

Pattern of mammography test use among women in Nablus/Palestine : A cross sectional study

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أنماط استخدام فحص الماموغرافي بين السيدات في محافظة نابلس/فلسطين: دراسة مقطعية

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الملخص: الخلفية: يعتبر سرطان الثدي الأكثر شيوعاً بين السيدات والذي يمكن اكتشافه مبكراً عن طريق التصوير الشعاعي (فحص الماموغرافي). ويعتبر الماموغرافي المسحي من أفضل الطرق للتشخيص المبكر لسرطان الثدي لدى السيدات فوق الخمسين. هدفت هذه الدراسة إلى بحث العوامل الديمغرافية والاجتماعية المرتبطة بنمط استخدام فحص الماموغرافي ومدى ارتباطها بنتائج الفحص. **المنهج:** شملت هذه الدراسة المقطعية جميع السيدات اللواتي خضعن لفحص الماموغرافي في مركز مكافحة سرطان وفحص الأنسجة التابع لجمعية تنظيم وحماية الأسرة خلال عام ٢٠٠٧. تم جمع البيانات الديمغرافية والاجتماعية (العمر، الحالة الاجتماعية، عدد الولادات، مكان السكن، الرضاة الطبيعية، مستوى التعليم، ومصدر التحويل) لملفات ٥٥٦ امرأة بالإضافة إلى نتيجة الفحص، ثم تم تحليل البيانات إحصائياً. **النتائج:** معظم السيدات في الدراسة تراوحت أعمارهن بين ٣٥-٤٧، ومعظمهن كن متزوجات، يسكن في المدينة، ارضن طبيعياً، حصلن على تعليم عال، أنجبن ٣-٥ أبناء، وقمن بتحويل أنفسهن للفحص. كان هناك ارتباط ذو دلالة إحصائية عالية بين العمر وعدد مرات الإنجاب مع نتيجة فحص الماموغرافي، ولم يكن هناك ارتباط إحصائي هام بين باقي العوامل مع نتيجة الفحص، ولم يلاحظ فرق في هذه النتائج عند مقارنتها مع البيانات الديمغرافية والاجتماعية للسيدات اللواتي قمن بتحويل أنفسهن للفحص. **الخلاصة:** هناك وعي جيد في مدينة نابلس باتجاه فحص الماموغرافي غير أن الفئات الخطرة لا تزال غير واعية لأهمية الفحص، لذا فإن التوعية يجب أن تشمل السيدات فوق الخمسين، السيدات غير المتزوجات وغير المتعلقات وسكان المخيمات.

الكلمة المفتاح: فحص الماموغرافي، سرطان الثدي، فلسطين.

ABSTRACT: Background: Breast cancer is the most common cancer in women, which can be early detected by mammogram test (an x ray of the breast). Screening mammography is one of the best techniques that can find majority of breast cancer cases in women over 50. The main objective of this study is to illustrate the different socio-demographic patterns of use and their relationship to mammography test results in Nablus district. **Methods:** This is a

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cross sectional study that included all women from Nablus area who underwent mammography test in the Palestinian Family Planning & Protection Association center (PFPPA) during 2007. Socio-demographic data (age, marital status, parity, residence, breastfeeding, education level and source of referral) from 556 files of women were collected, in addition to the mammography test result whether malignant or not. Data then were analyzed applying descriptive studies, and chi square test. **Results:** most of the study sample were of age interval (35-47) years old, married, breastfed, with parity interval 3-5, highly educated, inhabiting the city, and were self referred. There was a significant statistical association between age, parity and mammography test results ($p < 0.05$), however there was no significant statistical relationship for all other variables. Profile of self referred women was of no big difference when compared to all study sample variables. **Conclusion:** Awareness towards doing mammography in Nablus/Palestine seems to be good; however the most vulnerable group is still not doing it frequently. Older women, less educated, single, and women from refugee camps need to be reached out to increase their awareness to go for screening mammography.

Key words: Mammography, breast cancer, Palestine

INTRODUCTION:

Breast cancer is the most common cancer in women, affecting one in nine women at some point in their lives.¹ It is the second leading cause of cancer deaths in women today (after lung cancer).² Screening mammography is an x-ray study of the breast to detect breast changes in women who have no signs or symptoms of breast cancer.³ Over the past twenty years, several large studies in different western countries concluded that mammography screening programs decreased breast cancer mortality rate. Examples are the National Health Breast Cancer Screening Program (NHBCSP) in UK,⁴ the Swedish trial,⁵ and health insurance plan of New York study in USA.^{6,7}

According to the Middle East Cancer Consortium (MECC), Breast cancer was the leading tumor in females in all cancer registries, accounting for as high as 37.6% of all reported tumors in Egyptian females to as low as 27.7% of all reported tumors in Israeli Arab females.⁸

Breast cancer is the most common type of cancer in Palestinian women. The proportion is similar to that in neighboring countries except Lebanon, where breast cancer accounts for nearly half of all cancers in women.⁹ Data from the Palestinian Cancer Registry (PCR) in Gaza suggest that breast cancer is diagnosed at an advanced stage of the disease; 42.2% of reported cases had regional lymph- node involvement (stage III) and 17.8% had distant metastases (stage IV).¹⁰

In the past twenty years mammography test became available for Palestinian women, however a national mammography screening program for breast cancer has only started few months ago. Pattern of mammography use has not been studied among Palestinian women; therefore the aim of this study is to focus on different patterns of use of mammography test for women in Nablus district; it mainly explores factors affecting these patterns like; age, marital status, residence, parity, education, breastfeeding, and source of referral.

METHODS:

Study Population:

This cross-sectional study was conducted in the Palestinian Family Planning & Protection association (PFPPA), Pathology & Mammography Center; aiming to study female patients presenting to the centre for mammography test. A clinical file is created for each patient attending the center for the first time; the medical secretary registers all the needed information before and after the test. Located in Nablus/Palestine, PFPPA is a charity association which was established in 1965 for raising and promoting the health and social status of women health in Nablus city, camps and villages. It offers services for the northern part of the West Bank, and was the first centre in Palestine to provide all the diagnostic means necessary for early detection of breast cancer using a mammography test, fine needle aspiration, and histo-pathological tests. Its unique mobile clinic is providing important reach out women health services to surrounding villages, and has been a pioneer in providing early detection of both cervical and breast cancer.¹¹ Women attending PFPPA to do mammography test were chosen for this study because this centre has been the main place in Nablus area to provide mammography test.

Study Sample:

Our sample was a convenient sample that included all files of women more than 15 years of age from Nablus district who attended PFPPA in the year 2007 for mammography test. Out of 810, 556 files who met these criteria were included in this study.

Data Collection

After obtaining An-Najah National University's research committee approval, and PFPPA permission to access patients' files, anonymous information data from the first of January to the end of December 2007.

Each file contains important information which were used as independent variables like age, marital status, place of residence, parity, lactation, level of education, and source of referral for test. As dependant variable, the mammography test result was classified as one of two categories; malignant (which included all cytopathologically confirmed abnormal mammography test results), and non-malignant (including all normal and benign results).

DATA ANALYSIS:

Data were analyzed using statistical Microsoft program SPSS Version 11. Descriptive statistics (frequencies and means) provided population information and important variables. Analysis included cross-tab analyses (chi-square), which assessed relationships between mammography test results and all dependant variables. Significance of the relationship was determined when $p\text{-value} < 0.05$.

RESULTS:

Table 1 shows the demographic profile of study sample. Age interval (35-47) with a mean of 42 years showed the highest frequency of all (40%) age groups, followed by age interval (26-34) with a mean of 31 years and a frequency of 26.3 %.

Most of women in the sample were married (86.5%), living in the city (51.6%), and breastfed (73.9%). Parity of (3-5) with a mean

Variables	No. of subjects	percentage
Age		
15-25	46	8.3
26-34	146	26.3
35-47	219	39.4
≥48	145	26.0
Marital Status		
Single	65	11.7
Widow	9	1.6
Married	481	86.5
Divorced	1	0.2
Residence		
Village	233	41.9
City	287	51.6
Camp	36	6.5
Parity		
(0-2)	164	29.5
(3-5)	243	43.7
more 5	149	26.8
Education		
Illiterate	45	8.0
Basic	171	30.8
Secondary	176	31.7
Higher	164	29.5
Source of referral		
Self referral	184	28.6
Hospital / NGO S	348	67.1
Others	24	4.3
Breast Feeding		
Yes	411	73.9
No	145	26.1

Table 1: Demographic Profile of study sample (n=556)

of 4 children was with the highest frequency (43.7%), and most of them had high education (61.2%). Regarding referral to do mammography test, about a third (29.5%) were referred from private hospitals and NGO's, and 28.6% of women were self referred. On further studying the sociodemographic profile of those who underwent a mammography test without medical request i.e. (self referral) n= 184(Table 3), no big difference was noted in comparison to the study sample n= 556 (table1).

Chi-square test was used to study the relationship between all variables and mammography test results whether malignant or non malignant (table 2). A significant statistical relationship was found ($p < 0.05$) for age and parity, however there was no significant statistical relationship for the other variables (marital status, residence, education, breastfeeding and source of referral). When this relationship was studied on self referral group (table 4), there was no statistically significant between all sociodemographic variables and results at $P \leq 0.05$.

DISCUSSION:

Mean age of our study sample was 42 which points to a good awareness among middle age women towards having mammography test. Although the risk of breast cancer increases above age 50 years,¹² the older group women (≥ 48) who are usually recommended to have mammography as screening were only about 26% even when

Variable	Mammography results				Correlation	
	Non-malignant		Malignant		χ^2	P value
	No.	%	No.	%		
Age						
15-25	46	100	0	0	15.94	0.0001*
26-34	144	98.6	2	1.4		
35-47	211	96.3	8	3.7		
≥ 48	131	90.3	14	9.7		
Marital Status						
Single	60	92.3	5	7.7	2.511	0.473
Married	462	96	19	4.0		
Widow	9	100	0	0		
Divorced	1	100	0	0		
Residence						
Village	222	95.3	11	4.7	1.720	0.423
City	277	96.5	10	4.5		
Camp	33	91.7	3.0	8.3		
Parity						
0-2	157	95.7	7	4.3	7.751	0.021*
3-5	238	97.9	5	2.1		
≥ 5	137	91.9	12	8.1		
Breastfed						
Yes	393	95.6	18	4.4	0.015	0.902
No	139	95.8	6	4.2		
Education						
Illiterate	40	88.9	5	11.1	7.072	0.070
Basic	162	94.7	9	5.3		
Secondary	169	96	7	4.0		
High	161	98.2	3	1.8		
Source of referral						
Self	184	93.1	11	6.7	5.002	0.082
Hospital/ NGO	348	96.5	13	3.5		
Others	24	100	0	0		

* Statically significant p <0.05

Table 2: Relationship between mammography test and different demographic variables n= (556).

Variables	No. of subjects	percentage
Age		
15-25	13	7.1
26-34	44	23.9
35-47	79	42.9
≥ 48	48	26.1
Social Status		
Single	21	11.4
Married	156	84.8
Widow	6	3.3
Divorced	1	0.5
Residence		
Village	64	34.8
City	111	60.3
Camp	9	4.90
Parity		
0-2	50	27.2
3-5	83	45.1
> 5	51	27.7
Education		
Illiterate	12	6.5
Basic	51	27.7
Secondary	59	32.1
Education	62	33.7
Breast Feeding		
Yes	135	73.4
No	49	26.6

Table 3: Demographic profile of Self-Referral variables (n=184)

women were self referred; which points that the awareness about doing mammography among the most vulnerable group is not appropriate. Most of women who underwent mammography test were married (86.5 %); probably this is because of more exposure of married women to women's health services during childbirth and other reproductive health problems follow up where they are usually introduced to patient education about mammography test.

Because PFPPA center is located in the city center and also has a mobile clinic to surrounding villages, most of women in our sample (51.6 %) live in Nablus followed by the villages (41.9%); leaving only very small percentage(6.5%) to surrounding refugee camps.

Parity in our sample (mean of 4) goes along with Palestinian Central Bureau of Statistics for the year 2007 which showed that the Palestinian family size was 5.5.¹³

Women with high education were the highest group to undergo mammography test (61.2%), although the percentage of Palestinian women with higher education (Bachelor degree) has only increased from 3.3% in 1997 to 6.6% in 2007.¹⁰

Woman who breastfed (73.4%) in the study sample were a majority; this is consistent with high rate of breast feeding in Palestinian women (95.6%) with a mean duration of 10.9 months for (2007).¹³

When it comes to referral, private hospitals and non-governmental organizations were found to be the most frequent source of referral (67.1%), however self referral was also high indicating a good level of awareness of Palestinian women

about breast cancer and Mammography test.

Statistical association of Mammography test results with age goes along with other studies that looked at association of breast cancer with age. McPherson et al,¹² and Vogel et al¹⁴ reported continued increase of breast cancer after the age of 50.

Because most of our sample were married women, our results showed no statistically significant relationship between mammography results and marital status, however it was significant for parity. Marital status was found to decrease risk of breast cancer in Iranian married women,¹⁵ and several international studies associated decreased parity with higher incidence of breast cancer.^{16,17,18} Breastfeeding in our study was not statistically significantly associated factor for mammography results; a similar finding in the study of the collaborative group led by Beral V. et al in 2002 which showed that although relative risk of breast cancer decreased for every 12 months of breastfeeding, the size of this decline did not differ significantly for women in developed and developing countries.¹⁹

Residence showed no statistical significance in relation to mammography test result in our study which is in agreement with a published study of Cancer Registry Data in Aotearoa New Zealand (2007) that concluded no significant effect of urban/rural residence on breast cancer stage at diagnosis or survival.²⁰ Regarding education our study did not find statistically significant relation between mammography test results and level of education, a high portion of educated women in our study sample who go for mammography test is a good explanation. A similar finding in a Turkish study,²¹ which

concluded that educated women had low risk for breast cancer, in contrary to most of studies in western countries that found high educational level to be associated with increased risk of breast cancer.²² These findings can be explained by cultural differences based on the fact that educated Turkish and may be Palestinian women are less affected by western life style compared to other women in the world; or may be because education increases awareness for cancer screening.

Because there is no national screening program for breast cancer in Palestine, the self referred group was no different from the whole study sample in regards to demographic profile and relationship of different variables with mammography test results.

CONCLUSION:

Women are undergoing mammography test in Palestine despite absent national screening program, but most of these women are married and highly educated. Self referred women are also important group to do mammography test. Awareness seems to be good in this regard; however the most vulnerable group is still not doing it frequently. Older women, less educated, single, and women from refugee camps need to be reached out to increase their awareness to go for screening mammography.

Variables	Mammography results				Correlation	
	Non-malignant		Malignant		X ²	P value
	No.	%	No.	%		
Age						
15-25	13	100	0	0	4.744	0.190
26-34	44	100	0	0		
35-47	76	97.4	2	2.6		
≥ 48	46	93.9	3	6.1		
Marital Status						
Single	19	90.5	2	9.5	3.060	0.382
Married	153	98.1	3	1.9		
Widow	6	100	0	0		
Divorced	1	100	0	0		
Residence						
Village	61	96.8	2	3.2	0.544	0.762
City	109	97.3	3	2.7		
Camp	9	100	0	0		
Parity						
0-2	49	96.1	2	3.9	1.423	0.491
3-5	82	98.8	1	1.2		
≥ 5	48	96	2	4		
Breastfed						
Yes	133	97.8	3	2.2	0.041	0.840
No	46	95.8	2	4.2		
Education						
Illiterate	11	91.7	1	8.3	6.269	0.099
Basic	47	94	3	6		
Secondary	56	98.2	1	1.8		
High	65	100	0	0		

Table 4: Relationship between Mammography test and different demographic variables for Self referral group.

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