

## Barriers to Breast Cancer Screening among Palestinian Women in Nablus Region, Northern West Bank<sup>†</sup>

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Received: (26/8/2019), Accepted: (15/11/2019)

### Abstract

Breast cancer incidence in Palestinian Occupied Territories is less than western countries but it is the leading cause of cancer mortality among women. The Performance of breast cancer screening leads to early detection and reduction of mortality. Hence it is important to understand the barriers to breast cancer screening. A cross-sectional study that used a random sampling method recruited women from four women centers in Nablus district in West Bank including 127 women from Nablus city, 133 women from villages and 40 women from the refugee camps. A questionnaire was distributed to collect data on breast cancer screening performance attitudes including knowledge and barriers in addition to demographic variables. Data included information on breast self-examination (BSE), clinical breast examination (CBE) and mammogram. The results of the study indicated that a low number performed breast screening with 60.2% never did CBE and 74% never did a mammogram. Only 67.3% of women knew about (BSE), 47.6% women knew about (CBE) and 59.5% knew about a mammogram. Fear from many aspects related to disease and its consequences on an individual, relationship to partner and family represented the major barrier. Also, the financial situation was an obstacle, whereas religion as a barrier was present in 50% of participants. Time and financial were the main reasons behind the application of the study only in the Nablus district. The study concluded that there is a low performance of breast screening among Palestinian women that is associated mainly with fear of disease consequences.

**Keywords:** Breast Cancer, Screening, Mammogram, Breast Self-Exam.

<sup>†</sup> This research was submitted as part of Master thesis in Women's Studies by Dina Younes at An-najah National University dated 1/4/2015

### INTRODUCTION

Although the incidence of breast cancer in Palestine (60 per 100,000) is lower than in western countries and Israel [1]. In occupied Palestinian territories, the leading cause of cancer mortality among women is due to breast cancer [2]. The standardized mortality rate due to breast cancer in West Bank is 7.1 per 100,000 [3]. Compared to developed countries, breast cancer in developing countries manifests at a younger age [4]. The mean age of women with breast cancer is 51.5 years. Fewer Arab women compared to Jewish women are diagnosed with mammography, with most the women being diagnosed with physical examination [5].

Early detection of breast cancer which is possible through (BSE), (CBE) and mammography in addition to effective treatment can reduce mortality by 25-30%[6-8]. Early

detection of breast cancer can lead to successful treatment[9], but Arab women are usually detected late in the stage of the disease[10]. Late diagnosis is directly related to mortality from breast cancer [11]. In a telephone survey of women in Israel, 66.8% of Arab women compared to 74.2% of Jewish women undergone mammography in the past 2 years [12].

In the United States (US), official guidelines call on average women aged more than 20 y to perform CBE and for annual mammography for women who are 40 y or more, whereas Israeli guidelines recommend biennial mammography examination for women who are 50 y and older [1].

In Jordan, a country that is close to Palestinian territories and has a large population of Palestinians, many barriers were associated with a cancer diagnosis including fear,

misconception, social stigma and fatality which the is belief that if death is meant to happen, we cannot stop it [13]. In a study among Palestinian and Jordanian immigrants in the US, many reasons were identified as barriers to screening including culture-specific reasons that included family relationship, fatalism, traditional healer consultation, in addition to the stigmatization of cancer, fear, and ignorance about breast screening [14]. In another study among Palestinian women, place of residence, fatalism, and religion were among factors that affected the tendency to perform CBE and BSE [1].

This study was carried out in Nablus which is the second-largest Palestinian city in West Bank and is located in the north. The total number of population in Nablus Governorate is 320,830; it is estimated to be 10% of the total population of the West Bank [15, 16]. Nablus Governorate came second in the number of cancer cases after Bethlehem. This study is a descriptive study that aimed at assessing the barriers that prevent women from performing breast cancer screening tests in Nablus Governorate and to find out if there is a difference in relation to demographic factors.

## METHODS

### *Site and sitting*

The participants were recruited from women centers in Nablus region that have educational, health promotion, and cultural goals. The centers were in Nablus city, the village of Beita, BeitFurik, and Old Askar refugee camp. Nablus is a city that is located mid-northern of West Bank.

### *Population, sample size and sampling method*

The total population reaches up to 126 132, and the number of women from age (30 – 60) is 18 000, and the total number of women centers is nearly 19 centers [15]. Simple random sampling was used to choose the areas included in the study and the total sample (n=300) was calculated using stratified random sampling. Women who met inclusion criteria were included in the study as follows; 127 from Nablus city, 133 from villages and 40 from the refugee

camp. Inclusion criteria included women 30-60 y and have no breast cancer.

### *Data collection tool*

The data was collected using a questionnaire modified from a previous study [1]. The questionnaire included a section on demographic variables, the second section included questions on prior knowledge of breast cancer, types of breast cancer screening tools, part three-section included 6 open-ended questions about the performance of breast cancer screening tests, part four included questions on barriers to breast cancer screening. The answers for questions pertaining to barriers of breast cancer screening were based on a Likert scale composed of 5 choice answers ranging from strongly agree to strongly disapprove[17]. The barriers to breast cancer screening consisted of 5 domains: First domain included barriers related to fear, second domain included general barriers, third domain included barriers related to health care professional performing (BCE), fourth domain related to (BSE), fifth domain were about mammogram screening barriers.

### *Validity and reliability of the tool*

To ensure the validity, the questionnaire was back-translated and reviewed by experts. Also, the pilot sample (n=70) was used to assess the questionnaire reliability using Cronbach alpha test [18]. The value for Cronbach alpha test for fear of catching breast cancer, the obstacles that prevent women from the performance of breast cancer screening, barriers that prevent women to perform CBE, BSE and mammography were 0.81, 0.87, 0.58, 0.68 and 0.61 respectively.

### *Ethical consideration*

The study was approved by An-Najah National University Review Board (IRB) and a written signed informed consent was obtained from each participant after the study and methods were explained to them. Data collection was carried out during August and September 2013.

### *Data analysis*

Women's responses to questions from strongly agree to strongly disagree were assigned to the values ranged (5-1) according to Likert method [19]. The average response

was calculated for each barrier and for total barriers for each category. Also, the proportions of women who faced each type of barrier were calculated. Then the percentage and level of agreement were calculated and arranged in descending order according to the mean value of all the questions. The level of agreement considered 80% and more=very high, 79.9%-60% = high, 59.9%-40% = middle, 39.9% and less= Low. Means of barriers for different breast screening methods were compared using ANOVA and the differences were considered significant if p-value < 0.05. Data were analyzed by SPSS version 17.

**RESULTS**

The total number of women in this study was n=269. Only 67.3% of women knew about (BSE), 47.6% women knew about (CBE) and 59.5% knew about a mammogram. On the other hand, with regards to the performance of CBE, 12.8% did it once in 6 months, 8.2% did it every year, 7.8% did it every other year and 60.2% never did it. In addition, 12.3 % did mammograms once in 6 months, 2.2% did it every year, 3.7% did it once every other year and 74% never did it.

Table 1 summarizes the characteristics of the study participants. Most of the study participants were less than 50 y, married, with less than 3000 Nis income, living in villages, with less than high school education. Moreover, medical insurance for most study participants was governmental. 20.4% of women had a family history of breast cancer.

**Table (1):** Distribution of percentages of participant regards their demographic data.

Item	Valid	No.	%
Age (y)	30-40	163	60.6
	41-50	61	22.7
	More Than 50	45	16.7
Marital Status	Single	32	11.9
	Married	209	77.7
	Widowed	22	8.2
	Divorced	5	1.9
Educational Status	Bachelor Degree	62	23.0
	Diploma	23	8.6
	The General	74	27.5

Item	Valid	No.	%
	Secondary Certificate Examination- GSCE -(Tawjihi)		
	Preparatory Stage	104	38.7
Job Status	Employed	55	20.4
	Un -employed	205	76.2
Place of Residency	City	100	37.2
	Village	130	48.3
	Camp	39	14.5
Monthly Income	Less than 1000 Nis	66	24.5
	1000 - 2000 Nis	92	34.2
	2001 - 3000 Nis	74	27.5
	More than 4000 NIS	32	11.9
Type of Insurance	Governmental	158	58.7
	UNRWA	25	9.3
	Private	29	10.8
	No assurance	56	20.8
Family history of Breast Cancer	Yes	55	20.4
	No	214	79.6
Relative with Breast Cancer	Mother	5	1.9
	Sister	4	1.5
	Aunt	11	4.1
	Grandmother	3	1.1
	Others	32	11.9
Physician Advice to do breast test by X-Ray	Yes	50	18.6
	No	167	62.1
	Don't remember	42	15.6
The hazard of breast cancer according to participants perception	Very dangerous	171	63.6
	Dangerous	51	19.0
	Medium	35	13.0
	Small	9	3.3
	Not dangerous at all	1	.4
<b>Total</b>		<b>269</b>	<b>100.0</b>

Table 2 describes breast cancer barriers involving fear of cancer feelings. Fear of suffering, fear of change in physical appearance, fear of family sadness, fear for children

and fear of death represented major fears with a percentage of more than 60%.

**Table (2):** Distribution of mean, standard deviations, level of agreement and percentage of participants regarding their fear of having cancer. (Enrollment in local colleges, 2005).

College	New students	Graduating students	Change
	Undergraduate		
Cedar University	110	103	+7
Elm College	223	214	+9
Maple Academy	197	120	+77
Pine College	134	121	+13
Oak Institute	202	210	-8
<i>Graduate</i>			
Cedar University	24	20	+4

**Table (3):** Distribution of means and standard deviations, level of agreement and percentage regarding the general barriers of practicing breast cancer screening tests.

Items	Mean±Std	%	Agreement
<b>Culture</b>			
"Embarrassment with exposing the body in front of a male doctor"	3.2890±1.36762	65.8	High
"The fear of being diagnosed as having breast cancer"	3.2165±1.08479	64.3	High
"I can't recognize changes in your breasts, because I am not sufficiently familiar with them"	2.8725±1.26082	57.5	Middle
"I feel uncomfortable looking at my body"	2.8025±1.24591	56.1	Middle
"I feel uncomfortable touching my breasts"	2.7125±1.32338	54.3	Middle
"The religious ban on exposing the body"	2.4856±1.28004	49.7	Middle
"I don't have privacy to perform the exam"	2.4696±1.34314	49.4	Middle
"The fear of being seen at the clinic by acquaintances"	2.4449±1.23223	48.9	Middle
"Embarrassment with exposing the body in front of a female doctor"	2.4077±1.29911	48.2	Middle
Mean culture	2.7282±.84063	54.6	Middle
<b>Geographical</b>			
"The distance and difficulty in reaching the clinic is difficult for you in undergoing a breast exam"	2.3180±1.14456	46.4	Middle
"The existence of wall and the checkpoints"	2.4231±1.33481	48.5	Middle
Mean geographical	2.3566±1.13263	47.1	Middle
<b>Financial</b>			
"The financial expense"	3.1756±1.28344	63.5	High
<b>Total mean</b>	<b>2.7552±.83177</b>	<b>55.1</b>	<b>Middle</b>

Elm College	43	53	-10
Maple Academy	3	11	-8
Pine College	9	4	+5
Oak Institute	53	52	+1
<b>Total</b>	<b>998</b>	<b>908</b>	<b>90</b>

**Source:** Fictitious data, for illustration purposes only.

Table 3 summarizes religious and cultural barriers, geographical barriers and financial barriers. It is noteworthy that the percentage of barriers related to embarrassment to expose yourself to a doctor was present in 65.8% of participants whereas religious barriers were present in 49.7% of participants. On the other hand, distance and presence of checkpoints barriers were present in less than 50% of participants. Also, financial barriers to breast screening were present in 63.5% of women.

Table 4 summarizes the barriers to performance of mammogram, most of the women agreed that doing mammogram will help them have confirmation about their health and will enable discovering cancer at an early stage, but they expressed concerns about cost, pain, fear of radiation and inconvenience to uncovering part of their bodies. Only 48.3% expressed belief in a fatality that if cancer was discovered it will be already late.

**Table (4):** Distribution of means, standard deviations, level of agreement and percentage of participants regard barriers of performing mammography. Enrollment in local colleges, 2005

College	New students	Graduating students	Change
	Undergraduate		
Cedar University	110	103	+7
Elm College	223	214	+9
Maple Academy	197	120	+77
Pine College	134	121	+13

College	New students	Graduating students	Change
	Undergraduate		
Oak Institute	202	210	-8
<i>Graduate</i>			
Cedar University	24	20	+4
Elm College	43	53	-10
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Pine College	9	4	+5
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<b>Total</b>	<b>998</b>	<b>908</b>	<b>90</b>

Source: Fictitious data, for illustration purposes only.

Table 5 examines the barriers to breast cancer screening according to demographic variables. Barriers to mammograms were more common in villages and refugee camps relative to the city. On the other hand, barriers to BSE were more common in women with less education. In addition, women with relatives who have breast cancer had more barriers to mammogram and CBE.

**Table (5):** Breast cancer screening barriers according to demographic categories.

Item	Mammography		Test	CBE		Test	BSE		Test
	N	Mean ±Std.	F / Sig.	N	Mean ± Std.	F/ Sig.	N	Mean ± Std.	F / Sig.
<b>Age</b>									
30-40	156	3.0175±.57355	2.704/.069	160	3.3656±.56389	.469/.626	161	3.3984±.53147	.269/.765
41-50	60	3.2089±.57739		61	3.4444±.51400		61	3.4289±.52745	
> 50	44	3.1402±.55241		44	3.4090±.59072		44	3.3518±.54097	
<b>Place Of Residency</b>									
City	100	2.9765±.45816	3.106/.046	100	3.3764±.58512	.060/.941	100	3.4106±.58960	.072/.931
Village	127	3.1308±.63882		127	3.3971±.58346		128	3.3949±.53034	
Camp	33	3.2172±.59487		38	3.4085±.36322		38	3.3731±.34658	
<b>Educational Status</b>									
Bachelor Degree	61	2.9496±.51530	1.687/.170	60	3.2717±.68797	2.383/.070	61	3.4009±.69553	3.291/.021
Diploma	23	3.0779±.46199		23	3.2120±.52570		23	3.1530±.28121	
GSCE	71	3.0933±.55705		73	3.4713±.49475		73	3.5203±.47736	
Preparatory Stage	100	3.1585±.63669		104	3.4234±.49798		104	3.3495±.47597	
<b>Relatives With Breast Cancer</b>			<b>T / Sig.</b>			<b>T/sig.</b>			<b>T / Sig.</b>
Yes	55	3.1221±.71435	.575/	55	3.5131±.70321	1.838/	55	3.5681±.56051	2.706/
No	205	3.0718±.53265	.010	210	3.3589±.50815	.000	211	3.3533±.51475	.291

## DISCUSSION

This study is a descriptive study that evaluated women attitudes and barriers to breast cancer screening in Nablus regions. In this study, high percent of studied women did not ever perform CBE or mammogram which is similar to what was found previously among Palestinian women from different cities. In that study and among women who were > 50, 72% never performed CBE and 60% never performed the mammogram [1]. The low number of screening in our study corresponded with knowledge of CBE and mammogram that was lower than 60%. It is well known that knowledge about breast cancer examination leads to better adherence to examination guidelines [20]. Hence education programs in this population could be beneficial [21]. Low cancer breast screening could contribute to increased mortality from late detection of the disease [6].

To improve the attitudes towards breast cancer screening, it was important to understand the barriers that deter women from performing the test. In a study by Aziza et al, among Muslim women, embarrassment, fear, fatality, and radiation harm were the most important barriers to mammogram among Arab women in Israel, whereas fatality was the most important barrier to CBE [6]. In our sample fear, financial reasons and embarrassment represented major barriers to breast cancer screening.

The major number of women in this study lived in villages, and there were more barriers to breast screening among women in villages. Our findings were similar to what was found in a study among Jordanian women which could be due limited access to facilities of preventive care in rural areas [22]. Similar findings were obtained in studies from Poland [23] and China [24].

Income and education seem to be among predictors for breast cancer as was shown in previous studies [22]. In this study cohort majority of the study, participants reported a household income of less than 3000 Nis. Also, most women studied had less than a bachelor's degree in education. The education of women's spouses was not available to

us, but it could be a factor that affects awareness of the importance of breast cancer screening. In a study among Arab residing in Qatar, higher income and education were associated with breast cancer screening [25].

Having relatives with previous breast cancer was associated negatively with breast cancer screening. Unlike observation that was found in the study by Abu-Helalah et al., but the association between family history and breast cancer screening was not present in final regression analysis [22]. Other studies show that family history is a significant predictor of breast cancer screening [26]. The finding could be related to fear from consequences of the disease.

Previously in a study among Palestinian American women, embarrassment due to religiosity or the fact was that the woman has to expose her body to a male doctor was a major barrier to breast cancer screening [14]. In our study, large percent of women reported embarrassment from exposing their bodies to medical doctor (65.8%), but religiosity was less as factor contributing to this embarrassment (49.7%). Embarrassment due to body exposure was present in other cultures [27].

In the study by Kawar et al. patriarchy or male approval was important in women decision to perform breast cancer screening pointing to the fact that change in female's sexual organs may make her less attractive to her husband who has dominance over the family with 33 women out 102 stated they needed male approval to perform breast cancer screening [14]. Similarly, in our study, 58.6% of women in this study feared that if they would perform the test and discover the presence of cancer their sexual relationships to spouses will change and 53% of the women feared in fact that their husbands abandon them.

Many women in this study showed fear as a barrier to breast cancer screening; this fear was about losing life due to breast cancer and social fear regarding the inability to care for their own families, although fear could represent a barrier to a regular screening of breast. Some scholars suggest that fear could motivate women to perform breast cancer

screening if they have adequate knowledge [28].

Although our study did not assess directly the importance of healthcare professionals-patient's communication on the attitudes of studied women to regular screening, our study shows that women, in general, had positive attitudes towards the beneficial effect of screening on general wellbeing. As 80.5% responded positively that performance of breast cancer examination gives women better control of their lives, 80% thought that performance of breast cancer examination will increase the possibilities of healing, 79.8% responded that performance of the test will alleviate their anxiety, 76.6% agreed that the regular screening of the breast will lead to control of the disease at early stage, whereas 75.9% agreed that not performing the test will lead to more damage to health. Similar findings were obtained in a study among older Turkish women [29].

#### LIMITATIONS

This study is not without limitation including being only a descriptive study that included a small number of females only from the Nablus region.

#### CONCLUSIONS

In summary, this study reports very low performance of breast screening tests including BSE, BCE, and mammogram which was associated with a low level of awareness of these examinations. The studied group was relatively young, with less than high school education and low income. The low performance of breast examination coincided with the expression of fear from the consequences of diagnosis of disease and financial barriers. Religion as a barrier to cancer screening was low. Many women expressed their belief that the performance of breast cancer screening could be associated with early detection and elimination of the disease. Educating women and the community about the importance of cancer screening and providing financial solutions could motivate more women to perform breast cancer screening in North West Bank.

#### COMPETING INTERESTS

The authors declare that they have no competing interests.

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