast feeding, asking about the side effects of contraceptive method especially (hormones contraception) and regularly visited a family physician or a gynecologist during antenatal care or for the problems associated with pregnancy or infertility which included hormones treatment for that reasons they had a good knowledge about risk factors increased and factors protect breast cancer. But there is no significant association between marital status and

the knowledge score of risk factors increased and factors protect breast cancer this is in constant with a study done by Jaff in Sulaimany/Iraq [14]

Several studies conducted in different countries that showed relatively low knowledge to warning signs and symptoms of breast cancer. But in this study there was a significant association between the ages, level of education, occupation, marital status with knowledge score of symptoms of breast cancer this was an important element of this study since recognition of symptoms would decide whether a woman would seek timely medical help. This goes in constant with a study done by Yaren among women in Turkey [15].

In this study a highest frequency of correct answer about risk factors increase and factors protect breast cancer among those who had history of breast mass (100%) and those who had family history of breast mass among first relative degree (89.4%),and there was a significant association between those had history of breast mass and family history of breast mass and knowledge score of risk factors increase and factors protect breast cancer, while for those with use of hormonal replacement therapy the highest frequency among those of correct answers (90.6%) and had history of breast infection (81.8%) although there is no significant association. This goes in constant with studies of Madanat and Petro-Nustus and co wokers of Jordan as well as Haji Mahmoodi of Tehran /Iran all concluded that awareness about breast cancer was significantly associated with a personal history and/or a family history of breast tumors [10,11,13]. This could be explained by more exposure to healthcare providers' advice and patients with positive medical status are health seeking people and motivated to get advice for better health. People with family history of breast tumor would be discussing the issues with their close family and friends.

There was a significant association between those with use of hormonal replacement therapy and knowledge about the symptoms of breast cancer. It was shown that about (75%) of those who used hormonal replacement therapy had good knowledge about the symptoms of breast cancer this explained by that they asked about any side effects of the hormones and the physician explained to them if any of the symptom occurs to consult them, for that reason they kept the symptoms of breast cancer in their mind. Also there was a significant association between those had history of breast infection and knowledge score of symptoms of breast cancer and about (69.1 %) of those who had breast infection they had good knowledge score this was because they exposed to a serious disease (but not malignant) in their breast so this made them be more caution for the symptoms of breast cancer by searching about the these symptoms for visiting the doctors early if they will see any of these symptoms.

Regarding those had history of breast mass and family history of breast mass although there was no significant association among them but it was shown that the highest percentage of (5-9) score knowledge among those who had personal history and family history of the breast mass (65.2 %), (68.87%), (61.0%) and (65.2%). This is explained by they always more worried about any returning back of any symptoms of the breast mass and knowing more about breast cancer symptoms. Overall participants had good knowledge about

risk factors increasing and factors protecting breast cancer (76.1%) within the (9-17) score, this goes in constant with a study of Yaren, Ozkilinic; but their knowledge about breast cancer symptoms is a little bit not acceptable (45.5%) within (5-9) score this was not the same what was found in the study of Yaren, Ozkilinic [15].

While a study of Mc Donald, Thorne and coworkers, knowledge about breast cancer among African- American women was poor [16].

Conclusion:

Overall participants had accepted knowledge about breast cancer. There was a significant association between the knowledge score of risk factors and factors protect breast cancer with the age, level of education those with breast mass and family history of breast mass. Also there was a significant association between the knowledge score of symptoms of breast cancer with age, level of education, occupation, marital status, those who use of hormonal replacement therapy and had history of breast infection.

References:

[1]. Agrawal G, Pradeep P, Agrawal V, Yip C, Cheung P. Spectrum of breast cancer in Asian women. Department of Endocrine and Breast Surgery, Sanjay Gandhi postgraduate Institute of Medical Sciences, Raebareli Road.World Journal Surgery. 2007

[2]. Hahn D, Payne W, Focus on Health. 6th ed. McGraw-Hill Inc. New York. 2003. P 257-258

[3]. Oussama M. Guidelines for the early detection and screening of breast cancer . EMRO technical publication series 30. World Health Organization, regional office for the Eastern Mediterranean, Cairo; 2005.

[4]. Majid R, Mohammed H, Saeed H, Safar B , Rashid R , Hughson M. Breast cancer in Kurdish women of northen Iraq :incidence, clinical stage, and case control analysis of parity and family risk. BMC Womens Health 2009, 9:33doi: 10.1186/1472-6874-9-33 .online at: Htt://www.biomedcentral,com/1472-6874/9/33.on December 2009.

[5]. Norsadah B, Rusli B, Imran A, Naing I, Winn T. Risk factors of breast cancer in women in Kelantan, Malaysia. (Online) 2005, 46(12).698.Available on 3/4/2008.

[6]. Martin F. Does Nulliparity influence Estrogen Receptor status among Women with Breast Cancer? A North Carolina Pilot Study SCHS Study No.120. 2000. Online available from. www.schs.state.nc.us/ SCHS/pdf/SCHS120.pd.

[7]. Perkins L. Breast implants and cancer. Causation, delayed detection, and survival. Plast Reconsre surge, (on line).2001, 107(6):p.1393-407. Available from: www.ncbi.nlm.nih.gov/pubmed/11335807. Accessed on 3/1/2008.

[8]. Leinster S, Gibbs T, Downey H. Shared care for Breast Disease. Oxford: Isis Medical Media Ltd. 2000

[9]. Jarvandi S, Montazeri A, Harirchi I, Kazemnejad A. Beliefs and behaviours of Iranian teachers towards early detection of breast cancer and breast self-examination. Public Health; 2002 July; 116(4). 245-9

[10]. Petro- Nustus W, Mikhail BI; Factors associated with breast self-examination among Jordanian women. Public Health Nursing 2002 Jul-Aug. 19(4): 263-71

[11]. Madanat H, Merrill RM; Breast cancer risk factors and screening awareness among women nurses and teachers in Amman, Jordan; Cancer Nursing; 2002 Aug; 25(4): 276-82

[12]. Alam AA. Knowledge of breast cancer and its risk and protective factors among women in Riyadh. Annals of Saudi Medicine. 2006 August; 26(4): 272-7

[13]. Haji Mahmoodi M, Montazeri A, Jarvandi S, Ebrahimi M, Haghighat S, Harirchi I. Breast self-examination: knowledge, attitudes, and practices among female health care workers in Tehran, Iran; Breast Journal; 2002 July August; 8(4): 222-5

[14]. Jaff .Ch .S. Knowledge of Female Preparatory Students Regarding Breast Cancer and Breast Self-Examination /Sulaimani City P: 93 (2010) .Thesis of master/Sulaimani University

[15]. Yaren A, Ozklinic G, Guler A, Oztop I. Awareness of breast and cervical cancer risk factors and screening behaviors among nurses in rural region of Turkey. Eurpopean Journal of Cancer Care (Engl). 2008 May. 17(3): 278-84

[16]. McDonald PA, Thorne DD, Pearson JC, Adams-Campbell LL; Perceptions and knowledge of breast cancer among African-American women residing in public housing; Ethnicity Disease; 1999 Winter; 9(1): 81-93