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ORIGINAL RESEARCH

Relationship Between Breast Cancer Fear and Mammography Self-Efficacy among Women over 40 in Babylon, Iraq

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ABSTRACT

Background: Breast cancer accounts for 19.5% of the total cancer cases diagnosed in Iraq (4996 cases), and 34.3% of all cancers diagnosed in women (4922 cases). This places breast cancer at the top of the list of the top ten malignant neoplasms afflicting the population. In 2016, 897 women lost their lives to this illness, which is listed as the leading cause of cancer-related death among Iraqi women.

Objectives: This study aim to determine the relationship between the fear of breast cancer and mammography self-efficacy of women over the age of 40 living in Iraq.

Methodology: The research was conducted with 386 women recruited in the main primary health care centers of Hilla I and II sectors from June 1, 2022, to September 1, 2022. The research is cross-sectional and relational. Data were collected using the form Champion Mammography Self-Efficacy Scale-Arabic version and the Champion Breast Cancer Fear Scale-Arabic version.

Results: The mean age of women is 48.46±6.83, 38.6% are university graduates, 75.4% are married, 68.1% have children, 54.7% work, 61.7% income equal to the cost, 76.7% have good health, 91.5% have no family history of breast cancer, 88.3% have no breast problems, 61.1% have received information about breast cancer, 97.2% had no history of breast cancer. 66.6% of women do not do breast self-examination, 77.5% do not have a clinical breast examination, 90.2% have not had mammography before, and nurses or doctors have recommended 6.2% of them. A statistically significant correlation was found between self-efficacy and fear as weakly positive (r=0.147) (p=0.004).

Conclusion: It was found that Iraqi women had a high level of mammography self-efficacy and fear of breast cancer. There is a significant relationship between mammography self-efficacy and fear of breast cancer.

Keywords: Fear of breast cancer, Mammography, Self-efficacy.

INTRODUCTION

Female breast cancer has now surpassed lung cancer as the leading cause of global cancer incidence in 2020, with an estimated 2.3 million new cases, representing 11.7% of all cancer cases. It is the fifth leading cause of cancer mortality worldwide, with 685,000 deaths. Among women, breast cancer accounts for 1 in 4 cancer cases and for 1 in 6 cancer deaths, ranking first for incidence in the vast majority of countries (159 of 185 countries) and for mortality in 110 countries. There are exceptions, most notably in terms of deaths, with the disease preceded by lung cancer in Australia/New Zealand, Northern Europe,

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Northern America, and China (part of Eastern Asia) and by cervical cancer in many countries in sub-Saharan Africa. (Sung et al., 2021).

In Iraq, breast cancer accounts for 19.5% of the total cancer cases diagnosed in Iraq (4996 cases), and 34.3% of all cancers diagnosed in women (4922 cases). This places breast cancer at the top of the list of the top ten malignant neoplasms afflicting the population. In 2016, 897 women lost their lives to this illness, which is listed as the leading cause of cancer-related death among Iraqi women (23.6%), and the second leading cause of cancer-related mortality overall among males and females (12.1%) after bronchogenic carcinoma (Alwan et al., 2019).

In over 40-year-old women, the most prevalent cancer is breast cancer (Brandt et al., 2015). Since breast cancer is more treatable if caught early when tumors are tiny and isolated, a woman's prognosis depends on how well her cancer is found and diagnosed. Mammography's principal function is to create high-resolution pictures of the breast to screen for breast cancer and assess the presence. Women over 40 should get one every two years or three at the absolute least (Abdelaziz et al., 2015).

The World Health Organization (WHO) has implemented two primary strategies, education, and mammography, to prevent breast cancer. Several of circumstances might influence the decision to undergo a mammogram. Variables hypothesized to impact certain behaviors are included in several health education theories and models (Hashemian et al., 2015).

The term "self-efficacy" describes a person's belief in his or her ability to take preventative actions, and it is a crucial idea in social cognitive theory. According to Bandura's definition, self-efficacy is the conviction that one has the capacity to carry out an activity on purpose. Therefore, self-efficacy as a concept highlights an individual's confidence in control over self-initiated activity, and this perception may lead to healthy and beneficial consequences. People are more inclined to take action and stick with their choices if they can find a solution to their situation (Hughes, 2014).

Fear was characterized as being terrified of getting a mammogram and/or being afraid of being diagnosed with breast cancer. Apprehension about the results of a screening mammogram and the possibility of discovering cancer were both identified as possible deterrents to screening participation. Lack of confidence in the doctors' abilities to interpret the imaging might have been a factor in why someone chose not to attend (Muhanna & Floyd, 2019).

The concepts of breast cancer fear and self-efficacy are potent essential predictors of compliance with mammography. The cultural and religious factors present in Babylon are expected to lead to differences in the components of cancer fear and mammography self-efficacy than when the scale was used in neighboring countries.

AIMS OF THE STUDY

This study aim to determine the relationship between the fear of breast cancer and mammography self-efficacy of women over the age of 40 living in Iraq.

METHODOLOGY

Design of the study

Descriptive (Cross-Sectional) study.

Setting of the study

The study was conducted in 22 PHCC distributed equally between Hilla 1 and Hilla 2 sectors in Babil Governorate, Iraq (Table 3.1).

Study sample

The study sample consisted of women living in the city of Babylon. The inclusion criteria were to be a woman over 40 years old, one of the applicants of the main primary care centers in the first or the second sector of Hilla, have the ability to communicate in Arabic, and consent to participate in the study. In calculating the sample size of the study, since the number of women who visit primary care centers over

the age of forty is unknown, the number of samples was determined using the sampling equation in cases where the number of individuals in the community is not known (Sarmah & Hazarika, 2013), and it was calculated as at least 385 women. The equation used to calculate the sample size:

N=(z^2 p(1-p))/e^2

N: Number of individuals to be sampled

Z: is the selected critical value of the desired confidence level (1.96) at the 95% confidence level

P: is the estimated ratio of an attribute found in the population (0.5)

e : is the desired precision level(0.05)

N=(〖(1.96)〗 ^2 0.5(1-0.5))/ 〖(0.5)〗 ^2 =385

386 samples were collected

The exclusion criteria

Those with a mental or cognitive disability, women with significant medical issues, and those who refused to give consent were also excluded.

Data collection

Data were collected using a paper questionnaire and face-to-face interviews with women who met the inclusion criteria and who became 386 participants. Women who visit the main health centers of the first and second sectors in Babil Governorate were received. Each woman took about 20 minutes to answer the questionnaire to answer the questionnaire. Data was collected from June 1st, 2022 to September1st, 2022.

Research instrument

The data collection tool consists of three-part: The Sociodemographic and Clinical Characteristics Form, Champion Mammography Self-Efficacy Scale Arabic versions, and Champion Breast Cancer Fear Scale Arabic versions.

Part one: Sociodemographic and clinical characteristics form.

It consists of 14 questions, including age, education level, marital status, children, employment, income status, perceived health status, family history, breast problems, information about breast cancer, health history, BCE status, BSE status, mammography status, and who referred you to your last mammogram. That was prepared based on the literature. [9,10,11,12,13] (Champion et al., 2005) (Champion et al., 2004) (Alyami et al., 2019) (Moshki et al., 2017) (Secginli, 2012).

Part two: Modified Champion Mammography Self-efficacy scale-Arabic CMSES

Developed by Champion et al., (Champion et al., 2005) it consists of 10 items and is scored using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). CMSES assesses the perceived effectiveness of the process of having a mammogram. The total score ranges from 10 to 50, with higher scores indicating a higher probability of having a mammogram screening. CMSES showed good internal reliability (α = .87) and the construct validity of this scale was also confirmed using factor analysis (Alyami et al., 2019). and 6 additional elements have been added to CMSES. Overall adjusted scale scores ranged from 16 to 80. The Cronbach's α correlation coefficient for the modified CMSES-Arabic was 91, and the corrected item-total correlations for each item ranged from 0.51 to 0.68 (Alyami et al., 2019).

Part three: Champion breast cancer fear scale-Arabic (CBCFS-Arabic) CBCFS

Also developed by Champion et al., (Champion et al., 2004) it consists of 8 items and is a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). It is scored using CBCFS assesses emotional and physiological responses to breast cancer threat. The total score ranges from 8 to 40, with a higher total score indicating greater fear of breast cancer. A score of 8-15 indicates low fear, a score of 16-23 indicates moderate fear, and a score of 24-40 indicates high fear. The reliability coefficient was determined as (α = .91). The construct validity was verified using factor analysis (Alyami et al., 2019).

Arabic version translation CBCFS-Arabic, Cronbach's α correlation coefficient was 94, and the

corrected item-total correlations of each item ranged from 0.74 to 0.81(Alyami et al., 2019).

The ethical considerations

The approval of the Ministry of Health and Environment of Iraq/Babil Health Department /Training and Human Development Centre was obtained according to Ministry Decision No: 71 on June 14th, 2022. The student researcher also received a research ethics decision No: 25 from Çankırı Karatekin University on March 11th, 2022. All women's consent was obtained before the sample collection.

Data analysis

Data were analyzed using the statistical package for social sciences (SPSS) for Windows version 26. Descriptive statistical measures of frequency, percentage, mean, and standard deviation were used to describe the subjects' sociodemographic and clinical characteristics. The distribution related to Kolmogorov-Smirnov in the results section is abnormal, so the Spearman correlation was used.

RESULTS

The study results show that the mean age is 48.46±6.83, for the education level, 38.6% were college graduates, 75.4% were married, 68.1% had children, 54.7% worked, 61.7% of them had income levels equal expenses, 76.7% of them had a good perceived health status, 91.5% of them did not have a family history of breast cancer, 88.3% of them did not have breast problems, 61.1% received information about breast cancer and 97.2% of them did not have breast cancer. 66.6% of them have not performed breast self-examination, 77.5% have not performed clinical breast examination, 90.2% have not performed mammography, and 6.2% have been advised by nurses or doctors in hospitals (Table 4.1).

The results of the study showed that the self-efficacy of Iraqi women is high, as 4.9% of women enjoyed a low level of self-efficacy, 36.5% had moderate self-efficacy, and 58.5% had high self-efficacy, overall scale score is 55.44±9.05 (Table 4.2).

The study results showed that the percentage of fear in Iraqi women is high, as 7.5% of women had low level of fear, 21% had a medium level of fear, and 71.5% had a high level of fear. The overall scale score was 30.13±6.12 (Table 4.3).

The results of our study revealed a weak positive relationship between the measure of CMSES, and the measure of CBFS, that is, the increase of one of them increases the other, and $r = 0.144$ ($p < 0.05$) (Table 4.4).

DISCUSSION:

In our study, most women were found to have a high level of self-efficacy. Other studies by (Kratzke et al., 2013, Canbulat & Uzun, 2008; Yilmaz & Durmus, 2016, Kissal et al., 2018, Taşdemir & Seçginli, 2022). found similar results indicating that women over 40 years of age have higher self-efficacy. Jerome-D'Emilia and Suplee (2014) stated that there might be self-efficacy, which is higher in the women being screened, as an effective mediator by which to develop interventions to increase preventative, health-seeking behaviors. There are many reasons available in Iraqi society that led to the emergence of women with a high level of self-efficacy, such as the availability of examination centers and ease of access to them, as well as the material cost, where the examination is almost free, in addition to the availability of health staff and the comfortable nature of women's work, often without pressure.

In contrast to our study, I discovered a study of African American women to evaluate the self-efficacy of mammography screening in women. The results of the study indicated that African American women had low self-efficacy regarding mammography screening (Jennings-Sanders, 2009). The level of self-efficacy varies as different studies have used different scales to assess self-efficacy. The reason may be due to the high costs of treatment in America. Cultural

perspectives can influence the need for testing among racial minority patients. For example, low degrees of acculturation or only a brief stay in the United States can impede cancer screening programs (Liu et al., 2020).

Our study found that Iraqi women had high levels of fear. There are many results similar to those of our study conducted by Taşdemir and Seçginli (2022). who found that breast cancer fear among women is high. A descriptive correlational study was conducted in Iran on 152 women. The aim was to investigate beliefs, fears, and awareness about breast cancer and mammography screening practices for women. This study found that women experienced higher levels of fear (Emami et al., 2020). In a descriptive, cross-sectional, comparative study, the aim was to compare the mammographic screening behaviour of women with mammograms and women without mammograms, and levels of fear and perceived social support), the researcher found that women had high fear as a response to breast cancer fear scale (Tuzcu & Çınar, 2020).

In a study conducted on Mexican-American women, the aim of which was to describe the fear of breast cancer and its association with personal characteristics and examination behavior among women. The study sample consisted of 1916 women. The study's results were that 1042 women suffer from high levels of fear. In general, the level of fear was high (Flores-Luevano et al., 2020). Therefore, psychological interventions that can reduce women's fear levels should be implemented by psychologists in collaboration with health workers and public health experts.

The results of our study found a weak positive relationship between the CMSES scale and the CBFS scale. This result was frankly unexpected that the relationship between self-efficacy and fear of breast cancer is complex. The relationship between breast cancer fear and screening completion is complicated to clarify. On the one hand, an association between breast cancer fear and previous mammography completion has been reported (Lagerlund et al., 2000, Edwards & Jones, 2000, Consedine, 2004, Somayyeh & Aydogdu, 2019). Self-efficacy is one of the important factors that increase the chances of women obtaining mammograms, and most studies indicate that there is a positive relationship between self-efficacy and mammograms . The results of these studies explain the findings of our study, where fear is an important motivating factor to consider mammography, and the examination cannot be completed without finding the self-efficacy of women.

These studies are considered supportive of These studies are considered supportive of our study results. The association between self-efficacy and fear of breast cancer differs. Champion et al. (2004) found that the relationship between self-efficacy and fear was negative, for example, in the same study, it was assumed that the relationship between benefits and fear was negative, but the researcher was surprised when he found it positive. In another study, it was found that there is no relationship between the fear of breast cancer and the self-efficacy of mammograms (Kareem, 2016). This may be due to differences in sample size, place of study, and community culture.in sample size, place of study, and community culture.

CONCLUSIONS:

Iraqi women have high mammography self-efficacy. Iraqi women have high levels of breast cancer fear. A significant relationship exists between mammography self-efficacy and breast cancer fear.

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TABLES:

Table (1): Description of the name and number of primary health care centers for sample collection

N	Hilla Sector I	Hilla Sector II
1	Al-Imam Al-Hussein Health Center	Al Zahraa Health Center
2	Al-Raghila Health Center	Al Baqer Health Center
3	Halif Al-Quran Health Center	Al Khalisa Health Center
4	Tufail Health Center	Marjan Health Center
5	Al-Quds Health Center	Al Wardiya Health Center
6	Al-Muhandisin Health Center	Al Qadiah Health Center
7	Al-Imam Model Health Center	Babylon Training Health Center
8	Al-Ustadh Health Center	Al Kawthar Health Center
9	Shaheed Al-Islam Health Center	Al Nahda Health Center
10	Al-Kifl Health Center	Al Hadi Health Center
11	Al-Kifl Model Health Center	Shuhada Nader Health Center

Table (2): Participants' sociodemographic and clinical characteristics (n = 386)

Variable		Mean ±SD
Age (years)	Max-Min (41-75)	48.46±6.83
		N %
Level of education	Illiterate	30(7.8%)
	Literate	27(7.0%)
	Primary school	37(9.6%)
	Secondary school	17(4.4%)
	High school	45(11.7%)
	Undergraduate	149(38.6%)
	Postgraduate	81(21.0%)
Marital status	Married	291(75.4%)
	Single	95(24.6%)
Do you have children?	Yes	263(68.1%)
	No	123(31.9%)
Working status	Yes	211(54.7%)
	No	175(45.3%)
Income status	Income is less than expenses	107(27.7%)
	Income equals expense	238(61.7%)
	Income is more than expenses	41(10.6%)
Perceived health status	Very bad/bad	27(7.0%)
	Moderate/ Good	296(76.7%)
	Very good	63(16.3%)
Family history	Yes	33(8.5%)
	No	353(91.5%)
Do you have any breast health problems such as pain, nipple discharge, or mass?	Yes	45(11.7%)
	No	341(88.3%)
Have you received information about breast cancer before?	Yes	236(61.1%)
	No	150(38.9%)
Have you been diagnosed with breast cancer before?	Yes	11(2.8%)
	No	375(97.2%)
Your status of performing BSE	I do it regularly every month.	13(3.4%)
	I do it irregularly	116(30.1%)
	I never do	257(66.6%)

Your status of having CBE	I have it done regularly every year	15(3.9%)
	I don't get it done regularly every year	72(18.7%)
	I have never done	299(77.5%)
Your mammography status	I take it regularly every year	12(3.1%)
	I take it regularly every two years	26(6.7%)
	I have never had it taken before	348(90.2%)
Who referred you to your last mammogram?	Midwife or nurse working in Family Health Center	1(0.3%)
	Family Health Physician	3(0.8%)
	Cancer Early Diagnosis and Education Center	3(0.8%)
	The doctor or nurse in the hospital	24(6.2%)
	One of the family members (mother, sister, brother, spouse)	1(0.3%)
	I am impressed by the programs broadcast on television or the internet	4(1.0%)
	Other ……	2(0.5%)

Table (3): Description of mammography self-efficacy for women over 40 years of age (n=386)

Variable	Rating	Frequency %	Total Score±SD	Min-max
CMSES	Low	19(4.9)	55.44±9.05	16-80
	Moderate	141(36.5)		
	High	226(58.5)		
	Total	386(100)		

CMSES=Champion Mammography Self-Efficacy Scale.

Table (4): Description of breast cancer fear for women over 40 years of age(n=386)

Variable	Rating	Frequency %	Total Score±SD	Min-max
CBCFS	Low	29(7.5)	30.13±6.12	8-40
	moderate	81(21)		
	High	276(71.5)		
	Total	386(100)		

CBCFS = Champion Breast Cancer Fear Scale.

Table (5): The relationship between mammography self-efficacy and breast cancer fear (n=386)

Factor	CBCFS
CMSES	0.147**
	0.004

***=p < 0.05, **=p < 0.01, CMSES champion mammography self-efficacy scale.**
CBCFS = champion breast cancer fear scale.