Deanship of Graduated studies

Al-Quds University

Knowledge, Attitude, and Practices among Female Patients at MOH Clinics in Ramallah, Jenin and Hebron Districts

Kifah Mithqal Abedalla Bani Odeh

M.S.c.Thesis

Jerusalem –Palestine

1434/2013

Knowledge, Attitude, and Practices among Female Patients at MOH Clinics in Ramallah, Jenin and Hebron Districts

Prepared by

Kifah Mithqal Abdalla Bani Odeh

B. Sc Medical Technology Al-Najah National University / Palestine

Supervisor : Dr. Asma Al Imam

A thesis submitted in partial fulfillment of requirements for the degree of Master of public health /track of health management and policy from the School of Public Health –Al Quds University/ Deanship of Graduated studies

1434/2013

Deanship of Graduated studies
Al-Quds University
School of Public Health

Thesis approval

Knowledge, Attitude, and Practices among Female Patients at MOH Clinics in Ramallah, Jenin and Hebron Districts

Prepared by: **Kifah Mithqal Abdalla Bani Odeh**
Registration no.**2901506**

Supervisor: **Dr. Asma Al Imam**

Master thesis submitted and accepted date: 30/12/2013

The names and signatures of the examining committee members are the following

1. Head Committee ..... Signature .....
2. Internal Examiner Salam Alkhatib Signature .....
3. External Examiner : Rand Salman Signature .....

Jerusalem –Palestine

1435/2014

Dedication

To my mother and father, whom I am forever proud of and who gave me their love and support throughout my journey, to my brothers and sisters; my guiding compass to safety, to the memory of my beloved son Yazan.

I dedicate this to you all.

الاهداء

الى امي وابي الذي افخر بهم دائما . واللذان امداني بالحب والدعم طيلة مراحل حياتي، والى اخوتي واخواتي الذين هم بوصلة الامان في حياتي والى روح ابني يزن.

اهدي ثمرة هذا الجهد

Declaration

I certify that this thesis is submitted for master degree is the result of my own research, except where otherwise acknowledged and that this thesis or any part or material has not been submitted for higher degree to any other university or institution

Singed

Kifah Mithqal Abdalla Bani Odeh

Date: 30/12/2013

Acknowledgment

I would like to express my deepest appreciation to my academic supervisor Dr. Asma, for all the guidance she has given me throughout the course of thesis.

To all my teachers in the school of public health for their dedication and hard work which will have lasting effects on me.

To my manager, Dr. Mohammad Shaheen, thank you.

I particularly thank the Ministry of Health represented by Dr. Asa'ad Ramlawi, for all the assistance he provided me with.

A special thanks to Mrs. Taghrid Hijazi for her continuous support and sharing necessary information for this research, as well as to her colleague/co-worker Elham Shamasneh. I would like to express my gratitude to the statistician Ashraf Samar.

I would not forget the assistance of my researchers (Shaymaa Salah, Rania Nassar and Aamena Hussein) in collecting and gathering data.

Kifah

2013

Abstract

Background: Breast cancer is still viewed as a lethal factor among all women worldwide. Palestine, MOH (2012) annual report indicated that breast cancer occupied first among all types of cancer cases and is considered as the highest among females, mainly between the ages of 20-59. Therefore, PMOH applied a national screening policy and other measurements on the ground in order to detect this disease at an early stage. However, there is lack of studies that pay attention to women's knowledge, attitude and practice toward breast cancer and screening tests in Palestine.

Aim/ objectives:

The aim of this study is to assess women's KAP toward breast cancer and screening tests, to identify the potential barriers deterring women from practicing breast cancer screening tests.

Methods: A cross-sectional design is used in this study, in which quantitative and qualitative methods of data collection were used; the quantitative technique was composed of interviewer administrative structural questionnaire. While, focus group discussions were utilized in the qualitative method.

A total of 341 randomly selected women were interviewed at 26 MOH clinics in four WB governances in 2013.Three FGDs were conducted in Hebron, Jenin and Ramallah. Frequency and percentage were used for the descriptive results, and Chi-square to investigate the relationship between dependent and independent variables..

Results: 341 women were available for final analysis, with a mean age of 33 years, (40%) had a Tawjihi education level, (86%) were married, (81.8%) considered breast cancer as the most prevalent cancer type among Palestinian women. Smoking (77.1%), age (69.8%) and genetics (65.9%) were the main known risk factors. A total of (96.5%) answered that detecting a lump is the main symptom of breast cancer. (91.8%) have known that BSE is an early detection method. Only (21.6%) of the respondents monthly performed BSE in the past 12 months. The main barrier is "I don't have breast problems" (20.8%). (28.5%) had their breast examined by a healthcare provider. The main barrier in CBE performing was "I don't have breast problems" (22%). (47.3%) had performed a mammogram above 40 years old. The main barrier of mammogram was "fear of detecting symptoms" (25.3%). (37.5%) have known that mammogram is free of charge in MOH/clinics. There was a statistically significant relationship between knowledge of breast cancer screening tests and level of

education, BSE (P<.0021), CBE (P<.0384). There was a statistically significant relationship between considering breast cancer screening tests as important to detect symptoms and the educational level, BSE (P<.0116), CBE (P<.0016), mammogram (P<.0287). There was a statistically significant relationship between practicing and educational level; for BSE (P<.0258), while mammogram and educational level (P<.0134). The qualitative results showed that women consider breast cancer a dangerous disease among women, and is still a taboo subject driven by fear. Fear and anxiety drive women away from screening tests, while family history is considered the most popular risk factor for breast cancer. The women are well informed on breast cancer symptoms, and most believed in God for protection from this disease.

Conclusion: Women attended MOH/clinic in four governances have a moderate level of knowledge about risk factors of breast cancer, and they have a positive attitude towards the importance of the screening tests as an early detection method, on the other hand, they have a poor practice of the breast cancer screening tests. The study indicated that there is an association between the demographic variables(age, education, income, occupation, marital status) and knowledge, attitude and practice toward breast cancer and screening tests. In Palestine, we are still in need of further research in the future that tackles cultural and social aspects in order to understand the poor practices of breast cancer screening tests.

معرفة وإتجاهات وممارسات النساء حول "سرطان الثدي وطرق الكشف المبكر عنه بين النساء المرضى في عيادات وزارة الصحة الفلسطينية في مناطق رام الله وجنين والخليل".

إعداد الطالبة: كفاح مثقال عبد الله بني عودة
إشراف: د. أسمى الإمام

الخلاصة

الخلفية: ما زال مرض السرطان المسبب للموت بين النساء حول العالم، حيث أشار التقرير السنوي لوزارة الصحة الفلسطينية لعام 2012، أن مرض سرطان الثدي ما زال يحتل المرتبة الأولى بين الحالات، مقارنة بأنواع السرطان الأخرى، ويتركز المرض في الفئة العمرية ما بين 29–59 سنة. لذا قامت وزارة الصحة الفلسطينية بتطبيق سياسة وطنية للكشف المبكر عن سرطان الثدي، بالإضافة لبعض الإجراءات الوقائية على أرض الواقع؛ بهدف الكشف المبكر عن هذا السرطان في مرحلته المبكرة، إلا أن ما زال هناك قلة في الدراسات التي تولي انتباهاً لمعرفة وإتجاهات وممارسات النساء حول سرطان الثدي وطرق الكشف المبكرة في فلسطين.

هدف الدراسة: هو تقييم معرفة واتجاهات وممارسات النساء حول سرطان الثدي وطرق الكشف المبكر عنه، وتحديد العوامل التي تعيق ممارسة النساء، لطرق الكشف المبكر عن سرطان الثدي.

المنهجية: تم استخدام المقطع العرضي كإطار للدراسة مع تطبيق المنهج الكمي والكيفي، حيث تم استخدام الإستمارة في المنهج الكمي من خلال تعبئة الإستمارة من قبل الباحث مع المبحوث، واستخدام مجموعة النقاش المعمقة (المجموعة البؤرية) في المنهج الكيفي.

في عام 2013، تم أختيار 390 سيدة، بشكل عشوائي من 26 عيادة حكومية، في أربع محافظات في الضفة الغربية (الخليل، جنوب الخليل، رام اللة، جنين)، وثلاث مجموعات نقاش معمقة في ثلاثة مدن فلسطينية (رام الله، جنين، الخليل). تم استخدام النسب والتكرار في وصف البيانات، واستخدام مربع "كاي" في فحص العلاقة والإرتباط ما بين المتغيرات التابعة والمستقلة.

النتائج: 341 سيدة استجابت لتعبئة الإستمارة، حيث كان متوسط العمر للمشاركات 33 سنة. (40%) منهم حصلت على شهادة التوجيهي، (86%) منهم متزوجات، (81.8%) يعتبرن ان سرطان الثدي هو سرطان شائع بين النساء في فلسطين، أظهرت النتائج أن (77.1%)، من النساء يعرفن أن التدخين هو عامل من عوامل الخطر المتسبب في سرطان الثدي، بينما (69.8%) يعرفن أن التقدم في العمر هو العامل المسبب لسرطان الثدي، (65.9%) يعرفن أن العامل الوراثي هو

المسبب في سرطان الثدي. (96.5%) لديهن معرفة أن ظهور كتلة، هو أحد أعراض الأصابة في سرطان الثدي. (91.8%) لديهن معرفة أن الفحص الذاتي لثدي هو أحد الطرق الكشف عن سرطان الثدي.

(21.6%) من المشاركات أكدن أنهن مارسن الفحص الذاتي بشكل منتظم وشهري العام الماضي، وأهم سبب يعيق النساء عن ممارسة الفحص الذاتي لسرطان الثدي، هو "لا يوجد مشاكل عندي في الثدي (20.8%).

بينما(28.5%) من النساء تم فحصهن من قبل أحد مقدمي الخدمة الصحية فحص "إكلينيكي" لسرطان الثدي، ويعتبر أهم سبب لعدم الفحص الثدي من قبل الطبيب، كما أشارت الدراسة هو "لا يوجد مشكلة عندي في الثدي(22%). (47.3.%) قامت بعمل فحص "الماموغرام" فوق سن الاربعين، ويعتبر عامل "الخوف من وجود أعراض "هو أهم المعيقات لعمل المموغرام،(25.3%).

نسبة 37.5% من المشاركات فقط لديهن معرفة أن الفحص "الموغرام" هو: فحص مجاني في عيادات وزارة الصحة الفلسطينية.

تشير النتائج أن هناك علاقة ذات دلالة إحصائية بين مستوى التعليم، والمعرفة بالطرق الكشف المبكر عن سرطان الثدي، الفحص الذاتي لثدي، P<.0021 بينما الفحص الاكلينيكي P<.0384.

كما تشير النتائج إلى أن هناك علاقة ذات دلالة إحصائية بين اعتبارأن **طرق الكشف المبكر عن سرطان الثدي هي طرق مهمة وبين ومستوى التعليم**، حيث أظهرت النتائج أن هناك علاقة ذات دلالة إحصائية بين الفحص الذاتي مهم للكشف المبكر وبين مستوى التعليم (P<.0116، وأيضا هناك علاقة بنين مستوى التعليم وأهمية كل من الفحص "الإكلينيكي" والفحص "الماومغرام" على التوالي،P<.0016،P<.0287.

كما أشارت النتائج إلى أن علاقة ذات دلالة إحصائية بين مستوى التعليم، وممارسة كل من الفحص الذاتي لثدي والفحص "الماموغرام" على التوالي،P<.0258،P<.0134).

النتائج في مجموعات النقاش المعمقة الخاصة في المنهج الكيفي: أشارت إلى أن النساء تعتبر سرطان الثدي هو مرض خطير، وأن هذا المرض ما زال موضوع محرم من منطلق الإحساس بالخوف من هذا المرض، وما زال الخوف والتوتر هو: العائق نحو ممارسة النساء لطرق الكشف المبكر عنه، أيضا كان العامل الوراثي هو الأكثر معرفة بين النساء؛ كعامل من عوامل المساعدة في الإصابة بسرطان الثدي، لكن لدي النساء معرفة جيدة، بأعراض هذا المرض. النساء لديهن الإيمان **بأن الله هو الحامي من هذا المرض.**

الخلاصة: النساء اللواتي يزرن العيادات في وزارة الصحة لديهن المعرفة المتوسطة في عوامل الخطر المسببة لسرطان الثدي، ولديهن المواقف الإيجابية من أهمية الطرق المستخدمة عن الكشف

المبكر لسرطان الثدي، لكن في المقابل النساء لديهن مستوى متدني من ممارسة طرق الكشف المبكر عن سرطان الثدي.

الدراسة تشير في نتائجها أن هناك دلالة إحصائية ما بين العوامل الديمغرافية (العمر، التعليم ، العمل، الحالة الاجتماعية) وبين معرفة واتجاه وممارسة النساء حول سرطان الثدي وطرق الكشف المبكر عنه.

في فلسطين، ما زلنا بحاجة إلى أبحاث ودراسات تقوم بتحليل العوامل الاجتماعية والثقافية لمعرفة التدني في مستوى ممارسة النساء لطرق الكشف المبكر عن سرطان الثدي.

Table of Content

List of Tables

List of Figures

List of Appendix

List of Abbreviations

Abbreviation	Definition
IARC	International Agency for Research on Cancer
ACS	American Cancer Society
BSE	Breast self-examination
CBE	Clinical breast examination
CDC	Centers for Disease Control and Prevention
CHBM	Champion's Health Belief Model
HBM	Health Belief Model
NCI	National Cancer Institute
BC	Breast cancer
MOH	Ministry of Health
FGD	Focus group discussion
IARC	International Agency for Research on Cancer

Chapter one

1. Introduction

This chapter presents an overview of types and symptoms of breast cancer, facts and figures worldwide, incidence of breast cancer, and risk factors. Besides theoretical basis of screening and screening approaches are also presented .It also covers study problem ,purpose ,justification an limitations.

1.1 Breast Cancer/ Occurrence and types

The breast is made up of lobules; it is mainly a gland that functions for milk production, through tiny ducts which are tiny tubes that transport milk from the lobule to the nipple. There is also a fatty tissue called stroma which connects blood vessels and tissue that surround the lobules and ducts (America Cancer Society, 2012).The normal cells divide, grow and die in regular process, to be replaced by new cells but the process with cancer is different; in a cancer cell, the dying cells continue growing and form new cells which is abnormal in growing. Cancer cell has the capability to invade other cells, the invasion is a result as the damage of DNA which is the director of the action. (American Cancer Society,2012; Canadian Breast cancer Network, 2012).

Breast cancer is mostly occurring in the ductal tissue which is called ductal carcinoma. Some occurs in the lobule and is called lobule carcinoma or lobular neoplasia, the cancer in these cells can come very close to becoming cured but if the cancer cells invade the lymph node, this means the chances to spread to blood stream and metastasis to other body organs increases (American Cancer Society, 2009**;** American Cancer Society, 2012**)**.

1.2 Symptoms of breast cancer

The main symptoms of breast cancer are as following; a hard lump developing in the breast; typically painless and occurring on one side only, a change in the size or shape of the breast changes in the skin such as dimpling, wrinkle, redness changes in the nipple such as the secretion of unusual discharge or a rash around the nipple area (American Cancer Society, .2012.; National Cancer Institute.2011).

1.3 Breast cancer / Facts and Figures World Wide

Breast cancer is still one of the main global health problems among women. It is considered as the most frequent diagnosed cancer that increases women's death. The cancer that is most commonly diagnosed is breast cancer and the chief cause of cancer death amongst females accounting for 23% of the total cancer cases and 14% of the cancer deaths (Jemal et al., 2011).

Around1.6 million cases of breast cancer were diagnosed among women around the world in 2010, and 425,000 women around the world died from the disease in 2010 **(**American Cancer Society, 2011; (Institute for Health Metrics and Evaluation, 2011).

Breast cancer is the most frequent cancer among women in developing and developed countries, it is considered to be the leading cause of death, in 2000; breast cancer estimated cases were 189,000 deaths in developed countries and 184,000 deaths in developing countries, the estimate percentage12%, correspondingly, of all cancer deaths in women (http://www.path.org/resources/pub_outlook.htm,2002).

In the United States, it is the most common cancer among American women, it is estimated that one of eight women will develop an invasive breast cancer case, (as a rate of 12% from total women in America). The total cases that were expected to be diagnosed were around 226, 870 new cases of invasive breast cancer. The projected cases that will die from invasive cancer are around 39,510 women (American Cancer Society, 2012). The National Cancer Institute (NCI) estimated that in the United States, 288,000 women and 2,140 men developed invasive cancer and in situ breast cancer in 2011(NCI, 2011) and 39,520 women and 450 men died from the disease while another statistic from the national institute for prevention indicated that 210,203 were diagnosed with breast cancer and 40,589 of women died due to the breast cancer (CDC, 2012).

In Europe, breast cancer is the main cancer that affected women and cause of death. The number of cases is estimated at 130,000, breast cancer is considered to be the main cause responsible of new cases in Europe; it is estimated about 26.5%, and constitutes 17.5% from the total of cancer types that cause death among women (Aareleid et al., 2010).
In West Africa, breast cancer is the attributed cause of death among women, mostly 30,000 new cases in 2008 and more than 16,000 deaths (Journal of Cancer Epidemiology, 2012).

Also breast cancer is the number one cause of death for black women in North Africa According to the National Cancer Registry, 2003 (Herbs, 2011).

In Malaysia, the breast cancer is considered to be one of the most wide spread cancer among women. The National Cancer Registry indicated that about (3,525) cases have been registered among women in 2006, constituting therefore a percentage of 16.5% out of the cancers rate in Malaysia (Zavare, 2011).

In Arab countries, breast cancer is also the fatal disease among women while most affected cases within the young age below 50,the median age is 49-52, this contrasts, the median age in industrial countries which is 63 (El Saghir et al., 2007). In Egypt, breast cancer is one of the most common cancers that affect women and occupies the top of the list of cancer types, accounting for 18.3 % of the total of cancer cases (Samah, et al., 2012). And breast cancer represents 37% of all female cancers, as reported by the country's national cancer institute's hospital-based register (Boulos, 2005 in Ismail 2013*)*. In Jordan, breast cancer is the diagnosed cancer type that affects female and constitutes 34.8% from the total female cancer (Tarawneh et al., 2011). In Lebanon, breast cancer accounts for one third of all cancer types and most cases affected women under the age of 50 which constitutes 49 % of all cases (. El Saghir. & Fady, 2002). In Saudi Arabia, breast cancer accounts for 19.8% among females (Hamdan et al., 2005; Ibrahim et al, 2004). Studies in Saudi Arabia found that only (932) cases of breast cancer were diagnosed in 2002 indicating that no national program for breast cancer screening was available at that time.(National Cancer Registry , 2004 in Ibrahim, 2010).

In Israel ,according to Israeli Cancer Association 500 women are diagnosed with breast cancer per a year and about 900 die of the disease.(Israeli Breast Cancer Association, 2013).Mortality rate among Arab Women in Israel is 11.9 per 100,000 in 2010,While mortality rate among Jewish women 17.1 per 100,000 in 2010 (Israeli Breast Cancer Association, 2013)

In Palestine, the MOH indicated in 2012 annual report, that breast cancer has occupied the first of ten reported cancer cases, and was considered the first cancer affecting women, with 292 cases registered in 2012. Breast cancer was highest among the age group of 20 - 59 years (MOH, 2012) and the mortality rate from breast cancer was (13.7%), (MOH,

2012).

1.4 Incidence of breast cancer

Kramer described incidence as the number of new cases of a disease occurring within a specific period of time. Prevalence is defined as the number of cases of a disease present in a population group as of a specified interval of time (i.e., the number of cases existing at the start of an interval plus the new cases developing during the interval) (Kraemer et al., 1997).

National Cancer Institute indicated in the final report online 2012 that from 1999 to 2005, breast cancer incidence rates in the U.S. decreased by about 2% per year. In 2012, the incidence of breast cancer in USA is shown in the following table (1) (National Cancer Institute modified on October 30, 2012 at 5:09 am):

On January 1, 2009, in the United States there were approximately 2,747,459 women alive who had a history of breast cancer. This includes any person alive on January 1, 2009 who had been diagnosed with breast cancer at any point prior to January 1, 2009 and includes persons with active disease and those who are cured of their disease (National cancer institute, 2011).

Canada

In Canada, the new cases were estimated by sex and age applying age-standardized incidence rates in 2011.The breast cancer incidence according to the sex (male and female; female 23,400 cases per 100,000, the incidence of cancer among females was 102 more than for the males (Canadian cancer statistician 2011)). Breast cancer incidence rates rose from 1982 through the early 1990s, in part because of increased applied mammography screening (Canadian cancer statistician, 2011).

Ireland

Cancer incidence is expected to increase by 45% between the years of 2010-2020, and by 110% between 2010 and 2030 (National Cancer Registry, 2008) mainly due to population ageing. In Ireland, as in other countries, survival from cancer is increasing slowly, but steadily (Comber &Walsh, 2008). Statistical data from the National Cancer Registry of Ireland (NCRI) suggest that there are more than 134,000 people living with a diagnosis of cancer in Ireland: 59,500 men and 75,000 women, in 2010, and there were 49,961 new

cases of breast cancer in the UK (49, 5%). In women, the crude incidence rate shows that there are 157 new breast cancer cases for every 100,000 females in the UK, and in the last ten years, female breast cancer incidence rates in the UK have increased by 6% (Cancer research UK, 2010).

Middle East/Arab Countries

In Arab countries, there is an average of 25 per 100,000 incidence rate with approximately 80,000 new cases annually (Saghir.et.al 2006**).** Breast cancer is the most frequent cancer in Jordan; composing of 20 % of the total cancer cases and 22 % of the cancer deaths. The age standardized incidence rate of breast cancer increased from 29/100,000 in 1996 to 50/100,000 in 2008. Breast cancer includes 37% of all female cancer cases in Jordan and the highest incidence is seen in women aged 40–49 years (Jordan Ministry of Health, 2008).

In Turkey, the incidence rate for breast cancer is 7.32/100,000 according to hospital based data for the year 1999 (Ministry of Health of Turkey, 2002).

Palestine

According to MOH annual report 2012, the cancer incidence rate was (74.0) per 100,000 of population.

According to the statistics of Cancer Registry Center in Gaza, the incidence rate of breast cancer is 60/100,000, deeming breast cancer the most prevalent type of cancer among females (31%) (Abdeen, 2006).

1.5 Risk Factors

According to American Cancer Society (ACS) 2012, risk factor is anything that affects the probability of getting a disease. Risk factor is defined as the probability that a particular outcome will occur following a particular exposure (dictionary of epidemiology, 4th edition, 2001).It is also an attribute of personal behavior or lifestyle, an environmental exposure, or an inborn or inherited characteristic which on the basis of epidemiological evidence is known to be associated with health related conditions considered important to prevent (A dictionary of epidemiology, 4th edition. New York, 2001).

American Cancer Society and other institutions that deal with cancer issues recommended a list of risk factors that are related in affecting the breast cancer, such as, age, reproductive factors, nutrition, life style (American Cancer Society, 2012).

1.5.1 Age

The risk of breast cancer increases mostly in women of advanced age. 1 out of 8 from the invasive breast cancer is among the age above 45, while 2 of 3 from the invasive cases are among the age above 55 (American Cancer Society, 2012). 97% of cases have occurred in women older than 40, however the highest percentage of occurrence is for the age group of 75 -97, since 2004 to 2008 the median age was 61 year old among women (American Cancer Society, 2012).

(Table 1.1); Percentage of U.S women who develop breast cancer throughout three different intervals 10,20 and 30 years according to their current age, 2005 – 2007 is illustrated below in table (1.1):

Current Age	10 Years	20 Years	30 Years
30	0.43	1.86	4.13
40	1.45	3.75	6.87
50	2.38	5.60	8.66
60	3.45	6.71	8.65

Source (American Cancer Society, 2008).

The Center for Disease, Control and Prevention (CDC) indicated that 3.45% of women who are now 60 years old will be affected by breast cancer sometime during the next 10 years, this means , 3 or 4 out of every 100 women who are 60 years old today will have breast cancer by the age of 70, (CDC,2012). In addition, the National Screening in New Zealand recommended that women over 40 years old should be 'breast aware'. Breast cancer foundations also stressed the same, indicating that all women, especially those over the age of 40 years old, should be aware of any changes occurring to the breast so as to enable them to have an early consultation from any doctor without any delay (Elmore et al., 2005). In Arab countries, breast cancer is also the fatal disease among women while most affected cases within the young age below 50,the median age is 49-52, this contrasts, the median age in industrial countries which is 63 (El Saghir et al., 2007), in Palestine breast cancer affected mainly the women between the age of 20-59(MOH, 2012),while in Saudi Arabia involved women affected by invasive breast cancer showed that 82% of the women were under 50 years old (Alam, 2006).). In study conducted among patients women in North of Palestine attended Alwatni –hospital applied case control design indicated that in this case-control study among 140 cancer patients participants 60.7% were

below 50 years old(Darweesh& Hussein, 2009)

1.5.2 Genetic factors

Around 5% to 10% of breast cancer cases are considered to be inherited, due to mutation in gene defects (American Cancer Society, 2012). A study showed that inherited genes responsible for causing disease are, BRCA1 or BRCA2 mutations, this form is only about 15-20% of familial breast cancers (Rahman, 2008).

1.5.3 Personal history of breast cancer

Breast cancer risk is higher among women who are close relatives (first-degree) who had breast cancer (mother, sister, or daughter) (American Cancer Society, 2012). In study in Najah National university used case control method among women patients in the North of Palestine attend Al-Watani hospital indicated that family history is strong risk factors with percentage 69.7% among the cases(Darweesh & Hussein, 2009)

1.5.4 Reproductive Factors

One of the most well-known risk factors for breast cancer is a woman's long exposure to estrogen; women who have had menstruation earlier than the age of 12 and/or went through menopause later (after age 55) have little higher risk of breast cancer. The increase in risk may be owing to a longer lifetime exposure to the hormones estrogen and progesterone (American Cancer Society, 2012). Moreover, late age at first childbirth and exogenous hormones are all considered important reproductive factors for induced effecting breast cancer in women? (IARC, 2008, Lacey, et al., 2009).

In a study conducted for Swedish women follow up, 640 Swedish women who were 50 to 74 years old and had postmenopausal breast cancer during 1993 to 1995 until December 2000, indicated that age at menarche has vital collision on breast cancer (Orgéas, et al., 2008). Another study indicated that estrogen stimulates breast cancer cells (Dumitrescu, Cotarla, 2005)

1.5.5 Having children

Having children decreases the opportunity of estrogen exposure which will reduce exposing the breast to cancer risk. A study indicated that each pregnancy is likely to decrease breast cancer risk by 7-20%. This is because the ovaries during pregnancy are not

producing estrogen (Russo et al**.,** 2005).

1.5.6 Breastfeeding

Women who practice breastfeeding are slightly less at risk to have breast cancer, especially if it is continuous for 1½ to 2 years (ACS, 2012). Studies pointed that the longer the breast feeding, the more likely it will reduce being affected by breast cancer with a 4.3% for every 12 months (Nielsen, 2005; Collaborative Group on Hormonal Factors in Breast Cancer, 2002). While in one study, eating vegetables and fruits, higher quality of food with low fat and longer period of breast feeding have been recognized as factors that reduce the risk of having breast cancer (Dumitrescu & Shields, 2005).

1.5.7 Birth control; oral contraceptive use

The women who have used the oral contraceptive, (birth control) have slightly more risk of breast cancer than women who have not use used them (American Cancer Society, 2012) because the contraceptive pill that contains female hormones was found to slightly increase the woman's breast Cancer risk (Greiser & Doeven, 2005; Nielsen, 2005).

1.5.8 Hormone therapy after menopause

Several studies indicated that post-menopausal use of Hormone Replacement Therapy (HRT) is one risk factor that increases the opportunities to be affected by breast cancer among women (Greiser & Doeven, 2005; Nielsen etal., 2005). In clinical trials conducted analysis for the ingredient of postmenopausal treatment, found that it increase the risk of breast cancer (Cornell University Program on Breast, 2002).

1.5.9 Physical activity

Women who practice physical activity regularly as 1¼ to 2½ hours per week of quick walking reduced a woman's risk by 18%. Walking 10 hours a week reduced the risk a little more (American Cancer Society, 2012). A study indicates strong evidence that women who are physically active reduce their chances by 70% of being affected with breast cancer (Koffman, et al.2005).A case control study of 835 women was conducted to explore if there is an association between family history, reproductive, anthropometric, lifestyle factors and risk of breast cancer according to menopausal status. The result indicated that physical activity is one of the protective factors that were observed among both pre- and post-menopausal women (Kruk, 2007).

1.5.10 Alcohol

Consumption of alcohol is clearly related to an increased risk of developing breast cancer, but the risk of developing breast cancer correlates with the amount of alcohol consumed. In USA about 14,000 women are yearly diagnosed with breast cancer attributed to alcohol consumption (Tseng, et al., 1999). Another study indicated that increased alcohol consumption was directly correlated with a moderately increased risk of breast cancer regardless of the woman menopausal status was not considered (Petriet, et al., 2004). Another study found that the amount of alcohol consumption raises the risk of being affected by breast cancer, 35–44 g/day, and increased the risk of 1.46 (95% CI, 1.33–1.61) with a consumption of 44 g/day, in contrast with women with no alcohol consumption. (Hamajima K, et al., 2002). Another research had shown that 8.8% of women who desist from alcohol develop breast cancer by the time they are 80 years old, but those women who drank between 2-4 units/day have the chance of developing breast cancer by 10.1% and 11.6% correspondingly by the time they are 80 years old (Collaborative Group, 2002).

1.5.11 Being Overweight or Obese

The weight of women after menopause in general increases because before the stage of menopause, the ovaries produce most of estrogen, and fat tissue secretes a small amount of estrogen, but after menopause (when the ovaries stop making estrogen), most of a woman's estrogen is produced from fat tissue, so having more fat tissue after menopause can increase the opportunity of getting breast cancer by raising estrogen levels. **(**American Cancer Society, 2012). Being overweight are risk factors for breast cancer in women who have gone through the menopause (International Agency for Research on Cancer (IARC, 2002).

1.5.12 Tobacco/ Smoke

Some studies have brought that smoking might increase the risk of breast cancer, the increased risk appears to affect certain groups, as women who began smoking when they were young (the International Agency for Research, 2009). In a cohort study which investigated the effect of smoking in breast cancer, by enrolling 102,098women, whom started smoking when they were teenagers, the women’s ages ranged between 30 and 50 years, the result indicated that women who started smoking as teenagers and continued to

smoke for at least 20 years may increase their breast cancer risk (Inger et al., 2011). Other studies that conducted stressed that 21% of all breast cancer deaths worldwide are mostly due to alcohol use, overweight, obesity, and physical inactivity. The death percentage was higher in high-income countries (27%), and the most important attributable factor was being overweight and obesity, while in low and middle-income countries physical inactivity is the most attributable risk factor, and the percentage of death is (18%) making this determinant the most important of these risk factors (Peto, 2001).

1.6 Theoretical basis of screening

The major international health organizations are in consensus regarding the goal and definition of screening approach. The IARC, the Institute of Public Health of the Republic of Slovenia and the American Cancer Society define screening as being intended for all people, in an identified target population, who do not have symptoms of the disease or condition in order to detect any disease earlier than otherwise might have occurred by using this type of preventative approach intended to reduce the rates of mortality, morbidity, and the size of the disease in the community of any targeted disease by using an approach that any disease get diagnosed. Another purpose which deems screening as a recognized vital and effective tool is its economical aspect, by decreasing expenses thus leading to better quality of life. (Institute of Public Health of the Republic of Slovenia, 2008; International Agency for Research, (IARC 2001).

The stakeholders and targeted communities must be made aware of the fact that the screening test does not provide a promise that the disease will cease or not occur, or if it occurs, that it can be cured. A success' screening test selects people who are at increased likelihood of having the condition and who require further investigation to determine whether or not they have the disease or condition. There should be community consensus that the benefits of screening justify the expense of screening (International Agency for Research on Cancer (IARC), 1999).

1.6.1 Screening approaches

There are three approaches to screening for breast cancer; two of them use palpation of the breast, which are clinical breast examinations (CBE). And breast self-examination. The third screening method, mammography, uses x-rays to detect tumors and abnormality in

the breast (American Cancer Society, 2012).

Many health organizations set recommendations of procedures to protect women from being vulnerable to breast cancer. The American Cancer Society report of 2010 stated that women in their 20s and 30s should conduct clinical breast exam (CBE) by a health professional, and preferably every three years. However, the ACS considered conducting breast cancer self-examination as being optional at such age. For women of the age 40 and above the society recommended that they should undergo an annual mammogram screening. Yet after the age of 40 and above, women are supposed to perform an annual regular clinical breast examination (ACS report, 2011).

In addition, the National Screening in New Zealand recommended that women over 40 should be 'breast aware'. Breast cancer foundations also stressed the same, indicating that all women, especially those over the age of 40, should be aware of any changes occurring to the breast so as to enable them to have an early consultation from specialized physicians or highly qualified health care providers without any delay (Elmore et al., 2005).

The U.S. Preventive Services Task Force (USPSTF) recommend screening mammography, with or without clinical breast examination (CBE), every 1 to 2 years for women aged 40 and older (Task Force,2002).
However, the National Cancer Institution recommended that in the case of women who have a genetic history of breast cancer, screening should begin before the age of 40 (The American Cancer Institute, 2010).

1.6.2 Breast self-examination (BSE)

Is a breast screening modality where a woman regularly inspects her breasts, visually by sight and manually by touch and palpation, in order to detect changes over time? Its proponents argued that BSE was an ideal screening technique not only is it simple, inexpensive, and low-tech, but it also encourages women to take an active part in their own health care.

BSE has been formal and widely promoted by cancer organizations around the world, and the research about the amount of effectiveness is still in debate, there are insufficient data or research evidences that performing regular SBE reduce mortality (Miller et al., 2002).

A study conducted in Shanghai between 1989- 2000 to assess whether an educational program about breast self-examination instructions would contribute in decreasing the breast cancer death rate among women. The study randomly targeted women from 519 factories, divided the women into a control group and an experimental group. The experimental group received BSE instructions followed by reinforcement sessions for three years and the women practiced BSE once every month alone. Moreover, the women practiced BSE with medical supervision every 6 months for a period of 5 years. These women were checked through December 2000 for mortality from breast cancer by applying Cox proportional hazards in order to investigate cumulative risk ratios of dying from breast cancer. This study's results showed that the percentage of mortality among the experimental group was 135 women, and 131 among the control group. Thus, there was no association between intensive BSE instructions and reducing mortality from breast cancer. Moreover, it is unlikely to reduce mortality from breast cancer with programs to encourage BSE in the absence of mammography (Thomas, 2002).

1.6.3 CBE

The efficiency of CBE depends totally on health workers' skills; it is important to use established training strategies and standardized techniques Barton (Miller, et al.,2001; National Cancer Institute. 2000).

The role of this technique is to inspect women's breasts for lumps and other symptoms of cancer. In this test the health providers look at the breast for abnormalities in size or shape, or changes in the skin of the breasts or nipple (American Cancer Society, 2012). In screening programs, all women over the age 35 or more are encouraged to perform annual CBE. This manual test assists in detecting some of the lumps especially in younger women whose dense breast tissues can obscure x-rays while cancer tissues pass undetected with mammograms(American Cancer Society, 2012).The CBE technique is less likely to detect breast cancer, while mammography is recommended for more accurate detection (Miller, 2000).

1.6.4 Mammography

Mammography is now considered the current 'gold standard' of breast screening that is able to identify up to 95% of cancers diagnosed over the following years. The technique is not perfect; however, its use is the subject of ongoing study and debate (Preventive Services Task Force, 2009). Mammography screening is the only screening method that has confirmed to be effective. It can decrease breast cancer mortality by 20 to 30% in women over 50 in high- income countries when the screening coverage is over 70% (IARC, 2008).

A study in Norway was conducted to measure the effect of screening mammography on breast-cancer mortality. The study which took 9 years, from 1996-2005, involved 4 types of study groups, one who lived in areas with screening program were considered as (screening group), the other group who lived in an area with no screening program was considered (non-screening group). The other two groups were considered as historical comparison groups who were considered as mirrors between 1986-1996 for the previous two groups. The aim of this allocation of groups was to compare the incidence of breast cancer based on rate of death. Data from 40,075 women with breast cancer was analyzed. The results of this study showed that a reduction in the rate of death from breast cancer was associated with the availability of screening mammography. In addition, the screening itself accounted for only a third of the total reduction (Kalager et al., 2010).

A study conducted in in Helsinki, Finland aimed to evaluate the pprogrammer sensitivity and effectiveness of mammography service screening. The study utilized the data from the breast cancer screening programmer in Helsinki by using the information from the files of breast cancer mortality from the files of the Finnish Cancer Registry. In order to evaluate the sensitivity of the programmer, the study calculated the number of screen detected cancers and compared it with the overall number of breast cancers, which turned out 58%. The study results came out with further support to the hypothesis that mammography screening tests reduces breast cancer mortality (Anthony & Fazil, 2009).

1.6.5 The vitality of screening test/ mammography

In general, utilization of screening methods for breast cancer as early detection techniques are recommended, since worldwide studies have indicated that breast cancer deaths will be decreased as a result of utilizing such early detection methods among women (American,

Cancer Society, report, 2011). The majority of United States organizations concerned with breast cancer recommended to utilize mammography for women aged 40 or above, as such technique reduces mortality about 20-35% amongst women aged between 50-69, while the percentage seems to be slightly less among women between the ages of 40 to 49 (Elmore &, Armstrong, 2005).

Evidences presented between the years 1998 to 2007, indicated that there has been a decrease in the incidence rate of breast cancer among women as a consequent result of screening tests (ACS, 2011). Mammography is considered as an efficient way to decrease mortality among women between the ages 50-69 years (Elmore, et al, 2005). However, a coalition in Washington predicted that if there are no major changes in prevention or treatment of breast cancer, then 747,802 persons will annually die. This result has based on the findings of the literature reviews on the breast cancer cases worldwide (National breast cancer coalition, 2011).

While in low income countries, the poor use of early detection screening tests are due to the scarcity of infrastructure which is necessary to detect breast cancer at an early stage, thus negatively impacting women's health. Therefore, this will explore breast cancer in these countries in advance stage, therefore lack of educational programs, and lack of governmental interventions toward breast cancer screening contribute in the delay of detection of early stages of breast cancer (Tfayli, et al., 2010).

In Palestine, MOH pays great attention to breast cancer by taking applicable practical actions towards this disease in order to reduce the number of deaths and increase awareness in that regard. However, the MOH is currently implementing new policies and protocols, the first ongoing action provision of mammography screening test for all women of the age 40 and above free of charge. For this reason, MOH allocated 11 mammography devices distributed to all West Bank districts except Tubas district (Hejazi, 2011, Personal interview). In such provinces and cities where the device is unavailable, services are purchased from the private sector, the number of women benefiting from these services reached to (6630) cases (MOH, 2010). The second ongoing action policy is characterized in providing nurses who are working at all MOH clinics with training about breast self-examination technique. Such nurses held health sessions for women attending those clinics to teach them about the breast self-examination (Hejazi, 2011, Personal interview).

Similarly, the third ongoing applicable protocol implemented by the MOH was characterized with asking physicians and nurses to clinically examine female patients attending any maternal and child centers, health and antenatal care clinics, and family planning centers. The total number of these women examined by physicians and nurses was estimated to be (40760) (Hejazi, 2011, Personal interview).

1.7 Problem statement:

The breast cancer is the cancer affecting Palestinian women the most out of all types; with 292 cases reported (MOH, 2012). It is the most lethal type of cancer among women. Moreover, national screening policy applied on the ground and other measurements against breast cancer were taken in order to detect this cancer at an early stage, and reduce the mortality rate.However, and till now, there is a lack of studies that pay attention to women's knowledge, attitude and practice toward breast cancer and screening tests. The knowledge ,attitude and practice of Palestinian women is yet to be assessed, and attempts to identify the main factors affecting the KAP among Palestinian women, and looking for the barriers that a woman perceives to deter practicing the screening tests are also not assessed. While universally, many studies done in assessing the KAP of women toward breast cancer and screening tests.

1.8 Justification of the Study

Countries of the developed world are now granting this subject much attention and gathering information concerning breast cancer. Information and statistics regarding the number of women affected by breast cancer, the number of deaths per month and per year, as well as the number of women who has been diagnosed in addition to much more is available on line.

All statistical data in high income countries have indicated that breast cancer is still considered a common cause of death among women worldwide. In America, the ACS statistics found that about (232,340) new cases of invasive breast cancer cases will be diagnosed and about (39,620) cases are expected to die (American Cancer Society, 2013). In Canada, according to the Canadian Cancer Society indicated published data (May, 2011) that about (23,400) women would be diagnosed with breast cancer, and about (5,100) died from breast cancer in 2011, on average, 64 Canadian women had been diagnosed daily,

while 14 Canadian women died from breast cancer every day (Canadian Cancer Society, 2011).

Many studies from different countries recommended in their results that a relationship between the demographic characteristics and KAP, in Saudi Arabia, a study indicated that the educational level affect the women knowledge, attitude and practice (Alam, 2006). Another study in Iran is recommended that family history of breast cancer and the educational level influences the knowledge, attitude and practice (Heidari, et al., 2008).
In a recent study, fatalism and emotions have direct negative influence in practicing self-examination (Flynn, et al., 2011).

Champion, in health model, announced that the beliefs towards breast cancer have an influence on participating in breast cancer screening tests (Champion, et, al. 2006).

Breast cancer still occupies the first cancer cause of death among Palestinian women (MOH, 2011). Many Palestinian women benefit from the new national policy applied by MOH toward breast cancer; mammography screening is free for women above 40 years old. 9,849 cases were examined by mammography ,3219 were consider as **suspected** cases ,this constituted 32.9 % from all screened case, (PHC,2010).While Clinical breast examination was provided for women at primary health care centers by health providers. According to the MOH report (2011) the total number of these women examined by physicians and nurses was estimated to be (40,760) as shown in table (3) below:

(Table 1.2): The number of women examined by mammograms in the West Bank governmental clinics (MOH, 2012)

District	Number of women examined by a physician or nurse above the age of 40
Hebron	503
Bethlehem	1,394
Ramallah	1,189
Jericho	98
Nablus	1,010
Tulkarem	3,117
Jenin	655
Qalqilia	65
Salfeit	453
South Hebron	874
Tubas	307
Total	9665

However, lack of initiative in knowing the knowledge, attitude and practice of beneficiaries who are benefiting from the services offered by the MOH professional and by utilization of mammography devices. Therefore this study is addressing women's knowledge, attitudes and practices towards breast cancer and the application of the breast self-examination, clinical examination and mammography.

1.9 Purpose of the study

The purpose of this study is to assess women's knowledge, attitude and practices toward breast cancer and screening tests and to identify the barriers that deter them from practicing breast cancer screening tests.

1.10 Specific objectives

- To identify the demographic characteristics of women's attending the MOH/MCH.
- To assess women's knowledge, attitude, and practice regarding breast cancer and screening tests.
- To identify potential barberries that deter women from practicing breast cancer

screening tests

- To explore women's attitude &practice regarding breast cancer &screening tests.

1.11 Research questions

1. Are there relationships between the demographic variables (age, educational level, income, employment, marital status, and residence place) and level of knowledge of breast cancer and screening tests?
2. Are there relationships between the demographic variables (age, educational level, income, employment, marital status, residence place,) and women's attitude toward screening tests?
3. Are there relationships between the demographic variables (age, educational level, income, employment, marital status, residence place) and women's practice of screening tests?
4. What are the major three potential barriers that deter Palestinians from practicing screening tests?

1.12 Limitations

1- The researcher targeted remote villages; transportation was difficult during data collection phase.

2- The strikes of the MOH, which delayed the collection of data by researcher.

3- The topic lacked attraction on the women's part, deeming it taboo, especially during the qualitative phase.

4- Lack of national studies that focus on the KAP of breast cancer and screening tests

1.13 Strength points

1. To my knowledge this study is the first one at West Bank that aimed to assess KAP of breast cancer and screening tests.
2. This study provides information to MOH about the attitude and practice and knowledge toward breast cancer and screening tests, which can be used in program improvement.

Summary

This chapter represented the statistics concerning breast cancer worldwide, as well as concentrated on risk factors, symptoms and presented the problem statement along with the study objectives and research questions.

Chapter Two

Literature review

2. Introduction:

This chapter presents universal studies that focus on KAP research regarding breast cancer and its screening tests. This chapter includes: KAP related breast cancer study, barriers to breast cancer screening studies and social demographic determinants of breast cancer.

The breast cancer is still viewed as a lethal disease among all women worldwide. Statistical reports indicated the size of the problem, besides many international organizations follow up the progress of the breast cancer; moreover, researchers studied the breast cancer related issues, risk factors, barriers, and screening tests in order to contribute in increasing the awareness about the danger of this disease and stimulate decision makers to improve the services and the interventions to decrease morbidity and mortality among women.

The breast cancer rates in developed countries are still higher than in developing countries (WHO, 2009). In Japan, about (11,174) death cases are caused by breast cancer which is considered a lower rate in comparison with the United States at that time (Saika & Sobue, 2009).

In low income countries and in Arab countries, cancer is usually diagnosed at a late stage. For instance, in India, 100,000 women are diagnosed annually, most of them coming from urban areas, where this number is expected to rise to (131,000) by the year 2020 (Tfayli, et al, 2010).

To capture the studies related to knowledge ,attitude and practice towards breast cancer and screening tests ,the investigator searched through the data bases ,internet ,master and doctoral thesis and the organization websites that targeted cancer issues The list of main barriers was categorized into three main areas; knowledge, psychosocial, and socio demographic factors.

2.1 KAP/breast cancer studies

Based on the purpose of the study 41 KAP studies were reviewed, including studies that discussed knowledge ,attitude and practices ,and the others reviewed the barriers and demographic variables that related to breast cancer and screening tests.
A study in Riyadh was conducted among women aiming at assessing the knowledge, risk and precautionary factors of breast cancer, indicated that there is a statistical significance association between marital status, educational level, and family history with the cancer disease. The results of the study indicated that 82% of women have high knowledge about breast cancer self-examination, but only 41% of them had performed a self-examination test. On the other hand 61% of the study sample has knowledge about mammography, yet 18.2% performed this test (Alam, 2006).

A cross sectional base line survey carried out, on a base line survey to assess, knowledge, attitude and practice related to breast cancer screening among women of United Arab Emirates. The results indicated that only (30%) of the women agreed that family history was a risk factor, while (45 %) incorrectly declared that most of the breast lump would become cancerous. Moreover, (33%) of the women knew that early breast cancer was painful, and most of the women agree toward breast examination under doctoral supervision (79%). However, only 14% had performed clinical breast examination and only 13% practiced breast self-examination and regularly on monthly basis (Bener et al., 2001).

A study at female schools in Buraidah, Saudi Arabia, 376 female teachers was randomly selected to investigate KAP surrounding breast cancer. The result of the study indicated that more than half of the teachers had a limited knowledge level; most of them reported risk factors were non-breast feeding and the use of female sex hormones, while the main source of information was printed media, high income was the main factor of the high level of knowledge. (Dandash, Mohaimeed, 2007).

A cross sectional descriptive study among Saudi Arabian adult women conducted by involving 1315 women to assess their knowledge on breast cancer risk factors and the main utilization of screening method that women practice. The results signified that the level of risk factors and screening methods were low. Moreover, they perceived many

barriers about performing screening tests, and the percentage of CBE practicing is 5% while mammography employed by 3% (Amin, et al., 2009).

A study in Brazil aimed at evaluating knowledge, attitude and practice related to mammography, conducted on 663 Brazilian women users of local public health services, has showed that these women have lack of knowledge, but high attitudes towards Mammography. According to this study the main barrier is the lack of referrals by doctors working at health centers, indicating at the same time, the importance of financial aspect, such as family income and employment in affecting the practicing of Mammography (Marinho et al., 2008).

A survey conducted on 1830 general female population of UK to extract knowledge and believe about breast cancer. The study relieved that women had limited knowledge on risk factors and breast cancer related symptoms, only 23% correctly indicated that 1 in 10 have a probability to developed breast cancer. Less than one third acknowledged the role of advancing age as a potential risk factor, while more than 70 % of the sample recognized that painless breast lump, lump under armpit, nipple discharge are potential symptoms (Grunfeld et al., 2002).

Another telephone survey was applied on Cantonese Hong Kong women (Margaret,et,al) targeted the women at age 18-69 years to assess the women level perception and attitude on screening mammography and early breast cancer management. The results of this survey showed that 58% had never heard of mammographic screening. While 47% of the participants had misunderstanding that mastectomy was the only curative treatment.

In a thesis conducted in Halifax and Nova Scotia, using the qualitative and quantitative techniques, investigating knowledge, beliefs, attitudes and perceptions of Arabic speaking immigrant women towards breast and cervical cancer. It appeared that language is considered one of the barriers that delay conducting breast cancer screening, as well as the healthcare system which, in itself, is considered a challenge for such women (Amin, 2005).

In Uganda at Mulago Hospital a study addressing 1000 women attending the radiology department, aimed at evaluating their knowledge, attitude and practices towards mammography and breast cancer, has showed that 71% of these women have no idea about

mammography, and the majority of them have negative attitudes regarding this test; the main barrier contributing to that was the lack of information regarding such test (Elsie et al., 2010).

A study in Korea in 2008 used a convenient sample involving 328 Korean women, aimed at determining the barriers behind the lack of Korean women's participation in mammography screening programs. The results showed that the most significant barrier is characterized in their belief that breast examination is unnecessary, if symptoms of cancer are absent. While factors affecting the poor participation in these programs include high cost of breast cancer screening, lack of time, lack of information, shyness, worries regarding x-rays and test results (Sunkany et al,.2008).

One study in Iran conducted at Qouds maternity hospital, involved 384 women to determine the knowledge and practices of breast cancer screening has shown that (8.3%) of these women are aware of such screening methods. Similarly, other studies has clarifies that there is a relationship between demographic factors as education level and family history that impact knowledge's and practices regarding the screening tests (Heidari et al., 2008).

In Malaysia, another cross -sectional study aimed to determine the barriers from practicing BSE, and the factors related to KAP was conducted. 251 female students at the Management and Science University, in Shah Alam, Selangor, Malaysia. The majority of the participants were over 20 years old. The study indicated that barriers to BSE lack of knowledge, and not having any symptoms, and afraid of being diagnosed with breast cancer. Moreover, age, exercise and family history of cancer considerably influenced the practice of the BSE (Al-Naggar et al., 2011).

In another cross –sectional study in Malaysia aim to determine the factors related to women from performing mammogram, 200 women enrolled in this study, mostly below 50. The study results showed that (68%) of them knew about mammography ,but 15% performed a mammogram once in their life, moreover, women reported that the main barriers of not having performed a mammogram were: 42.5%, lack of time, 32% lack of knowledge, (21%, not knowing where to go for the test and 20% having fear (Al-Naggar & Bobryshev, 2012).

A cross sectional study was carried out among 262 undergraduate female students at the of University Putra Malaysia. The aim of the study was to assess the knowledge about risk factors, symptoms of breast cancer and practicing of the BSE. The results indicated that 82.7% of students knew that there is an association between family history and breast cancer, while 64.1% knew that Nipple that turns in is not normal as symptoms of breast cancer (Zavare et al., 2011).

A cross-sectional study was conducted in Suburban Area in Terengganu, Malaysia aimed to identify the knowledge, attitude and practice towards BSE amongst women aged 15 years old and above. The result showed that score for knowledge was 38.4%, attitude 73.3% and practice7.0%. Moreover, the participants did not know the correct method of BSE, and they lacked the knowledge about cancer signs. The barriers of practicing are coming from lack of friends and family support especially parents (Rosmawat, 2010).

A descriptive study conducted among women aged 20 and older in the Caribbean island of Tobago, aimed to identify factors that affect early detection of breast cancer, and attitudes regarding the disease, 265 women participated in this study. The study indicated that the cost of transportation to perform mammogram was a deterring factor because it is not available in their residence place (Modeste et al., 1999).

In Turkey, 244 women were involved in a study, which applied Champion's Health Belief Model Scale (CHBMS) the study revealed that only 56.1% of them had sufficient knowledge of breast cancer, and half of whom had received the information from health professionals. According to the HBM, women who exhibited higher confidence and perceived the great benefits of the BSE practice performed it, and those who perceived fewer barriers to BSE performed it less (Dündar et al. 2006).

A cross sectional study was conducted in a semi-urban neighborhood in Nigeria by enrolling one thousand community-dwelling women (Okobia, et, al. 2006) to extract knowledge, attitude and practices towards breast cancer. The results of the study revealed that poor knowledge on breast cancer, knowledge gain 42.3% , the information about that lumps are painless was known by 214participants (21.4%), 40% believed that evil spirit causes breast cancer and 259 (25.9%) reported that breast cancer result from an infection. Only (43.2%) were able to answer correctly that BSE is a method of diagnosis. There was

an indication of positive health seeking behavior as a majority of the participants (mentioned that visiting the doctors was the best approach for breast cancer treatment, only 34.9% participants practiced BSE. While (9.1%) had clinical breast examination (CBE) in the past year and no one had mammography examination (Georgia et al., 2007).

A quasi-experimental study aimed to investigate the effect of peers on the BSE knowledge and health beliefs. The study randomly selected 250 students excluding the Health Department students. However, 180 of the group were contacted one month after the conclusion of the training sessions. The collected data by using questionnaires which included variables developed from literature reviews. The second part of the questionnaire adapted HBM scales; perceived seriousness, perceived barriers, perceived benefits, perceived confidence and perceived motivation. The results showed that the students who were trained gained more knowledge compared with the students who taught themselves individually (Gŭrsoy et al., 2009).

Another study conducted among 100 recruited Gaza women, with 50 of them living in Gaza, whiles the others living out of Gaza. The aim of the study was to identify the barriers and opportunities of early detection of the breast cancer based on placement. The study indicated that religion and culture were not barriers to mammography for over 94% of women in Gaza, and 98% of women of Gaza, but limited resources and lack of access to medical facilities were identified as barriers in up to 55% of women living inside Gaza compared to 15% of women living outside of Gaza. Misunderstanding about breast cancer was reported more frequently by WIG (Shaheen et al., 2011).

Cross sectional study conducted among 444 female health professional, to investigate the knowledge and attitude of risk factors of the breast cancer and screening tests. The awareness of health professionals about BC was a vital issue, majority of them felt confidence about the value of BSE as screening test but 27.3% performed this test regularly. The most common barrier that prohibited them from practicing BSE as they reported was the attitude that it is not necessary to perform. The rate of practicing CBE test was 24.8% and mammography rate 10.1%. (Akpınar et al., 2011).

A cross sectional survey among nurses in general hospital in Lagos with 204 nurses involved in this study which showed that the level of knowledge of symptoms, methods of

diagnosis, and BSE was above 60% .While the results from answering the five questions about the risk factors, 50% answered as following; positive family history is a vital risk factor, the nurses have knowledge about BSE technique, while 39.7% from the participants knew that BSE should be done monthly. The majority, 78.4%, of the participants concurred that breast cancer is a disease that will have a chance to be cured in the condition of early diagnosis. The majority of them, nearly 90%, considered breast cancer to be a serious disease that needs quick consultation with a physician within a month. 39 % conducted the procedure at a monthly interval rate (Odusanya & Tayo, 2001).

A descriptive cross-sectional study was carried out among 5,230 Jordanian women above the age of 20. The study aimed at evaluating the knowledge and practicing of BSE. The results indicated that 87% of the women knew about the prevalence of breast cancer, 71% knew what the BSE is, 48% from the sample practiced the BSE, and 58% reported that their source of information about BSE was from the media (Akel, et al., 2006).

In summary: most of KAP previous studies focused on one screening test and assessed the knowledge and practice or knowledge and barriers ,but in this study ,the three screening tests included .Moreover, most of the studies applied quantitative methodology however ,in this study quantitative and qualitative methodology were used , which in turn strength the research.

2.2 Barriers / Breast Cancer Screening studies

These barriers classify into two types, one type that can be tackled with education and another tackled with modified approaches that take into account culture, religion, and other factors. In both instances, modified approaches will need to be directed toward women, health care workers, and others in the community. (Parsa, et,al. 2006).

A study tackled the perceptions of threat, benefits, and barriers in breast self-examination amongst young asymptomatic women by applying HBM. The study pointed out that barriers include difficulty with adapting a new behavior or a new habit and this plays a vital role to be considered as one of the barriers (Umeh & Gibson, 2001).

A study entitled "Barriers to Breast Cancer Screening" which 298 women in New York City participated, who were of low-income Mexican and Dominican backgrounds, showed

that the three main barriers reported were (52.3%) carelessness, while (49.3%) lack of information, and (44.6%) reported being afraid of BCST (Garbers, et, al. 2003).

Another barrier is the socio-cultural communication aspect between patients and health providers. This barrier is considered as one of the barrier that affected the level of women attending or participating in screening tests. Previous studies indicated that physicians are less likely to disseminate information with individuals differ by social class, ethnicity, gender, and age, (Meleis. & Hatter-Pollard, 1997).

In a study aimed to identify the cultural barriers towards the screening tests of breast cancer among Chinese-American women 60 and older, 100 women participated. The main barriers according to women opinions that identify by using questionnaires were: the lack of health insurance coverage was the main predictor for performance of mammograms, while lack of physician recommendation is barrier of CBE. Acculturation and modesty were significant predictors of having had a clinical breast exam at least once, forgetting were significant barrier of having performed breast self-exam at least once, and forgetting was a significant of practicing of regular performance of breast self-exam (Tang et al. ,2000).

Another study conducted to understand the role of fatalism and fear regarding the practice of breast cancer screening, among a selected target population of African American Middle Class. The participants revealed a significant level of fear and fatalism relating to breast cancer screening. Women who hold fearful and fatalistic beliefs are less to seek screening (Talbert, 2008).

In three studies addressing the barriers of Asian women reported that the conservative society and traditional attitudes for bodily experiences and exposure are factors that prevented women to be unwilled to show their breasts to others, including to health care providers (Smith et, al. 2006; Im et al., 2004; Juon et al., 2004).

Another cross sectional study entitled “Barriers of mammography among women attending gynecologic outpatient clinics in Tehran, Iran”, aimed to assess the barriers in mammography method among women who attended the gynecological outpatient clinics. Four hundred women between the ages of 35-69 participated, made of the participants

group who had a mammogram in the last two years and the non-participant group of women who had either never had a mammogram or have not been screened for two years or more. The result showed that lack of doctors' advice for the participant group and embarrassment, for the non-participant group, are the most salient barriers (Ahmadian, et al., 2011). In another study investigated the barriers, the Unpleasant previous experiences, further stresses the modesty issues of the Korean, Chinese, and Iranian women, because male physicians did the clinical exams and/or women needed to expose their breasts, women felt ashamed and humiliated, and as a result refrained from participating in breast exams (Im et, al. 2004; Juon et, al. 2004; Abdulah, 2001).

Yarbrough and Braden (2001) carried out a review of 16 published descriptive studies employing the health belief model as a guide for explaining or predicting breast cancer screening behaviors. The study highlighted barriers to screening behavior as including fear of results, fear of treatment and fear of the test itself. These findings are consistent with the results of other researchers in Iran (Jarvandi et, al. 2002), Malaysia (Hisham & Yip, 2003), United Arab Emirates (Bener et, al. 2002) and Jordan (Petro Nustas & Mikhail, 2002).

In summary :In this research the qualaltive results were used to formulate the quantitative tool besides used some of barriers from the HBM and others studies .studies asked for language and ethnicity as barriers ,but in this study excluded these two barriers due to the humongous of population .Moreover ,other study targeted low income women class to investigate their barriers ,while in this study focused on all women attended MOH/MCH regarding the income level .

2.3 Demographic Determinants/breast cancer studies

Blanchard (2004) pointed out that education and socioeconomic statuses are major factors for women's delaying screening and response to treatment in several cancers including breast cancer. However, (Chua, et al., 2005) reported that education level had no effect on the awareness. According to this study, full-time housewives were more likely to have heard of mammographic screening compared to non-housewives (Blanchard, 2004).

Another study aimed to assess the impact level of education on the attitudes and behaviors of women towards BSE. A descriptive cross-sectional study which involved 413 women in

Turkey (20–59 years) conducted. The sample divided in two groups according to the level of educational degree, the first group finished BA, and the second group finished high school or less. The results showed that the second women group significantly did not believe in early diagnosis of BC, while the women in the first group significantly had conducted BSE at least once, and their BSE frequency was also significantly high. Moreover, the group with lower educational level, according to HBM scores perceived to not be at risk for BC and the scores for "perceived susceptibility" and "perceived barriers" were significantly higher than the group of higher educational level (Gürda et, al. 2012).

A cross sectional study conducted in Jordan to identify the influence of the demographic factors on the knowledge of BC, using convenience sample of 142 women from 14 comprehensive health centers in Amman and Azarqa. The results showed that women lacked knowledge about breast cancer. Social norms and self-efficacy were listed as highly factors that influence women in engaging in mammography screening, younger women were more enthusiastic to indicate intention to engage in mammographic screening.(Othman et al., 2011).

A study was conducted in South India to determine the impact of the socio-economic factors on the diagnosis stage of the cancer and symptom duration. The data collected from Hospital Based Cancer Registry/Regional Cancer Centre, the total of the sample 522. The results showed that 53% of the participants reported about the case at late stage, while 45% reported at early stage. The result regarding the socio-economic factors show that risk in reporting at late stage is among widowed, divorced, unmarried, low income, primary education (Ali et al., 2008).

Another study assessed the impact of financial factor breast cancer. A triangulation design was used (qualitative and quantitative methods). The study implemented in two stages, first on hospital based and the second one with cancer patients .The results indicated that patients in every socio-demographic group can be vulnerable to the financial difficulties as a result of cancer diagnosis, and also the financial circumstance impact at employee level because they obligated to have vacation from the work and this in turn impact the level of their income, most participants declared need for request financial support (Sharp & Timmons, 2010).

To identify breast cancer risk factors knowledge among nurses (in teaching hospitals of Karachi Pakistan). A cross sectional study" conducted by (Ahmed et, al. 2006) indicated that 35% had good knowledge, 40% had fair knowledge while 25% had poor knowledge of breast cancer risk factors. Ninety nine percent of the nurses considered breast cancer as a non-communicable disease and 96% responded that breast feeding is not the cause of developing breast cancer, 23% of nurses knew that being overweight increases the risk of breast cancer. Moreover, the participants believed that evil spirit had nothing to do with breast cancer. (Ahmed et al., 2006).

A cross-sectional study conducted on female health care workers in Tehran, Iran to examine the knowledge of breast cancer, and the attitude and practice towards BSE. In the study, the results indicated that 75% of the women were aware about the prevalence of breast cancer while 27% reported that breast pain is not a symptom of breast cancer. Moreover, 63% believed that BSE is not hard and 72% accepted that BSE needs time to do it worrisome. Six percent of the women practice BSE regularly in month interval. While 50% practice it on occasion and 44% had never performed BSE. The study also identified the uncontrolled factors relate with increase practicing of BSE which are over the age of 50, level of education and occupation. So the women with higher education and professional status, and possess a positive personal history about breast problems and their level of knowledge about BSE were good, were more likely to practice BSE than other female health workers (Mahmoodi et al., 2002).

447 public health nurses participated in Singapore, in a study correlated to asses knowledge and practices of Breast cancer screening. The study showed that the nurses have known about most of risk factors of the breast cancer except the smoking, oral contraceptive (24.6%) (21.6%) respectively. In terms of practice (93.0%) nurses practiced BSE. The most common barriers for not to practice BSE were; "too busy" "forgot" and "not necessary". (53.6%) of the nurses had their breast examination by a doctor in the past one year, while 69.7% by a specialist and 30,3% by their family physician. 68.8% participants who were more than 50 years of age and 31.1% who "were less than 50 years of age had history of mammography test. (Chong et al., 2002).

A study on breast cancer risk factors and screening awareness among nurses and 178 teachers was conducted Jordan. The results detected that some factors that had vital

influence on breast cancer screening such as profession, age and family history. The level of knowledge scores indicate significant difference between teachers and nurses (P= 0.8470). Nurses were more aware than teachers about the importance of breast cancer screening. The score of nurses was 88.3% compared with 73.1% for teacher. (P<.0001). (Madanat & Merrill, 2002)

A study conducted in Mexicobi-national cross-sectional study, 265 participants completed an interviewer-administered questionnaire that obtained information on socio demographic characteristics, knowledge, attitudes, family history, and screening practices. The aim of the study was to assess the impact of family history on KA and on early detection measurements. The result showed that age, marital status, insurance, and breast cancer knowledge were found to be significantly influencing BC screening (Matthew et al., 2012).

A study carried out on breast cancer knowledge believes and misconception among Latinas in Houston. The results showed more than one third of the participants had negative or fatalistic views of breast cancer, 29% believed that pain in the breast is the warning sign for breast cancer and 11.1% had never heard of breast cancer in terms of screening. Moreover 60% of the women either did not respond or did not knew about the breast cancer screening test. While 7% of the participants believed that screening burns the cancer (María et al., 2009).

A study conducted regarding attitude, knowledge and practice of breast self-examination (BSE) in Port Harcourt, Nigeria. The results of this study showed that 85.5% of the participants had heard of BSE and 39% practiced it only on occasion. Moreover, the most sources of information for the participants were the news, media, nurses and physicians (Jebbin & Adotey, 2004)

A cross sectional study conducted in Nigeria, aimed to investigate the practice of the women in Rivers State, Nigeria for breast self-examination as mammography is expensive and not readily available. A written closed ended questionnaire was applied after obtaining verbal consent. 691 out 700 questionnaires were completed and retrieved. The knowledge of BSE was (39.65%), and practice was (28.94%) which were both considered to be low. Moreover, the study showed that the educational factor had an impact on the levels of

practice and knowledge of BSE, especially those who had secondary education and more (Bellgam & Buowari, 2012).

A descriptive cross sectional study applied interviewed questionnaire, aimed to evaluate rural women's awareness and knowledge of breast cancer and their screening practices. This study involved 180 women, from 4 rural areas with an average age of 37 in Nigeria. The results showed %52.7 of the women had enough knowledge about the risk factors of breast cancer and it's symptoms. %52.8 had heard about BSE, and %51.7 heard about CBE. The study indicated that the lack of mammogram screening test in this rural area encouraged the women depend more on BSE to identify breast problems (Olowokere, et al., 2012).

A cross sectional study which included 6380 secondary-school female students in Jeddah conducted to recognize their knowledge of breast cancer and attitude towards breast self-examination (BSE). The study found that the level of knowledge was low about risk factors: were 80% of students answered incorrectly, and only 39.1% mentioned that a lump is one symptom of breast cancer. However, only 47.1% of the participants read or heard some information about breast cancer from different kinds of media and 15.2% of participants accepted that use of contraceptive pill is a potential risk factor. While (16.2%) have known that bleeding from the nipple is a sign of breast cancer (Milaat, 2000).

A descriptive cross-sectional survey conducted in Sango to assess knowledge and practices of breast self-examination. The study targeted 281 female traders. An interviewer administered questionnaires to gain information on their socio demographic characteristics, knowledge and practice of breast self-examination. The women's ages ranged between 16-80 years. The demographic profile is as following; (50.5%) were between30 and 49 years. (73.7 %) were married, (37.0%) had secondary education and 68 (24.2%) had no formal education. The results of the study revealed that only 89 (37.1%) of the traders were aware of breast self-examination, 51 (18.1%) of the traders had ever checked their breast, regarding the level of knowledge the study explored that awareness of breast self-examination was highest among those aged 50-59 years ($p = 0.067$). Also, the result showed that there were associations between the awareness of BSE and the degree of educational achievement; women who had high education were more knowledgeable about breast self-examination ($p = 0.045$). Regarding practicing BSE, the results were

unacceptable. The recommendations were to strive more, and efforts should be made to increase level of knowledge and practice of breast self-examination by applying more educational outreach programs (Balogun & Owoaje, 2003).

Summary

This chapter shed light on the main studies that address breast cancer issues, this chapter display, types of KAP studies, also reviewed the studies that address relationships between demographic variables and KAP. In addition, barriers that encountered or deterred from seeking breast cancer screening tests were reviewed.

Table (2.1): Summary of the main reviewed studies of breast cancer KAP

Study	Main purpose	Methodology	Data analysis	Findings
Knowledge of breast cancer and its risk and protective factors among women in Riyadh. (Alam, 2006).	The study aimed at assessing the knowledge, risk and precautionary factors of breast cancer.	Community –based descriptive study, used structural questionnaire.	The data was analyzed using SPSS-descriptive statistics, 95% confidence intervals; chi-square test was used to test for association.	Results showed that there is a statistical significance association between marital status, educational level, and family history with the cancer disease. The results of the study indicated that 82% of women have high knowledge about breast cancer self-examination, but only 41% of them had performed a self-examination test, On the other hand 61% of the study sample has knowledge about mammography, yet 18.2% performed this test.
Knowledge, Attitudes, and Practices Surrounding Breast Cancer and Screening in Female Teachers of Buraidah, Saudi Arabia (Dandash, -Mohaimeed, 2007).	The study aimed to assess breast cancer knowledge and attitudes and factors associated with the practice of breast self-examination (BSE) among female teachers of Saudi Arabia.	cross-sectional survey of teachers working in female schools in Buraidah, Saudi Arabia using, a self-administered questionnaire Sample of 376 female teachers was randomly selected.	SPSS software package (version 10) was used for data entry and analysis. Descriptive statistics with cross-tabulations were performed. The Chi-squared test was used to examine the association between variables. The level of significance was set at 5% using the two-sided test.	The result of the study showed that more than half of the teachers had a limited knowledge level; most of them reported risk factors were non-breast feeding and the use of female sex hormones, while the main source of information was printed media, high income was the main factor of the high level of knowledge.
Breast cancer knowledge, risk factors and screening among adult Saudi women in a primary health care setting (Amin, et al, 2009).	The study aimed to assess level and determinants of knowledge about risk factors and utilization of screening methods used for breast cancer early detection among adult Saudi women in Al Hassa, KSA	Cross-sectional descriptive. multistage stratified sampling method from ten primary health care centers	Both descriptive and inferential statistics were applied; logistic regression was conducted to determine the possible correlates of knowledge.	The results showed that signified that the level of risk factors and screening methods were low. Moreover, they perceived many barriers about performing screening tests, and the percentage of CBE practicing is 5% while mammography employed by 3%

Study	Main purpose	Methodology	Data analysis	Findings
Knowledge, attitude and practice of mammography among women users of public health services (Marinho, et, al. 2008).	The study aimed at evaluating knowledge, attitude and practice related to mammography	Total of 663 women were interviewed at 13 local health centers in a city of Southeastern Brazil, in 2001. Interviewees were randomly selected at each center and they were representative from different socioeconomic conditions.	Data analysis, answers were described as knowledge, attitude, practice and their respective adequacies and then they were correlated with control variables through the chi-square test.	T the results showed that these women have lack of knowledge, but high attitudes towards Mammography. According to this study the main barrier is the lack of referrals by doctors working at health centers, indicating at the same time, the importance of financial aspect, such as family income and employment in affecting the practicing of Mammography..
Knowledge, Beliefs, Attitudes and Perceptions About Breast and Cervical Cancer and Screening Among Arabic Speaking Immigrant Women in Halifax, Nova Scotia. (Amin, 2005).	The study aimed to investigate knowledge, beliefs, attitudes and perceptions of Arabic speaking immigrant women towards breast and cervical cancer	qualitative research approach provides detailed contextual information and can capture the complexity and meaning of this topic Semi- structured interviews:	The survey consists of multiple-choice questions, which will include variables such as beliefs, knowledge, attitudes, perceptions and their benefits and barriers to screening For analysis, used the Excel Open office. Descriptive statistical methods Tables, graphs and charts were used to summarize all the variables. Analysis is through the traditional qualitative process, which includes transcribing the interviews, coding data to identify commonalities and variations, identifying common and variable patterns within each group and across groups and identifying themes, which link or explain the Data.	It appeared that language is considered one of the barriers that delay conducting breast cancer screening, as well as the healthcare system which, in itself, is considered a challenge for such women.

Study	Main purpose	Methodology	Data analysis	Findings
Current knowledge, attitudes and practices of women on breast cancer and mammography at MulagoHospita (Elsie ,et .al .2010)	The study aimed at evaluating their knowledge, attitude and practices towards mammography and breast cancer	descriptive cross-sectional study using interviewer-administered questionnaires The questionnaires were administered in English and Luganda (a local language) qualitative methods applied	Data were analyzed using descriptive statistics and analytical SPSS version 10.0 statistical program used for quantitative data. Thematic analysis was used for qualitative data	71% of these women have no idea about mammography, and the majority of them have negative attitudes regarding this test; the main barrier contributing to that was the lack of information regarding such test.
Stages of Change: Korean Women's Attitudes and Barriers Toward Mammography Screening (Sunkany, et, al.2008).	The study aimed at determining the barriers behind the lack of Korean women's participation in mammography screening programs.	Convenience sample of 328 Korean women recruited in Seoul, Gyeonggi, and Jeju, South balance constructs of the trans theoretical model of behavior change were used to identify stages of change in attitude related to mammography screening.	Data were analyzed using descriptive analysis which was tested using Chi-square at 5% level of significance	The results showed that the most significant barrier is characterized in their belief that breast examination is unnecessary, if symptoms of cancer are absent. While factors affecting the poor participation in these programs include high cost of breast cancer screening, lack of time, lack of information, shyness, worries regarding x-rays and test results
Breast Cancer Screening Knowledge And Practice Among Women In Southeast Of Iran Heidari, et, al. 2008).	The study aimed to determine the knowledge and practices of breast cancer screening	A cross-sectional descriptive analytical study, A total of 384 married women was selected as an improbability sample.	Data were analyzed using descriptive statistics and analytical (chi-squared test) to examine the relationship between demographic data and knowledge and practices of these women about breast cancer screening. Differences of $P < 0.05$ were considered significant.	The results showed (8.3%) of these women are aware of such screening methods. Similarly, other studies has clarifies that there is a relationship between demographic factors as education level and family history that impact knowledge's and practices regarding the screening tests .

Study	Main purpose	Methodology	Data analysis	Findings
Practice and Barriers Toward Breast Self-Examination Among Young Malaysian Women (Al-Naggar, et. al 2011).	The study aimed to determine the practices and barriers towards breast self-examination among young Malaysian women	Cross sectional study involved 251 female students at the Management and Science University, in Shah Alam, Selangor, Malaysia	Data was analysis using SPSS version 13, t-test was used to analyze the associated factors toward the practice of BSE	The results showed indicated that barriers to BSE lack of knowledge, and not having any symptoms, and afraid of being diagnosed with breast cancer. Moreover, age, exercise and family history of cancer considerably influenced the practice of the BSE.
practice and Barriers of Mammography among Malaysian Women in the General Population (Al-Naggar & Bobryshev, 2012).	The study aimed to determine the practice and barriers of mammography and associated factors among Malaysian women in the general population	cross-sectional study was conducted among 200 women in Shah Alam, Selangor; design questionnaire contained 27 questions and was comprised of two sections; socio-demographic characteristics and practices, knowledge and barriers of mammograph	Data were analyzed using descriptive statistics and analytical (chi-squared test) to examine the relationship between demographic data and knowledge and practices of these women about breast cancer screening. Differences of $P < 0.05$ were considered significant.	The results showed that (68%) of them knew about mammography ,but 15% performed a mammogram once in their life, moreover, women reported that the main barriers of not having performed a mammogram were: 42.5%, lack of time, 32% lack of knowledge, (21%, not knowing where to go for the test and 20% having fear
Knowledge on breast cancer and practice of breast self - examination among selected female university students in Malaysia medical Zavare, et , al .2011).	The study aimed was to assess the knowledge about risk factors, symptoms of breast cancer and practicing of the BSE	A cross sectional study was conducted, using systematic random sampling from the list of students Who registered.	Descriptive statistical analysis, which included frequency, mean, standard deviation (SD) and percentages, was used to characterize the data. Parametric test such as independent sample t-test were employed to determine differences between the BSE practice category and the knowledge score of risk factors, symptoms of breast cancer, BSE and total knowledge of breast cancer. The level of statistical significance was set at $\alpha < 0.05$.	The results showed that knowledge of breast cancer and the practice of BSE were inadequate among young Malaysian women.

Study	Main purpose	Methodology	Data analysis	Findings
Attitude and Practice of Breast Self-examination Among Women in a Suburban Area in Terengganu, Malaysia (Rosmawat, 2010)	The study aimed to identify the knowledge, attitude and practice towards BSE amongst women aged 15 years old and above	Cross-sectional study, Systemic random sampling, structured questionnaire.	descriptive statistics such as mean, and standard deviation. Meanwhile, The total scores for the KAP was calculated than was categorized into good or poor level based on the 70% cut-off point out of total expected score for each domain	The result showed that score for knowledge was 38.4%, attitude 73.3% and practice7.0%. Moreover, the participants did not know the correct method of BSE, and they lacked the knowledge about cancer signs. The barriers of practicing are coming from lack of friends and family support especially parents.
The knowledge and attitudes of breast self-examination and mammography in a group of women in a rural area in western Dündar , et, al . 2006).	The study aimed to identify factors that affect early detection of breast cancer, and attitudes regarding the disease	cross-sectional study, Cluster sampling method was performed	Bivariate correlation analysis, Chi square test, Mann-Whitney U test and logistic regression analysis were performed in the data analysis, by using SPSS v10.0 statistical package	The study showed that only 56.1% of them had sufficient knowledge of breast cancer, and half of whom had received the information from health professionals. According to the HBM, women who exhibited higher confidence and perceived the great benefits of the BSE practice performed it, and those who perceived fewer barriers to BSE performed it less
Barriers and opportunities for early detection of breast cancer in Gaza women (Shaheen. et, al.2011)	The study aimed to identify the barriers and opportunities of early detection of the breast cancer based on placement	survey of 100 women living inside Gaza (WIG) and 55 Gaza women residing outside Gaza (WOG	Statistical analysis was performed with computer software SPSS version 13.0 A confidence level of 95% (a difference with $P < 0.05$) Was considered statistically significant.	The results showed that religion and culture were not barriers to mammography for over 94% of women in Gaza, and 98% of women of Gaza, but limited resources and lack of access to medical facilities were identified as barriers in up to 55% of women living inside Gaza compared to 15% of women living outside of Gaza. Misunderstanding about breast cancer was reported more frequently by WIG

Study	Main purpose	Methodology	Data analysis	Findings
The Effect Of Peer Education On University Students' Knowledge Of Breast Self-Examination And Health Beliefs	The study aimed to investigate the effect of peers on the BSE knowledge and health beliefs.	The collected data by using questionnaires which included variables developed from literature reviews. The second part of the questionnaire adapted HBM scales; perceived seriousness, perceived barriers, perceived benefits, perceived confidence and perceived motivation	The data were evaluated using the Statistical Package for Science 13.0 (SPSS). Dependent and independent t test, stepwise multiple regression analysis, and bivariate correlation analysis are used for statistical analysis of the data	The results showed that the students who were trained gained more knowledge compared with the students who taught themselves individually
Knowledge, attitude about breast cancer and practice of breast cancer screening among female health care professionals: a study from Turkey (Akpınar et, al. 2011).	The study aimed to investigate the knowledge and attitude of risk factors of the breast cancer and screening tests	cross- sectional study self-administered questionnaire	Using frequency and percentage to analysis the data.	The results showed awareness of health professionals about BC was a vital issue, majority of them felt confidence about the value of BSE as screening test but 27.3% performed this test regularly. The most common barrier that prohibited them from practicing BSE as they reported was the attitude that it is not necessary to perform. The rate of practicing CBE test was 24.8% and mammography rate 10.1%...

Study	Main purpose	Methodology	Data analysis	Findings
Breast Cancer Knowledge, Attitudes and Practice among Nurses in Lagos, Nigeria Odusanya & Tayo, 2001).	The study aimed to determine their knowledge, attitude and practice regarding breast cancer.	Cross-sectional survey among nurses. A self-administered questionnaire which had been validated	Each completed questionnaire was graded and scored on certain aspects such as knowledge of symptoms of breast cancer, method of diagnosis, self-breast examination and Knowledge of risk factors. A maximum of 35 points could be obtained on the knowledge, attitude and practice (KAP) score, Frequency distributions of variables were Produced, e t-test was calculated for quantitative variables	This study showed that the level of knowledge of symptoms, methods of diagnosis, and BSE was above 60% .While the results from answering the five questions about the risk factors, 50% answered as following; positive family history is a vital risk factor, the nurses have knowledge about BSE technique, while 39.7% from the participants knew that BSE should be done monthly. The majority, 78.4%, of the participants concurred that breast cancer is a disease that will have a chance to be cured in the condition of early diagnosis. The majority of them, nearly 90%, considered breast cancer to be a serious disease that needs quick consultation with a physician within a month. 39 % conducted the procedure at a monthly interval rate
Knowledge and Practice of Jordanian Women towards Breast Cancer and Breast Self-Examination (Akel, et, al. 2006).	The study aimed at evaluating the knowledge and practicing of BSE	descriptive cross-sectional study, Systematic sampling method	Data were analyzed using SPSS version 13. Simple descriptive statistics: frequencies, means, and percentages were used to describe the study findings.	The results showed that 87% of the women knew about the prevalence of breast cancer, 71% knew what the BSE is, 48% from the sample practiced the BSE, and 58% reported that their source of information about BSE was from the media.
Perceptions of threat, benefits, and barriers in breast self-examination amongst young asymptomatic women (Umeh & Gibson, 2001).	A study tackled the perceptions of threat, benefits, and barriers in breast self-examination amongst young asymptomatic women by applying HBM.	Questionnaire data from 178 asymptomatic women (aged 18-35 years) living in the northwestern region of England were analyzed.	Data were analyzed Using hierarchical logistic regression controlling for demographic factor	The study showed that barriers include difficulty with adapting a new behavior or a new habit and this plays a vital role to be considered as one of the barriers

Study	Main purpose	Methodology	Data analysis	Findings
Barriers to breast cancer screening for low-income Mexican and Dominican women in New York City (Garbers, et, al. 2003	To investigate the main barriers that low-income women faced from performing braest cancer screening tests	Survey applied instrument had both closed- and open-ended questions, including socio demographic information, knowledge, attitude and barriers	Chi-square tests for categorical variables and analysis of variance for continuous Variables. Bivariate odds ratios (ORs) and 95% confidence intervals.	that the three main barriers reported were (52.3%) carelessness, while (49.3%) lack of information, and (44.6%) reported being afraid of BCST
Cultural barriers to mammography, clinical breast exam, and breast self-exam among Chinese-American women 60 and older (Tang et, al.2000).	aimed to identify the cultural barriers towards the screening tests of breast cancer among Chinese-American women 60 and older	Participants completed a questionnaire that included sections on demographics, health history, health insurance coverage, breast cancer screening, common and cultural barriers to screening, and acculturation.	Data were analyzed using descriptive analysis which was tested using Chi-square at 5% level of significance	The results showed that main barriers according to women opinions that identify by using questionnaires were: the lack of health insurance coverage was the main predictor for performance of mammograms, while lack of physician recommendation is barrier of CBE . Acculturation and modesty were significant predictors of having had a clinical breast exam at least once, forgetting were significant barrier of having performed breast self-exam at least once, and forgetting was a significant of practicing of regular performance of breast self-exam

Study	Main purpose	Methodology	Data analysis	Findings
Barriers to mammography among women attending gynecologic outpatient clinics in Tehran, Iran(Ahmadian, et, al. 2011).	The aim of this study was to understand barriers to mammography among women attending obstetric and gynecologic outpatient clinics	A face-to-face interviewing method was used for data collection, which was conducted in the waiting area of gynecology clinics. Self-administered questionnaire, respondents, which were identified through a pre-interview having breast cancer or disease in any kind, were excluded from the stud	Bivariate analysis were conducted using analysis of variance (ANOVA), chisquare, and independent t-tests. Descriptive statistics explained the demographic characteristics. Chi-square test was used to identify significant association between participation in mammography and Demographic factors. In this study, a series of one- way ANOVAs were used to compare the differences in barrier, based on socio demographic variables.	The result showed that lack of doctors' advice for the participant group and embarrassment, for the non-participant group, are the most salient barriers
The Relationship of Fear and Fatalism with Breast Cancer Screening Among a Selected Target Population of African American Middle Class Women Talbert, 2008).	The study aimed to explore whether fear and fatalism influence compliance with breast cancer screening among members of a selected target population of African American middle-class	cross-sectional analysis, One hundred twenty individuals participated in the survey; 119 of the participants reported their ethnicity as African American	Demographic information was analyzed using descriptive statistics, including mean, range, variance, and standard deviation of such variables as age, educational level, and income. Certain behavioral patterns were also analyzed (i.e., frequency of mammography testing and BSE). To explore the research questions and test the hypotheses, data from the collected groups were analyzed using logistic regression. An analysis of data was completed using the Statistical Package for Social Sciences (SPSS) computer software program (version 12.0 for Windows) to analyze variables of the quantitative data.	The results showed that participants revealed a significant level of fear and fatalism relating to breast cancer screening. Women who hold fearful and fatalistic beliefs are less to seek screening..

Study	Main purpose	Methodology	Data analysis	Findings
The Effects of Educational Level on Breast Cancer Awareness Gürda et, al. 2012	The study aimed to assess the impact level of education on the attitudes and behaviors of women towards BSE	A descriptive cross-sectional study which involved 413 women (20–59 years) conducted. The sample divided in two groups according to the level of educational degree, the first group finished BA, and the second group finished high school or less.	Chi-square ($\chi 2$) tests for metric variables were performed to compare the groups, A logistic regression test was used to analyze the subscales	The results showed that the second women group significantly did not believe in early diagnosis of BC, while the women in the first group significantly had conducted BSE at least once, and their BSE frequency was also significantly high. Moreover, the group with lower educational level, according to HBM scores perceived to not be at risk for BC and the scores for "perceived susceptibility" and "perceived barriers" were significantly higher than the group of higher educational level
Influence of Demographic Factors, Knowledge, and Beliefs on Jordanian Women's Intention to Undergo Mammography Screening School of Nursing(Othman, et, al. 2011).	The study aimed to identify the influence of the demographic factors on the knowledge of BC	A cross-sectional survey was used to collect data at 14 comprehensive healthcare centers in Amman and Zarqa, Jordan. A convenience sample of 142 Jordanian women 40 years of age or older with no history of breast cancer and able to read and write in Arabic participated.	Data were analyzed using descriptive statistics, Pearson's correlation, *t* tests, and multiple logistic regressions.	The results showed that women lacked knowledge about breast cancer. Social norms and self-efficacy were listed as highly factors that influence women in engaging in mammography screening, younger women were more enthusiastic to indicate intention to engage in mammographic screening.
Effects of Socio-economic and Demographic Factors in Delayed Reporting and Late-stage Presentation among Patients with Breast Cancer Ali, et, al. 2008).	The study aimed to determine the impact of the socio-economic factors on the diagnosis stage of the cancer and symptom duration	The data collected from Hospital Based Cancer Registry/Regional Cancer Centre, the total of the sample 522	Cross tabulation was performed by stage at diagnosis and duration of symptoms (months) vs. all SEDs factors Statistical association between the above variables was tested using chi-square statistic	The results showed that 53% of the participants reported about the case at late stage, while 45% reported at early stage. The result regarding the socio-economic factors show that risk in reporting at late stage is among widowed, divorced, unmarried, low income, primary education

Study	Main purpose	Methodology	Data analysis	Findings
The financial impact of cancer diagnosis support (Sharp & Timmons.2010).	The study aimed to assess the impact of financial factor breast cancer	A triangulation design was used (qualitative and quantitative methods). The study implemented in two stages, first on hospital based and the second one with cancer patients.	A thematic approach was used for the analysis for qualitative methods , using standard, descriptive methods. For quantitative part ,and scored is used to evaluate the level of responsive (the analysis, these categories were combined into three groups: normal, mild/modera te, severe/extremely severe	The results showed that patients in every socio-demographic group can be vulnerable to the financial difficulties as a result of cancer diagnosis, and also the financial circumstance impact at employee level because they obligated to have vacation from the work and this in turn impact the level of their income, most participants declared need for request financial support
Breast cancer knowledge, attitudes, and screening behaviors among African American women: the Black cosmetologists promoting health program(Georgia et, al.2007)	.the study aimed to asses knowledge, attitude and behaviors toward screening tests.	The Health Belief Model the components of the HBM (perceived susceptibility, perceived benefits, cues to action, self-efficacy	T-tests showed no difference in education level between the women who refused to participate versus those who participated. However there was a significant difference in age ($p < .05$, data not shown) between the women who participated and those who opted not to participate. Women who opted not to participate were somewhat older than those who agreed to participate.	The results of the study showed that poor knowledge on breast cancer, knowledge gain 42.3% , the information about that lumps are painless was known by 214participants (21.4%), 40% believed that evil spirit causes breast cancer and 259 (25.9%) reported that breast cancer result from an infection. Only (43.2%) were able to answer correctly that BSE is a method of diagnosis. There was an indication of positive health seeking behavior as a majority of the participants (mentioned that visiting the doctors was the best approach for breast cancer treatment, only 34.9% participants practiced BSE. While (9.1%) had clinical breast examination (CBE) in the past year and no one had mammography examination

Study	Main purpose	Methodology	Data analysis	Findings
Cancer risk factors Knowledge among nurses in teaching hospitals(Ahmed et, al. 2006)	The study aimed to identify breast cancer risk factors knowledge among nurses (in teaching hospitals of Karachi Pakistan)	cross-sectional survey, stratified random Sampling.	Descriptive analysis was run for the independent variables and the outcome, that is, knowledge regarding breast cancer risk factors considered as an ordinal variable	The results showed that 35% had good knowledge, 40% had fair knowledge while 25% had poor knowledge of breast cancer risk factors. Ninety nine percent of the nurses considered breast cancer as a non-communicable disease and 96% responded that breast feeding is not the cause of developing breast cancer, 23% of nurses knew that being overweight increases the risk of breast cancer. Moreover, the participants believed that evil spirit had nothing to do with breast cancer.
Breast self-examination: knowledge, attitudes, and practices among female health care workers in Tehran, al. 2007).	to examine the knowledge of breast cancer, and the attitude and practice towards BSE	A cross-sectional study, among a sample of female health care workers in Tehran, Iran. Using a purposed questionnaire, a total of 410 women from seven health centers completed the questionnaire	Analyzed using descriptive analysis which was tested using Chi-square at 5% level of significance	The results showed that 75% of the women were aware about the prevalence of breast cancer while 27% reported that breast pain is not a symptom of breast cancer. Moreover, 63% believed that BSE is not hard and 72% accepted that BSE needs time to do it worrisome. Six percent of the women practice BSE regularly in month interval. While 50% practice it on occasion and 44% had never performed BSE. The study also identified the uncontrolled factors relate with increase practicing of BSE which are over the age of 50, level of education and occupation. So the women with higher education and professional status, and possess a positive personal history about breast problems and their level of knowledge about BSE were good, were more likely to practice BSE than other female health workers

Study	Main purpose	Methodology	Data analysis	Findings
Knowledge and Practice of Breast Cancer Screening Amongst Public Health Nurses in Singapore (Chong, et, al. 2002).	The study aimed to asses knowledge and practices of Breast cancer screening among health nurses	self-administered questionnaire was sent to all 447 nurses in the Public Health Service	Knowledge scores ranged from 0-17 with one point given to a correct knowledge question, zero for wrong answer. multivariate analysis,	The study showed that the nurses have known about most of risk factors of the breast cancer except the smoking, oral contraceptive (24.6%) (21.6%) respectively. In terms of practice (93.0%) nurses practiced BSE. The most common barriers for not to practice BSE were; “too busy” “forgot” and “not necessary”. (53.6%) of the nurses had their breast examination by a doctor in the past one year, while 69.7% by a specialist and 30,3% by their family physician. 68.8% participants who were more than 50 years of age and 31.1% who "were less than 50 years of age had history of mammography test
Women's knowledge and beliefs regarding breast cancer.(Grunfeld et, al.2002)	The study aimed to extract knowledge and believe about breast cancer. among a sample of the general female population	Participants were randomly selected through the Postal Address File.	Frequencies are summarized as percentages. Chi-square tests were used to analyze the categorical and attitudinal responses according to the groups. Multivariate analysis of variance was used to examine group differences in response to the scale data.	The study showed that women had limited knowledge on risk factors and breast cancer related symptoms; only 23% correctly indicated that 1 in 10 have a probability to developed breast cancer. Less than one third acknowledged the role of advancing age as a potential risk factor, while more than 70 % of the sample recognized that painless breast lump, lump under armpit, nipple discharge are potential symptoms (Grunfeld et, al.2002).

Study	Main purpose	Methodology	Data analysis	Findings
Knowledge, perception and attitudes of Hongkong Chinese women on screening mammographyand early breast cancer management.(Margaret et ,al. 2005)	The study aimed to assess the women level perception and attitude on screening mammography and early breast cancer management	telephone survey A survey was conducted of 1012 Hong Kong Chinese women, ages 18–69 years, to assess the level of knowledge, perceptions, and attitudes on screening mammography and the surgical management of early breast cancer survey,	Data were analyzed using descriptive analysis which was tested using Chi-square at 5% level of significance	The results showed that of this survey showed that 58% had never heard of mammographic screening. While 47% of the participants had misunderstanding that mastectomy was the only curative treatment
Breast cancer risk-factor and screening awareness among women nurses and teachers in Amman, Jordan (Madanat & Merrill, 2002)	To determine the breast screening and risk factors awareness	Survey study involved 163 nurses and 178 teachers and applied , survey instrument was based on 2 previously validated knowledge-based questionnaires in the literature (Breast Cancer Knowledge Test and the Comprehensive Breast Cancer Questionnaire)	Data were analyzed using descriptive analysis which was tested using Chi-square at 1% level of significance.	The results showed that some factors that had vital influence on breast cancer screening such as profession, age and family history. The level of knowledge scores indicate significant difference between teachers and nurses (P= 0.8470). Nurses were more aware than teachers about the importance of breast cancer screening. The score of nurses was 88.3% compared with 73.1% for teacher. (P<.0001).
Knowledge, attitudes, and practices related to breast cancer screening: a survey of Arabic women basis (Bener et. al, 2001).	to assess, knowledge, attitude and practice related to breast cancer screening among women of United Arab Emirates	Across sectional survey, utilized convenience sample as selected from 1,750 women aged 40-65 years who, for any reason, attended primary health care (PHC) clinics in Al-Ain, United Arab Emirates (UAE).	Data were analyzed using descriptive analysis which was tested using Chi-square at 5% level of significance	The results showed that only (30%) of the women agreed that family history was a risk factor, while (45 %) incorrectly declared that most of the breast lump would become cancerous. Moreover, (33%) of the women knew that early breast cancer was painful, and most of the women agree toward breast examination under doctoral supervision (79%). However, only 14% had performed clinical breast examination and only 13% practiced breast self-examination and regularly on monthly basis

Study	Main purpose	Methodology	Data analysis	Findings
Attitude to, knowledge and practice of breast-self examination(BSE) in port Harcourt. Niger(Jebbin & Adotey 2004)	The study aimed to highlight the extent of their knowledge vis-à-vis their practice of BSE.	A written questionnaire was distributed to 200 women from different walks of life in Port Harcourt t	Data were analyzed using descriptive analysis which was tested using Chi-square at 5% level of significance	The results of this study showed that 85.5% of the participants had heard of BSE and 39% practiced it only on occasion. Moreover, the most sources of information for the participants were the news, media, nurses and physicians
Knowledge, Attitude and Practice of Breast Self-Examination among Women in Rivers State, Nigeria((Bellgam & Buowari.. 2012).	The study aimed to investigate the practice of the women in Rivers State, Nigeria for breast self-examination as mammography is expensive and not readily available.	cross-sectional study , The study population was made up of females who have attained puberty with breast development written closed ended questionnaire was applied after obtaining verbal consent	Data were analyzed using descriptive analysis which was tested using Chi-square at 5% level of significance	. The knowledge of BSE was (39.65%), and practice was (28.94%) which were both considered to be low. Moreover, the study showed that the educational factor had an impact on the levels of practice and knowledge of BSE, especially those who had secondary education and more (Bellgam & Buowari 2012).
Breast cancer knowledge and screening practices among women in selected rural communities of Nigeria (Olowokere, et al. 2012).	aimed to evaluate rural women's awareness and knowledge of breast cancer and their screening practices	The study follows a descriptive cross-sectional method, utilizing a self-developed structured questionnaire	Data were analyzed using descriptive analysis which was tested using Chi-square at 5% level of significance.	The results showed %52.7 of the women had enough knowledge about the risk factors of breast cancer and it's symptoms. %52.8 had heard about BSE, and %51.7 heard about CBE. The study indicated that the lack of mammogram screening test in this rural area encouraged the women depend more on BSE to identify breast problems

Study	Main purpose	Methodology	Data analysis	Findings
Knowledge of secondary-school female students on breast cancer and breast self-examination in Jeddah, Saudi Arabia (Milaat, 2000).	to recognize their knowledge of breast cancer and attitude towards breast self-examination (BSE	A cross sectional study which included 6380 secondary-school female students in Jeddah	Data were analyzed using descriptive analysis which was tested using Chi-square at 5% level of significance	The study found that the level of knowledge was low about risk factors: were 80% of students answered incorrectly, and only 39.1% mentioned that a lump is one symptom of breast cancer. However, only 47.1% of the participants read or heard some information about breast cancer from different kinds of media and 15.2% of participants accepted that use of contraceptive pill is a potential risk factor. While (16.2%) have known that bleeding from the nipple is a sign of breast cancer
Knowledge and Practice of Breast Self-Examination among Female Traders in Ibadan(Balogun & Owoaje, 2003).	to assess knowledge and practices of breast self-examination.	The study targeted 281 female traders. An interviewer administered questionnaires to gain information on their socio demographic characteristics, knowledge and practice of breast self-examination. The women's ages ranged between 16-80 years.	Data were analyzed using descriptive analysis which was tested using Chi-square at 5% level of significance	The results of the study revealed that only 89 (37.1%) of the traders were aware of breast self-examination, 51 (18.1%) of the traders had ever checked their breast, regarding the level of knowledge the study explored that awareness of breast self-examination was highest among those aged 50-59 years ($p = 0.067$). Also, the result showed that there were associations between the awareness of BSE and the degree of educational achievement; women who had high education were more knowledgeable about breast self-examination

Study	Main purpose	Methodology	Data analysis	Findings
Knowledge, Attitude, and Practices among Female Patients at MOH Clinics in Ramallah, Jenin and Hebron Districts(Kifah,2013)	The study aimed to assess women's knowledge, attitude and practices toward breast cancer and screening tests and to identify the barriers that deter them from practicing breast cancer screening tests.	In this study, a triangulation design is used through quantitative descriptive and qualitative methods.	Frequency and percentage were used for the descriptive result, Chi-square to investigate the relationship between dependent and independent variables. A level of $p<0.05$ was considered as statistically significant	The results showed that (81.8%) considered breast cancer as the most prevalent cancer type among Palestinian women, A total of (96.5%) answered that detecting a lump is the main symptom of breast cancer. (91.8%) have known that BSE is an early detection method. Only (21.6%) of the respondents monthly performed BSE in the past 12 months. There was a statistically significant relationship between knowledge of breast cancer screening tests and level of education, BSE ($P<.0021$), CBE ($P<.0384$).

Chapter Three

Theoretical and conceptual framework

3. Introduction

This chapter discusses one of the main models used to explain health related behaviors; Health Belief Model (HBM). This model stipulates the relationship between the personal behavior and health. The main variables of this model is also connected with studies related to health believe model. In part two, the chapter discusses the conceptual framework of the study which was built according to the studied literature reviews assessing the same research topic. In addition, some sub-items from HBM were adopted to strengthen the conceptual framework of the study.

The goal of this study is to assess women's knowledge, attitude and practices towards breast cancer and the breast cancer screening tests. There are many theoretical modules developed to interpret the factors and health behaviors associated with the compliance of the screening tests, the main theoretical modules are: health belief model (HBM), health locus of control (HLC), Tran's theoretical model of behavior change, and the theory of planned behavior (TPB). These health belief models have been applied and recommended to determine the factors associated with screening health programs (Day et al., 2010).

4.1 Theoretical framework /health believe model

Health believe model is one of the most common model used by many researches to explain health- related behaviors, it was applied in UK by Calnan in 1984, for mammography in Israel by Shiloh, 1997, and is most used in the US by Champion, 1992, and Tayler ,1995 (Lagerlund, 2002) .This model identifies that there is a relationship between personal behavior towards health, and the person's perceptions regarding the threat of the disease, which later influences one's health-related behavior and practices towards such threat (Heidari et al.,2008). The health model applied in the screening research to understand why the people do not attend these screening protective programs; in addition the health model has been recently used to assist decision makers for future plans regarding health services (Day et al., 2010). The health model included the following variables, "Perceived susceptibility, perceived severity or seriousness of consequences of experiencing the health problem,

perceived benefits of health action, perceived barriers or cost association with performing the health action model". This model expands to have self-efficacy (Champion, 2006 in, Day, et, al. 2010.P.71).See the table (4) which shows the concepts, its definitions and applications:

(Table 3.1): Health Belief Model Variables.

Concept	Definition	Application
Perceived susceptibility	One's opinion of chances of getting a condition	Define populations at risk, risk level; personalize risk Based on a person's features or behavior heighten perceived susceptibility if too low.
Perceived severity	One's opinion of how serious a condition and its squeal are	Specify consequences of the risk and the condition
Perceived benefits	One's opinion of the efficacy of the advised action to reduce risk or seriousness or impact	Define action to take; how, where, when; clarify the positive effects to be expected.
Perceived barriers	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance
Cues to action	Strategies to activate 'readiness	Provide how-to information, promote awareness, reminders
Self-efficacy	Confidence in one's ability to take action	Provide training, guidance in performance action

3.1.1 Description of the Health Belief Model

The history of this model was originally from a group of physiologists in 1950. HBM was used to assist the policy decision makers in illuminating the behaviors and beliefs of people towards new interventions, the HBM assists the researchers to answer as to why people would or would not use the available prevention services for such disease Tuberculosis(Glanz, 2002; U.S; CDC, 2003). The HBM recognized by these variables that interrelate, perceived susceptibility which denotes that when one is at risk of an illness they are subjective to one extreme, and that would be an individual who is in full refutation of any risk while the other

would be an individual who feels menace is certain. The area between contains those who admit the statistical possibility of contracting an illness, but do not fully believe they will (Rosenstock, 1966; Lizewski, 2010). Perceived seriousness is the perception of the consequences of a negative health condition is also subjective, the beliefs of an illness causing pain, impairment, social stigma or death are examples of seriousness perceived (Rosenstock, 1966), perceived benefits of taking action and rule on a course of action is shaped by the options accessible to the individual and the belief in their effectiveness. Action is thus dependent on having at least one course of action to prevent an illness from occurring while believing it will produce acceptable results (Rosenstock, 1966; Lizewski, 2010). Barriers of taking action, regardless of a belief being settled by a specific course of action may reduce a health threat, but the hesitancy may still take place among the clients, this hesitancy occurred when the readiness is low and negative aspects of the course of action are viewed as high, barriers are constructed preventing action. (Rosenstock, 1966; Lizewski, 2010).

The HBM expanded to include another factor, self –efficiency; this concept underlines on personal judgments and the ability or willing to perform the actions toward the task, (Lizewski, 2010; Bandura,1986) Abraham & Sheeran (2005) agree about adding the self – efficiency in the HBM and reported that it is a useful factor for explaining health behavior, and has been attached to the HBM in1970s, when Bandura first introduced this concept of act or task specific self confidence, the example of "self –efficiency" belief in one's ability to perform a given behavior (Bandura, 1977 in Victorian Cytology Service. 2010). Also cue to action is a second predictor added to HBM when applied to cervical and breast cancer screening method to investigate the factors associated by these screenings by Austin, (Austin& Stewart,2002). The definition of cue of action is a variable that proposes by HBM are considered to be of the chain of events and measurements that have impacted on health behavior as an example of media, friends and personal experience (Graham, 2002).

A Number of studies recommended that HBM is the underlying model in providing useful framework for understanding individual differences at health behavior sets. It is a good model in assisting in the designing of interventions to change behavior, and is considered as an imperative approach in persuading the individual in screening interventions (Victorian Cytology Service.2010; Yarbrough and Braden, 2001). Literature reviews about the utility of HBM show that this module explains most of the variables related to the breast screening behaviors and as a basic theory in the promotion of health education (Victorian Cytology

Service, 2010). The model stipulates that behavior is influenced by a person's perceptions of the threat posed by health problems, based on this perception the individual will change his or her action to reduce the threat (Glanz et al., 2002).

Thus, with the importance of the HBM in the explaining of the health behaviors, many studies utilized it in predicting BSE behavior (Champion, 2003; Champion & Miller1992). It has also been used to explain other breast cancer detection behaviors (Barron, , & Foxall, 1998; Champion, 1984-1999; Hoeman & Ku, 1996).

3.1.2 Studies related to HBM/Breast cancer

Champion in health model, announced that the beliefs towards breast cancer have an influence on participating in breast cancer screening tests (Champion, 2006). In a study investigating the association between acculturation and barriers to breast cancer, which applied a health belief model scale to evaluate women's beliefs about breast cancer, and the benefits of screenings, a weak but significant association existed between acculturation and barriers; Latin women attached more to the culture faced more barriers, because they are more exposed and are well known in their society. The study also showed that the highest barriers the Latin women faced were lack of privacy during breast examination and the pain caused by mammography (Pattino, 2007)

A study published online on the 7th of April 2011, conducted among diverse socioeconomic and ethnic groups, addressed the influence of culture, emotions, and fatalism as related factors in a screening program. The study employed an integrative conceptual framework between 281 Latino and Anglo women, using multi-group structural equation causal modeling. The study findings expressly showed that emotions and fatalism are direct negative influencing factors affecting the practicing of clinical breast examinations (Flynn & Patricia, 2011).

A study entitled health beliefs and practices related to breast cancer screening in Filipino, Chinese and Asian-Indian women applied a cross-sectional descriptive design to examine differences in health beliefs (i.e. perceived susceptibility, perceived seriousness, perceived benefits, and perceived barriers) toward breast cancer screening in these women. 125 women completed self-administered questionnaires that assessed screening practices (i.e. breast self-exam, clinical breast exam, and mammography), related beliefs and knowledge. The results showed that the influence of ethnicity on perceptions of susceptibility and seriousness related to breast cancer. The results indicated three different barriers reported in all three ethnic

groups; I do not need mammogram if I feel ok, waiting time is too long, I do not know where to get a mammogram (Wu et al., 2005).

A study entitled Health Belief Model of Breast Cancer Screening for female College Students, aimed to identify female college student breast cancer screening beliefs and practice associated to the HBM. An independent variable was used in order to examine BSE and CBE practices related to the components of the HBM and participant demographics. The results indicated that the participants were aware of and performed BSE but did not practice regularly. Moreover, the participants were more compliant to CBE than BSE. However, the study showed no relationship between the components of HBM and breast cancer screening behaviors (Frankenfeild, 2009).

Cultural and socioeconomic status play a vital role in women's perception about the use of knowledge, availability and the understanding of health care services (Sharife, 2000 in Amin, 2008).
Religious and cultural differences that shape perceptions about health prevention may reduce the incidence of screening practices (Geol, 1994, Rememnick, 2006, Raja –Jones 1999, Maxwell, Bancej, Sinder, Vik, 2001, in Amin, 2008).

Thus, as illustrated in the aforementioned studies, the HBM is applied in several studies as a theoretical framework to study BSE and the behaviors against other breast cancer screening tests (Barron, & Foxall, 1997; Champion, 1984 1999; Hoeman & Ku, 1996 in Hajian, 2011). This model is an arbitrator model to investigate culturally relevant differences associated with screening behaviors (Cohen & Zearly, 2005; Yarbrough SS and Braden CJ, 2001).
This table below summarizes the utility of HBM of breast cancer screening test:

(Table 3.2): Summary of the utility of the Health Belief Model Breast Cancer Detection

HBM Build	Example
Perceived Severity	How serious will breast cancer be?
Perceived Susceptibility	How likely am I to get breast cancer?
Perceived Threat	How bad will it be and how likely am I to get it?
Cues to Action	What will remind/cause me to perform screening?
Self-efficacy	Have I the skills/confidence to perform screening?
Perceived Benefits	What have I to gain from breast cancer screening?
Perceived Barriers	What is hindering me from breast cancer screening?

The table above manifests the stages of how women behave regarding the variables of HBM. Women first perceive that they are vulnerable to breast cancer (perceived susceptibility), then they become conscious to the severity of the disease (perceived seriousness), the women whom perceive that breast cancer is a serious disease will perform regular breast examination (cues to action). Thus, should the women realize, believe and are confident of usefulness and feasibility of preventive programs (perceived benefit) and recognize the obstacles and inhibitors are less effective and dangerous than their benefits (perceived barriers) (Glanz ,et al, 2002).

The CDC stated that a woman needs to believe that the usefulness of breast cancer screening test override the consequences of their troubles to conduct the screening behaviors (CDC, 2004).

3.2 The Conceptual Framework of the Study

The conceptual framework has three overarching constructs. The first is the core blocks which are knowledge, attitude and practice, and are considered dependent variables. The second component is the demographic factors which are independent variables expected to affect the KAP variables. The third component is the barriers (independent variables) considered as factors that hinder women from practicing the breast screening tests.

The structure of the conceptual framework is built depending on literature reviews of past studies similar to the researcher's topic in addition to apply some HBM items such as seriousness variables example "I am afraid to think about breast cancer, if I developed breast cancer, I would not live longer than 5 years". Benefits of variables examples are "The screening test is important or not important to detect lumps". Self-Efficacy variables include "I know how to perform breast self-examination". Cues to action variables include "What will remind/cause me to perform screening?" Barrier variables example: "What is hindering me from doing breast cancer screening?"

The health belief model will be used to support he researcher in supporting and discussing the results, as well as to illustrate the attitude to an individual's health, understand the women's action toward breast screening tests and the factors that related to the KAP.

3.3 Independent variables- Demographic and socio-economic

In this study, a list of demographic and socioeconomic variables will be used which are: age, marital status, educational level, income, place of residence and religion. In a study by Taylor, he reported that the main determinates of health are as following; income, social support, education and literacy, employment and working conditions, social environments, physical environments, personal health practices and coping skills, healthy child development, biology and genetics endowment, health services, gender, and culture (Taylor, 2007). Jepson with other researchers carried out a systematic review in order to examine factors associated with the uptake of screening programs and to assess the effectiveness of methods used to increase uptake. They selected types of studies used for screening programs such as cohort, case controlled and randomized controlled trials (RCTs). Two reviewers participated in evaluating these studies (46,000 studies), and only 65 studies met the criteria designed by the researchers. The results showed that the determinants differed according to the type of screening test. All screening tests shared these three determinants; previous attendance, health insurance and age (Jepson et al., 2000).

Different studies that aim to evaluate the barriers from practicing breast cancer screening tests show that these barriers are related to culture, income, education, immigration status, and language barriers(Esterada, Trevino, & Ray, 1990 in Ahmadian ; Abu Samah,2012) also observed that culture, education, income, and age, assist the underuse of cancer screening methods among women's population; for example, factors such as high education, marital status and employment were a foretelling of performance of breast self-exam (Madan ,et,al. 2000, in Ahmadian & Abu Samah, 2012).

A study which involved 833 women of different cultures, aimed at determining the influence of social support on women's commitment to the instructions of breast cancer screening. The study type, which involved three different races, average age of participating women was (42 years), was cross sectional descriptive .The result indicated that women of higher income and higher education level received better social support than those who had lower income (Katapodi, et al., 2003).

Several studies have also showed that income and education levels were main factors associated with mammography performing (Straughan & Seow, 2000; Juon et, al. 2002; Finney et, al., 2003 in Ahmadian & Abu Samah, 2012). A study entitled determinants of

mammography use in rural and urban regions of Canada, recruited the asymptomatic women between the ages of 50-69, using data from the Canadian Community Health Survey for 2002/03 and 2004/05. The results showed that participants who lived in rural and remote areas were less likely to have had a mammogram in the previous two years (Mcdonald & Sherman, 2010).

A study titled, "The Relationship between Select Variables and the Breast Cancer Screening Practices" involved 273 African-American women from two different sites. A designed questionnaire included demographics, knowledge, and individual breast cancer risk factors. The results showed that a number of factors for breast cancer screening is dependent upon age, education, income, age when gave birth to first child, menopause, and age menopause began (age of menarche, full term pregnancy, history of breast condition or disease, type of breast condition or disease, age when gave birth to first child, menopause, age menopause began). However breast cancer screening is independent of breast cancer knowledge, age of menarche, full term pregnancy, history of breast condition or disease, type of breast condition or disease, and family history of breast cancer (Stith,et al., 2001).

A study conducted in UK revealed that participation in breast cancer screening tests related to the age factor, previous attendance, and social class and race (Jepson, 2000 in Threlfall Anthony & Fazil, 2009).

3.4 Dependent factors Knowledge, Attitudes, Barriers and Practice Factors

Threfall and Fazil identify the context of knowledge about any disease includes the following sources; knowledge of disease, knowledge of screening tests, history of attending the tests, perceived seriousness of disease. The attitude by expression to attend to the test, and barrier factors include lack of transport, cost and embarrassment from attendance in addition to the fear of exploring positive results (Anthony & Fazil, 2009).

The level of knowledge has an impact on the attendance of screening tests, mainly mammography use and breasts self-exam (Jarvandi et al., 2002; Secginli et, al. 2006; Han et al., 2000; Miller & Champion, 1996).

A survey study aimed to assess women’s knowledge and perception of breast screening methods, including benefits and disadvantages, and to investigate the demographic and personal characteristics related to accurate knowledge. The survey study randomly interviewed 1000 women applying a designed questionnaire included the main knowledge of the breast cancer risk factors. The results showed an association between lower formal

education and knowledge that lacked accuracy. The women believed in the benefits of screening to detect cancer early on, as well as resulting in less invasive treatment. Moreover, sixty-three per cent had no worries from breast screening. However, the worries of the women over 60 in this study, about mammogram screening were backed up by not being invited for further screening. Other worries of these women included not being offered screening earlier or more frequently, painful mammography and effects of radiation (Webster & Austoker, 2006).

A cross sectional survey interviewed attending women at a breast clinic for screening mammogram and women with diagnostic assessment plus women with newly diagnosed breast cancer. This survey aimed to investigate the relationship at different phases in the course of breast cancer care, between anxiety, knowledge, and attitudes of those women's willingness to take part in randomized clinical trials. The results showed that the women who were more knowledgeable about randomized trials were more likely to participate (Phyllis, et al., 2001)

Another study conducted in Turkey searched for the knowledge, attitude and behaviors among female teachers regarding breast cancer. 490 female teachers engaged in the study and the results indicated that 62.9% of the participants have insufficient knowledge about breast cancer (Temiz, 2002).

In another study conducted and sponsored by Istanbul university with the cooperation of Florence Nightingale School of Nursing, Public Health Nursing Department, Sisli, indicated that the women whom at risk are more confident of BSE, have less barriers, attempt to have skills and knowledge about breast cancer, and these skills are what motivated them to do BSE (Institute of Public Health, 2005).

Women that received social support from husbands, performed regular checkups, and received encouragement from family members and physicians were major users of CBE and mammography use (Hana el at., 2000).

In one qualitative study that investigated the main barriers hindering women from performing screening tests, the most critical determinates were found to be fear ,anxiety ,modesty, lack of knowledge about cancer and the screening program, lack of trust of health provider and

strong belief in destiny (Taylor et al., 2007).

One study conducted in trial phase's pre–post test design in three phases; pre intervention phase, intervention phase, and post intervention phase. The pre intervention phase employed an anthropometric assessment, and designed structured interview questionnaire which included personal and socio demographic data, past history of; breast diseases, women's knowledge, and BSE practice. The second phase (the intervention phase): The intervention program was constructed with the main objectives to improve women's knowledge about BC and BSE and to promote their practice and performance technique of BSE as recommended by the American Cancer Society. The third phase (post intervention phase) was an evaluation of the program; 139 females involved in the study , that result pointed out that women's education and knowledge level were significantly associated with the practice of BSE (Abd El Aziz et al., 2009).

Data gathered from 100 Arab-American women with advanced stages of breast cancer using applied breast cancer literacy assessment tool, qualitative in-depth interviews in order to understand functional literacy levels on breast-self exams (BSE), clinical breast exams (CBE) and mammograms. The result of the educational program illustrated an improvement in women's knowledge of BSE (OR=0.15; 95% CI=0.04, 0.50) and CBE (OR=0.15; 95% CI=0.04, 0.54), more for women with higher education. This confirms that women's educational status plays a significant factor in planning educational programs to improve knowledge on breast cancer screening and prevention in this minority population (Arshad et al., 2010).

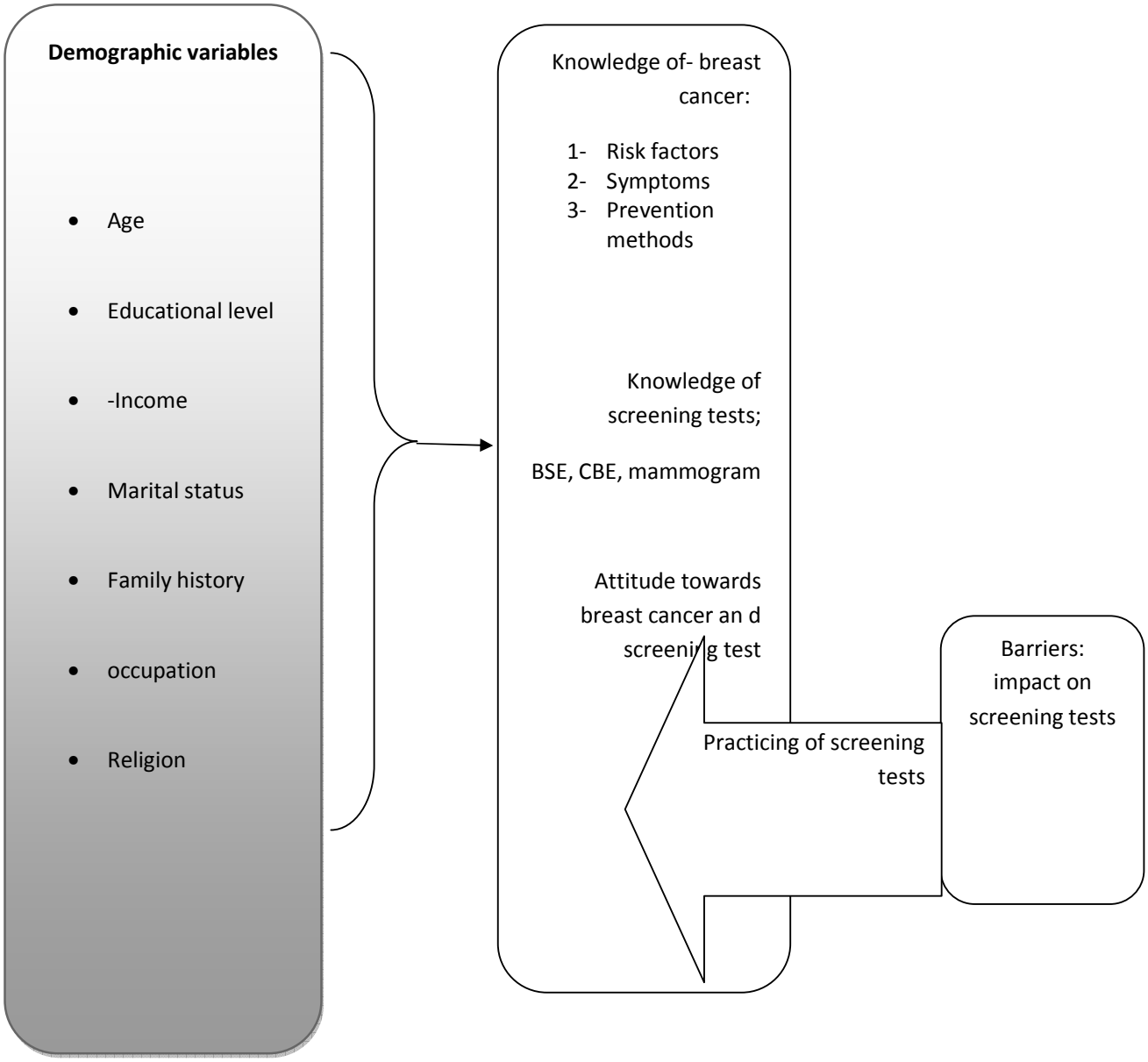
3.5 Study conceptual framework

The conceptual framework consists dependent and independent variables. The dependent variables are knowledge regarding the breast cancers (risk factors, symptoms, prevention methods) ,screening tests knowledge, attitude toward breast cancer and early detection(that BC is a dangerous disease , feeling toward the prevention methods "necessary or not ", the practice, barriers that prevent women from practicing the screening tests.

the Independent variables age-educational level - income – marital status – family history – occupation and place of residence .

The conceptual framework of the study is built based on the results of literature reviews in breast cancer KAP that indicated relationships between the independent variables (age, educational level, income, marital status, family history, occupation, religion) and the dependent variables; knowledge, attitude and practice that have an impact on the type of attitude toward screening, and also the compliance of practice. The conceptual framework also included barriers that will contribute to decrease the compliance or hinder women from performing breast cancer screening tests.

Figure: 1 **Conceptual framework**



3.6 Definitions of terms

Basic knowledge refers to: understanding the topic. Attitude refers to women's feelings towards the disease. Practice stands for the manner in which women reveal their knowledge and attitude through their actions (Minnesota, 2008).

Adequate knowledge of mammogram: is when women provide correct statements about availability and use of exam and how practice, while attitude was considered appropriate when an expressed favorable opinion and consistently supports as example when they give a response it would be necessary while practicing was considered adequate when women reported undergoing it following a medical prescription or their own will.

In this study "The evaluation of women's knowledge shall depend on their answers to the questions regarding the screening tests (Mammogram. BCE, BSE). If these answers were correct and consistent then they can be described as having good knowledge. Whereas, attitude is considered positive when women have a positive sense towards the screening test and show agreement with these techniques. On the other hand; practice is considered as being complied according to universally recognized standards, when women answering to the questions related to each one of screening tests, is associated with their current and future willingness to regularly practice such tests and according to recommended age (Elsie et, al. 2010).

Screening: applying clinical test for asymptomatic person in order to detect the cancer at early stage before any symptoms emerge and it is secondary preventive technique and it includes BSE,CBE ,Mammogram .(WHO, 2008).

Reproductive age: the age of women 15-49 years old (WHO, 2008).

Primary health center: Primary health care is essential health care made accessible at a cost a country and community can afford, with methods that are practical, scientifically sound and socially acceptable (WHO, Geneva, 1998).

Primary health care center level two: according to the type of service, the service provided in these clinics of level two are mother and child health care and immunization.

Primary health care center level three: Services provided in these clinics of level three is Mother and child health care and Immunization Family planning, Dental care and Health Education (MOH, 2011).

3.7 Operational definition of variables

Demographic and economic variables, part one in the questionnaire included six items as following: place of residence (village, city, camp), age (undefined), marital status (widowed, married, divorced, single, separated) income level, occupation (full time job, limited employment, unemployed (house wife) student) educational level (illiterate, Elementary, Preliminary, Secondary, Tawjihi, Middle College, Bachelors, Post Graduate), Religion (Muslim, Christian) (7 questions, P. 161).

History and experience with disease: This is the second part of the questionnaire, and includes four items, two ask about the family history, and personal history of breast cancer, while the other two items ask about the expectations of the size of the problem (4 questions P.161).

Knowledge about breast cancer: is the third part of the questionnaire which includes knowledge of risk factor (14 items (American cancer society, 2012), the symptoms of breast cancer (8 items (American cancer society; MOH, educational material), the early detection methods (4 items (American cancer society, 2012; MOH educational material).P.162.

Breast self-examination: is the fourth part which includes four main parts; knowledge, practice, attitude, and barriers. Knowledge asks about the recommended age of starting to perform this test, frequency of the test, the time, the technique, the sense of importance toward the test ,and the barriers that deter women from practicing this test (American Cancer Society, 2012; MOH educational material) (8 items).P.163.

Clinical breast examination: is the fifth part and included eight items that address knowledge, attitude, and barriers toward clinical breast examination. The knowledge includes knowledge about the recommended age to start practicing, frequency of practicing before and after the age of 40, and times of having practiced it throughout a woman's life. The attitude includes 2 items about sense of importance of CBE, and examination by male health provider barriers. (7).The barriers include 12 items and women were told to choose the three barriers if

any are affecting her decision to do CBE.P.164.

Mammogram test: is the sixth part of the questionnaire, and includes nine items that address, the knowledge about the recommended age to start practicing mammogram, frequency of the test before and after the age of 40 and the age of 50, number of times having the test performed during the woman's life, knowledge whether the women knew that this test is a service free of charge, sense of importance and barriers (15 items).

Women's Altitude toward breast cancer: is the seventh part which included ten items which describe the attitude of women toward when affected by breast cancer (10 items) and about feeling of urgency to visit a physician if she detected a lump in her breast, and 2 items about women's expectations about whether breast cancer is a curable disease or not.

Source of information: the source of information (7 item P.162.)

Summary: This chapter presents the conceptual framework of the study, and reviewed some studies regarding the structure of conceptual framework; in addition it presented the definitions of the terms that the study addressed.

Chapter Four

Methodology

5. Introduction

This study assessed the degree of knowledge, attitude, and practice toward breast cancer and screening tests among a sample of women who had visited maternal and child clinics at governmental clinics in four districts, (Jenin, Hebron, south Hebron and Ramallah) in the primary health care centers levels two, three and four. This chapter focused on the design of the study, the description of the tools used, data management, sampling, the pilot study, and the settings where the study took place.

4.1 Study Design /Quantitative part

Across sectional descriptive design in which both, quantitative and qualitative methods of data collection were used.

In the quantitative part, a cross sectional study descriptive is used for assessing ,knowledge, practice, attitude of women toward breast cancer and screening test and to identify the barriers that deter them from using screening tests. Cross sectional studies are two types; descriptive and analytical. The application of any of them shall depend on the purpose of the study. As the researcher will collect exposure and outcome of the interest population, thus the descriptive study will be adopted (Geta Degh, 2006, in Elsie et al., 2010).

Qualitative part

In the qualitative study part 3 focus groups discussions were conducted by the researcher to identify women knowledge, attitude and practice toward breast cancer &screening tests and to understand the barriers that prevented them from using screening tests.

The literature defined qualitative as an approach for collected information about beliefs, perceptions, and norms that are important to the target group (Lagerland, 2002). There are many tools of qualitative approaches; one of them used in this study is the focus group discussions. The FGDs have many definitions in literature, described as organized discussion (Kitzinger, 1994), group activity (Powell et, al. 1996), and an interaction between a group of participants. While a focus group as a group of individuals selected and gathered by researchers to discuss and collect notes according to their personal experience, in the topic that is the subject of the research (Powell et al., 1996)

4.2. Data collection /Quantitative part

Data were collected through interviewer administrative structural questionnaire, which was developed after reviewing previous breast cancer studies, utilized MOH pamphlets, and the American Cancer Society recommendations 2012 about symptoms and risk factors of breast cancer. Data were collected in 2012.

Qualitative part

The researcher cooperated with one research assistant, who was co-facilitator and trained by the main researcher as note taker. The appointment was made to meet each group in a fixed day; the researcher introduced the study to each group at the beginning, and then asked them questions according to guide of FGD.

4.3 .The study tools/ Quantitative part

The questionnaire consists of six main parts:

Part one: socio-demographic characteristics of the participants, personal and family history related to breast cancer

This part included 9 items; age, level of education, occupation, marital status, monthly income, religion, place of residency (I.1- 7) and two items related to the family and personal history related to breast cancer disease (II.1-.2).

Part two – knowledge of breast cancer

This part contains 26 items about the knowledge of breast cancer. Items tackled breast cancer knowledge include the risk factors, symptoms, prevention modalities.(III-1, 1-14), III-2-(1-8), III-4(1-4). The scale is, yes, no, and I do not know.

Knowledge of screening tests.

This part contains 12 items the knowledge on availability of screening for breast cancer mammography as a free service, screening interval, criteria for screening. (IV 1-4) V 2-4 **(**V11-5)

Part 3 –Attitude towards breast cancer and screening tests

This part contains 10 items, the questions asses respondents feeling toward breast cancer disease, the main question asked the respondents "if you are affected by this disease what will you do? (V11 1-10) The scale is yes, no and do not know. In addition, another questions about their attitude toward the necessity of performing breast screening tests, (3 items), IV.6, V.6, V1.8) the last items (4 items), tackle the attitude toward breast cancer, (**V.7, 8,9,10**).

Part 4 - Practice

This part contains 6 items, for each type of screening tests, about whether the respondents had ever been screened, how many times and when was the last time they were screened. BSE (2items) CBE, (2) Mammogram, (2items), **(**IV.4, IV.5, V.1, V.5, V1.6 V1.7).

Part 5 -Barrier

This part asked about the main reasons that deter women from practicing each one of the screening tests ,covering social and cultural factors (health provider male , modesty), economic factors(cost of tests) ,disadvantages of screening tests(painful , not necessary, lack of privacy) personal factors(carelessness ,lack of time) . The barriers have been collected from the literature review studies and from the FGD. Barrier related to BSE are 11, barriers items related to CBE are 12, and barriers related to mammogram are15,(IV.7,V.8,V1.9).

Part 6- source of information

This part includes the main source of information mainly mentioned in literature reviews, and women's answers in FGDs (Q.III.3).

Qualitative part /Interviewed guide in FGD

The purpose for that (FGD) is to get acquainted of more factors that deter women from performing breast cancer screening test, and also to explore the factors that impact on their knowledge, attitude and practices, this focus group discussion contributed in building comprehensive conceptual model for this study, and the guided questions addressed knowledge attitude and practice.

4.4 Data analysis

4.4.1 Quantitative part; Data was entered in SPSS version 17, independent variables were analyzed by using descriptive statistics, frequency, and the variables are summarized into frequency and percentage. The associations between independent and dependent variables

were assessed using chi-square; P value of 0.05 and 95% confidence interval was used to test for statistical significance

Knowledge assessment

38 items were used to assess the knowledge of breast cancer and the knowledge of the screening test. The scale assessed using three options, Yes, No, I do not know, each correct response was given a code of 1 and a wrong response a code of 0, I do not know a code of 0. The level of knowledge was evaluated or computed by the Original Bloom's cut Off Points

80 – 100% - Good Knowledge

60- 79% - Moderate Knowledge

<60% - Poor Knowledge (Coscarelli & Shrock &, 2000; Guilford, 2011).**Assessment of breast cancer knowledge**

26 items were used to assess the knowledge of breast cancer, the knowledge of risk factors (14 items), symptoms (8 items), and knowledge about the main early detection methods (4items)**.**

The level of knowledge was evaluated or computed by the Original Bloom's cut Off Points

80 – 100% - Good Knowledge

60- 79% - Moderate Knowledge

<60% - Poor Knowledge (Coscarelli & Shrock &, 2000; Guilford, 2011).

B. Assessment of knowledge of screening tests

The knowledge of screening tests included 12 items, availability of screening procedures (1 point), eligibility for screening at what age (3 items), frequency of screening (items) and procedure of screening (1item).The level of knowledge was evaluated or computed by the Original Bloom's cut Off Points.

80 – 100% - Good Knowledge

60- 79% - Moderate Knowledge

<60% - Poor Knowledge (Coscarelli & Shrock, 2000; Guilford, 2011).

C. Assessment of attitude toward breast cancer and screening methods

There were 17 points, the questions aimed to assess the participants feeling towards breast cancer and the importance of the screening tests. The participants who answered "yes" relating to the importance of the screening test were considered positive attitude. The second part which was the participants' feeling towards breast cancer was assessed according to the high frequency and percentage of the most three feelings that women reported.

Practice assessment

The practice was assessed by action towards screening for breast cancer. Those who have performed the BSE on a monthly basis regarded it as a regular practice. Those who performed the CBE regarded the American Cancer Society recommendations for each age interval. Mammography practice was assessed regarding their age and regular practice regarded the MOH breast cancer pamphlet.

Barriers and source of information's assessments

the percentage and frequency of the most three barriers that women reported toward breast cancer screening tests ,and rank the percentage of the source information's that women reported were categorized in table.

4.4.2 Qualitative data

The comments were translated into English and transcribed into Microsoft Word document. The transcriptions and verification were only done by the researcher; the data was then analyzed thematically. Thematic analysis approach for data analysis was used. Reading and re-reading of the transcripts was done to identify themes, the supervisor reviewed the data analysis is reliable. The researcher also held meetings with her supervisor from time to time to discuss issues around coding.

4.5. Reliability of the Questionnaire

The Cronbach's alpha was used to assess the internal consistency for each domain (Huang et al., 2006). The Cronbach's alpha is of this study is, 6.42. The reliability values of each domain shown in the table (4.1)

(Table 4.1): reliability co-efficient of the study tool.

Standard	Number of items	Cronbach's alpha
Knowledge of breast cancer risk factors	14	6.0
Knowledge of breast cancer symptoms	8	6.4
Knowledge of breast Self -examination test	10	5.7
Knowledge of clinical breast examination test	5	6.2
Knowledge of mammogram test	11	6.5
Attitude towered affected of breast cancer	3	6.9
Practice toward breast cancer screening tests	5	6.0
total	**68**	**6.4**

The results of internal consistency of study is not high, factor analysis could not be used in this study, as the main prerequisites for conducting factor analysis are the : following first, the variables are measured must be at an interval level, but in this study they are nominal variables, and the second, data must be normally distributed and the data in this research it is not so. Moreover, the third one is that there must not exist a correlation among the variables (Hof, 2012), however, in this study, there are high correlation among the variables,. In addition, The Multiple R for the relationship discloses that the relationship between the set of independent variables and the dependent variable is 0.689, which is strong. (Interview: Qalalwa, 2013, PBSC).

4.6 Validity of the instruments

4.6.1 Quantitative part

The researcher submitted the assessment instrument to an expert panel for review, see annex J. This panel consisted of three individuals known for their expertise in an area directly related to cancer research, and survey design. The researcher sent a letter to each member of the panel, attached with the study's aim and goals and the instrument to obtain his or her expert opinion regarding of the questionnaire. Upon receiving responses and feedback from the expert panel, the researcher modified the survey instrument according to their recommendations. The panel of experts' orientations included altering the questions to be close ended, categorizing the attitude, as one of the screening test methods.

4.6.2Creditity of the instrument/Qualitative part

According to (Patton, 2002), trustworthiness addresses validity and reliability in qualitative research, and strategies to enhance, trustfulness include credibility and dependability. Credibility refers to whether the researcher accurately represented what the participant's thoughts, feel and do. It refers to the confidence one can have in the truth of the findings, to ensure credibility in this study, raw data was verified by the supervisor creditity has also been ensured by the supervisor and other experts in the field, also the final report submitted to person who has long experience in working with community breast cancer projects ,and the researcher compared one of ANERA FGD reports conducted with women in Salfit area which conducted to understand the women attitude ,knowledge and practice toward breast cancer and screening tests .

4.7 Piloting phase

40 women were interviewed in the piloting phase, to ensure proper administration and face validity of the instrument; the questionnaire for the piloting phase was distributed in three regions. Women interviewed while attending gynecology clinics in Hebron, Jenin, and Ramallah. All women completed the questionnaire except for one woman in Jenin who apologized because she remembered that her daughter who was affected by this disease, she said “This takes me back to the memories with my daughter while we struggled with this disease ". All the data collected was entered and analyzed. After analyzing the data, the questionnaire was modified in accordance with the orientation provided by the supervisor, the researcher and statistician. The modifications included; the open ended questions were changed to close ended, due to the different terminology the women used due to the differences in the levels of education. Thus, the researcher committed to applying the recommendations and instructions stated by the MOH and the American Cancer Society to be in close ended questions.

4.8 Study Area

The study was conducted at the maternal and child health centers in four districts: Hebron, South Hebron, Jenin, and Ramallah. The selection process was done using the list of the primary health clinics that provided maternal health services (pre-post antenatal, child health care, family planning, high risk pregnancy (MOH, 2010).

4.9 Target population

4.9.1Study population /quantitative part

The study population consisted of all registered women that benefit from all services provided in primary Health Care centers (105,110) in the governmental clinics (MOH clinics) in the four governorates The primary health care provides the maternal and child health services including the following: pre and post natal, family planning, high risk pregnancy and child health services. The total number of registered beneficiaries is as in table 4.2 in the four districts (Jenín, Hebron, South Hebron, and Ramallah):

(Table(4.2): Number of women registered at MOH clinics and benefited from services in maternal and child health care clinics

District	Type of service	Total ,women beneficiaries
Jenin	Prenatal	4061
Jenin	Post natal	6536
Jenin	High risk pregnancy	438
Jenin	Family planning	6686
Jenin	Child health	5657
Total		**23378**
Ramallah	Prenatal	3298
Ramallah	Post natal	1071
Ramallah	High risk pregnancy	347
Ramallah	Family planning	17932
Ramallah	Child health	5145
Total		**27793**
Hebron	Prenatal	4037
Hebron	Post natal	11870
Hebron	High risk pregnancy	445
Hebron	Family planning	8369
Hebron	Child health	7825
Total		**32546**
South Hebron	Prenatal	3250
South Hebron	Post natal	8730
South Hebron	High risk pregnancy	514
South Hebron	Family planning	3372
South Hebron	Child health	5527
Total		**21393**
Total population		**105,110**

Source of data: PHC annual report, 2010, MOH annual report 2011

4.10 Sampling:

4.10.1 Sample in quantitative part:

The study utilized purposive sample in selecting the districts and random sample in selecting the sample and the clinics. The process in selecting sample and clinics were applied in two strata **.** The first stratum, 26 clinics were selected from 208 primary health clinics from level two and above primary health care centers. The number of clinics and the number of patients identified from the list of referral in June 2012 visiting the clinic for the first time. Thus, according to that, 7 clinics were selected from the governorate Jenin, 6 from the governorate

of Ramallah, 8 from the South of Hebron and 5 from the governorate of Hebron as shown in the table 4.3.

Second stratum: selecting 390 female patients from total population according to the below equation.

$$(\frac{t^2 * p * (1-p)}{(e)^2}$$

$$(\frac{1.96^2 * 0.5 * (1-0.5)}{(0.08)^2}$$

p = proportion of true value of indicators

t = confidence level at 95% (standard value of 1.96)

E: erorr term is acceptaple

Therefore, the sample size was 390 women within Confidence Interval in the percentage of 95%.

15 women were selected to be interviewed in the clinics, as the number 15 was calculated according to the total sample size divided by the number of randomly selected clinics.

390/26= 15

There for, the first 15 women who visited the clinic on the day of the data collection were interviewed.

.

(Table 4.3): Sample distribution

Series number		**Sample size**	**Governance**	**Name of clinic**	**Number of clinic**
Low value	**High value**				
1	15	**15**	Jenin	Qabatia	25
16	30	**15**	Jenin	Seliet -Athaher	44
31	45	**15**	Jenin	Raba	29
46	60	**15**	Jenin	**Aja**	34
61	75	**15**	Jenin	Jalqmos	23
76	90	**15**	Jenin	Etayba	3
91	105	**15**	Jenin	Alhasmia	14
Total		105			
106	120	**15**	Rammallah	Rammallah-Aljadeda	85
121	135	**15**	Rammallah	Berzait	68
136	150	**15**	Rammallah	Beit Oer-Ethta	86
151	165	**15**	Rammallah	Qarwet Banizaid	96
166	180	**15**	Rammallah	Bleen	78
181	195	**15**	Rammallah	Daier bzya	80
Total		**90**			
196	210	**15**	South Hebron	Almgbia	156
211	225	**15**	South Hebron	Alkom	97
226	240	**15**	South Hebron	Beit amera	133
241	255	**15**	**South Hebron**	**Al-semia**	158
256	270	**15**	South Hebron	Ras –Alasal -Elfoqa	123
271	285	**15**	South Hebron	Trama	100
286	300	**15**	South Hebron	Em –Elkheer	139
301	315	**15**	South Hebron	Hmidi	141
Total		**120**			
316	330	**15**	Hebron	Bani Naiem	195
331	345	**15**	Hebron	Khras	175
346	360	**15**	Hebron	Khalet –Edar	197
361	375	**15**	**Hebron**	**Esah**	202
376	390	**15**	**Hebron**	Safa	170
Total		**75**			
Total population		**390**			

4.11 sample in qualitative part

3 focus group were selected .Each focus group consisted 9 women selected purposively.

4.12 The Ethical Consideration

The research review committee at the School of Public Health of Al-Quds University reviewed and approved this research. The Palestinian MOH granted permission to access the selected clinics according to the above table. They were assured anonymity of participants and confidentiality of the data collected.

Participants were asked to sign a consent form before the commencement of the study, showing their official approval to participate in this study.(Annex C&D)

4.13 .Data collection

The quantitative part:

The data were collected by the researcher and three female assistant researchers after receiving training on how to fill in the questionnaire. The women were given an introduction about the research, and the women who were willing to answer the questions signed the consent form. The researchers reassured the women that the information they provide will be dealt with professionally and confidentiality.340 women out of 390agreed to participate in the study.

The qualitative part of the data collection:

Purposive sampling was used in selecting participants for the FGD for each district (Punch, 2001) defines purposive sampling as a method in which particular settings, persons, or events are selected purposely in order to gain important information that cannot be acquired as well by other means.

Data collectors

Data collectors consisted of two persons; the main researcher who took the role of the moderator and the research assistant who was trained by the researcher in note taking. The research assistant also ensured that the room was well ventilated and the chairs arranged in a circle for the focus group discussion. In the three FGDs, the researcher did not use a tape recorder because the women did not prefer to use it. The FGDs were conducted following the same pattern for three FGDs, in each FGD; introductions of everybody in the room were

made, each person introducing herself. Then the ground rules were set by the participants. The researcher then read the consent form to the participants, and with the help of the research assistant they signed the consent form. They also had name tags on, on the tags they were allowed to use cognomen to ensure confidentiality, the name tags were done for identification during the facilitation of the group and, this was done for the purpose of assisting the researcher during the data analysis process. The FGDs went well, everything happened as planned. The duration time of the three FGDs was approximately one and a half hours each one. After the FGD the participants were asked to fill in a small questionnaire which required their demographic information. Variables on the questionnaire included age, level of education, marital status, employment status, type of employment.(Annex F).

Summary: This chapter reviewed the study design, research methods, sampling in addition to focusing on details about the quantitative and qualitative approach implemented in the study.

Chapter Five/Qualitative part

Results

Qualitative Part: Focus Groups Results of Breast Cancer& Screening Tests

Introduction

This chapter presents the main answers from the women in the three districts (Hebron, Ramllah, Jenin), concerning their attitude, knowledge and practice towards breast cancer and screening tests. It also highlighted the main quotations that came up during the FGDs from the previously mentioned districts.

This topic is sensitive one because it is attached death for women. The researcher took into consideration to introduce the aim of the study in simple words and being careful in using hard words, focused in appreciating the women who attended while reminding them that their participation is voluntary and should any one of them feel uncomfortable, they were free to leave the FGD. More over the researcher gave them time to answer all while staying emotionally connected with the women.

Three FGDs were conducted in three different districts, Ramallah, Hebron, and Jenin. Twenty seven women engaged in these three FGDs. This topic is frightening; the discussion is stigmatized as it launched a taboo topic, one that injects them with rays of fear. Their attitudes toward the subject were clear from the first moment of discussion, all of them were very quiet at first, looking at each other, waiting for the other to begin talking, and then when each one was asked individually and the question was directed as such, they answered. In addition, another attitude also noticed in Jenin's FGD; two of the women when invited to join the FGD, accepted but apologized on the day of the FGD was held. The participants of the FGD commented on the absence of the other participants and said "this topic makes us scared, so maybe they are not brave enough to participate in such topic". While in Hebron, as the researcher began talking and introducing the title of the FGD, one of the participants, a 50 year old woman, became very nervous and withdrew from the debate and she said " I cannot stay in this type of discussion ,I cannot believe how you could speak and work in this topic, it is multi scary ".

The samples included young and older women. The researcher tried as much as possible for the FGD to be homogenous; the main challenges that researcher faced were the Apprehension of the topic; breast cancer is looked upon as a sensitive issue that is not approved to be talked of openly, thus the FGDs were not homogenous **.**The recruitment of participants was not easy due to the type of topic; the researcher used network relationships and asked for help from well-known women from the three districts to assist in inviting the women to FGDs and they did.

The women of Ramallah's FGD were older than those of the other two FGDs; they were also more comfortable to talk about breast cancer than two other FG. The participants from Rammallah reported that they received more awareness from different resources while in Jenin and Hebron, the women suffered from lack of educational materials, Hebron's FGD was very conservative and there was more ***Apprehension*** about the breast cancer topic compared to other two FGDs. In order to decrease the apprehension amongst the Hebron FGD participants, the researcher broke the ice by engaging them in simple topics such as asking them about what they had done the previous day and their favorite foods. This contributed to reducing the apprehension and paved the way for the researcher's questions.

In qualitative analysis ten main themes and threatens subthemes were addressed as following:

5.1 Cancer accelerating

The majority of the participants considered breast cancer to have become a very common disease in Palestine, and expected the percentage to be 50%, now days; this expectation comes from the number of cases they heard of in their community "married woman,50 years in Jenin said " we heard of 20 women having been affected by this disease " while in Hebron they could not expect the percentage because the city is so big "we expected that most cases are in the area close to Dimona".

5.2 Curable versus incurable disease

Two attitudes appeared in the FGD; one attitude expressed by the participants was that breast cancer is a curable disease while the other attitude expressed negativity; an incurable disease associated with death.

Few interviewed women justified the possibility of cure from this disease by believing that it is dependent on early detection, mentioning that medical procedures are developing. However, the most of interviewed women perceived breast cancer as a source of suffering for a woman that leads to death. Women supported their perception by narrating what they had witnessed their relatives or friends who had suffered this vicious disease. There were women who explained that even if a woman is cured for a few years, the breast cancer will come back and kill her as one unmarried woman,49 years old in Jenin said “although a person would be cured from this disease, it will be the main cause of death later, I have experience in this, one of my relatives was cured but after some years she died from the breast cancer ,she is my brother’s wife, affected by breast cancer and received full treatment but after she was cured the disease came back again”.

Majority of the women explained that the word cancer by itself is a source of fear that is overstated by the society, which leads to it being referred to in people’s conversations as “that disease”.

5.3 Fear of the risk of disrupt their family and fear from death ,and diminished femininity.

5.3.1 Disrupt their family*:*

It was a common perception among the FGD that young women affected by breast cancer suffer more than older ones. The women reasoned that older women have grown-up children who would take care of them, while the younger women’s children are still too young and need an affectionate person who would take care of them.

One married woman from Hebron 36 years old said “we *worry so much if we have small kids, who will take care about them; small kids are victims of the women affected by breast cancer"*

5.3.2 Fear from death*:*

In all the FGDs, women perceived breast cancer as a source of psychological suffering for the woman, and the women in the FGD agreed that breast cancer cases were tied with death. one woman in Jenin said "when we heard women affected by the breast cancer ,directly remember the death"

Another married woman, 40 years old in Ramallah's FGD said *"when one is affected by breast cancer, this exhausts her thoughts and becomes obsessive(in Arabic alwaswas) making her full of sadness all the time ".*

5.3.3 Diminished Femininity

The FGD in Ramallah expressed new issue that was not raised in the other two FGDs; which is the ***image of femininity;*** this is consider to be as worrying issue that increases women's fear; breast cancer brings fear of a distorted body image and loss of femininity as it inflicts a body organ that symbolizes femininity and motherhood.

One married woman 37 years old in Ramallah said "*Breast cancer is frightening and we think of how our shape will be distorted".*

Another woman married 42 year old woman said *"my neighbor was affected by breast cancer and underwent a mastectomy, she used an artificial breast"*. Another woman, 50 year old widow, reported the body changes as a result of chemotherapy *" my neighbor has breast cancer ,she looks at herself and says "my hair is gone, my eye brows are gone" ,I saw her ,and felt pity for her, she looks at herself in the mirror all the time ".*

5.4 Knowledge about the breast cancer

5.4.1 Comfort in acquiring breast health knowledge

In all the FGDs, women talked about seeing or hearing about breast cancer and breast health examinations on TV, radio, newspapers, doctor's clinics , from close relatives or friends that have personal experience, one woman in Rammalla said "each month nurse from Qusta Victoria came and give us information about breast cancer "In addition, they talked about attending lectures on breast cancer at nearby NGOs or learning about how to do BSE from the physician in the maternity and child health care centers.

The participants also talked about home visits by outreach workers to educate them about breast cancer. They expressed that their fears were soothed after acquiring breast health knowledge and skills which encouraged them to practice breast self-examinations.

One married 47 year old woman in Jenin said *"I attended a lecture two years ago given by community health workers and I was encouraged to do a BSE"*.

Another married 55 years old woman in Ramallah said *"Sometimes Augustus Victoria Hospital conducts an outreach program; health educational sessions about breast cancer, and they teach us how to perform a BSE and what to do if any symptoms are noticed".*

5.4.2 Cancer runs in families

Breast cancer; age is generally not recognized as a risk factor for breast cancer in the three FGDs, participants across groups consistently reported that family history is an obvious main factor as to whether someone might get breast cancer. "If *the mother is affected by breast cancer her daughter may be affected"*. One married 26 year old woman in Jenin visited a doctor upon discovering a lump in her breast linked family history of breast cancer from a conversation she had with her physician *"The doctor **asked** if there are women or close relatives affected by breast cancer"*.

The participants did not recognize that an unhealthy lifestyle could be attributed to increasing the chances to be affected with breast cancer. Only one 29 year old married woman from Hebron mentioned smoking, while most of the participants were generally unsure what the main risk factors of breast cancer are, but many participants were well informed that family history is a key risk factor of breast cancer.

Lack of awareness regarding the risk factors for cancer, however, is obvious for the three groups.

Some women reported that vegetables and fruits now days are full of hormones that cause and increase breast cancer cases. This point created a debate among the FGD women in Jenin. One 50 year old woman in Jenin said that "*the fruits grow so fast now days due to the use of hormones; all types of cancer are caused by this type of vegetables and fruits"*. While another unmarried 49 year old woman said "*many people eat fertilized fruits and vegetables, but were not affected"* and she mentioned an example *"one school girl was affected by breast cancer, and she hasn't been exposed to so much fertilized produce ".*

The participants were not well informed regarding the risk factors. They only knew of the genetic factor, while they had no information concerning the other factors. Only one 37 year old woman from Hebron reported that contraceptive pills to be a risk factor "I *have a small*

lump, when I visited the doctor he ask me if I had been taking contraceptive pills for long time , and that is how I became aware that the contraceptive pill is a risk factor".

Knowledge and awareness was considerably higher among those who had personal experience with breast cancer or (through a friend or family member). In fact, almost half of the participants reported that they knew someone in their immediate family or a family of a close friend that had been affected by breast cancer. "One young woman 29 years old in Jenin said *"I went with my sister in law to the doctor because she has a lump and the doctor told us about the risk factors"*.

5.5 Knowing Symptoms

Women in the FGD were **a little** more aware about the breast cancer signs and symptoms. All participants reported the main symptoms which include

"Pain in the breast; finding a tumor; retracted nipple, change of the nipple color or shrinkage, new lump or mass".

Many women in the present study recognized a lump in the breast or under the arm as a sign of 'illnesses", but they did not know that this could signify breast cancer.

One 37 year old woman in Ramallah's FGD reported that she was referred to the hospital when the doctor found a lump in her breast. Another woman,

40 years old, in Ramallah said *"if a mass is painful then it is fat tissue, if not this would be a sign of cancer*". Also, they reported redness in the nipple; mostly all women mentioned the mass or lump in the barest as a main symptom. One 45 year old woman in Ramallah said "my *neighbor has breast cancer. She allowed me to look at how her nipple has secreted black and green discharge"*. Another married woman, 39 years old, in Jenin's FGD mentioned that the nipple "may be inverted ".

Some misconception of perceptions of the symptoms and their seriousness, as in Hebron group reported that dizziness is one symptom of breast cancer.

5.6 Attitudes

5.6.1 Anxiety and fear

In this question the research are aware about this sensitive question ,used smooth and common traditional quotations like (God bless you), in addition to giving the participants the choice to putting this question upon their choices ,if any did not want to answer she has the decision.

When the women were asked about their feeling if they were to have known they had breast cancer. They became very anxious and their facial expression changed with complains from hearing such a question. The word breast cancer causes them to feel restless, anxious and uneasy; the mere stating of the word would result in getting the disease. Whenever anyone mentioned this it was left without being questioned and it put a lid on the discussion; *"please"* one 36 year old woman in Jenin said *"I cannot be involved in this type of question"*, breast cancer is still a taboo subject, the word cancer by itself is a source of restlessness and anxiety among women that is overstated by the community.

The women in the three focus groups used many quotes to describe their reaction should they be affected by breast cancer; *I would break down completely, with fear and being scared, general fatigue and extreme hopelessness".*

5.6.2 .God "Allah" is a common word in the FGDs

The name of God was a common expression heard in all the FGDs. Women in FGDs expressed that breast cancer is destiny and by God, being a common dominant expression "we *believe in our God"*. The women's discussions were under the umbrella of their beliefs in God, destiny, faith and religion. Their expressions circulated around "*God protect us from such a disease"* and "*Maybe I'd have a nervous breakdown (in Arabic Enhyar) but I would derive my strength from my strong faith*"

The women expressed their attitude towards the breast screening test judging it unnecessary based on their umbrella of beliefs. "*I will not do any type of examination, I believe in my God"* said a 47 year old married woman from Jenin.

Finally, the discussion was concluded with a religious stain; with a strong unanimous belief that God will handle their destiny and recovery. The belief in destiny and that God is the

protector , later impacted in accepting that breast cancer is density ,thus screening tests are not necessary from their views , which means that women have a negative attitude toward breast cancer regarding their religious beliefs..

5.7 Awareness about early detection tests of breast cancer

Lack of sensitization of the early detection tests except for the test of BSE, and as majority of the women thought that the cost of screening have indirectly affected the performing of breast cancer early detection methods **,** but the most commonly breast cancer early detection method was breast self-examination.

During the FGDs, two unusual answers came from the women regarding early detection. One 32 year old married woman said *"the cleaning of the breast prevents breast cancer from happening"*. While a 44 year old married woman from Ramallah said *"My mother in law advised me to use a type of plant called Arum (alof) to protect myself from breast cancer"*. All of the participants confirmed knowing that the self-breast examination test is one method for early prevention of breast cancer.
Lack of support and seriousness for this disease was shown by a 41 year old woman in Ramallah "*one day I felt a pain in my breast, my mother in law told me, to drink any type of herbs and I'd be ok"*.

5.8 BSE

Most of the participants have known that breast self-examination is a screening method for the early detection of breast cancer. However, when asked about breast self-examination, most of these women said they did not practice breast self-examination, but the majority of the participants have fair information about the technique of breast cancer.

All of the participants know the breast self-examination technique and the suitable time to perform it, but only two participants practice this method regularly, these two are in Hebron; one said it was her husband's career that had an impact on her, as he works in a cancer department of a hospital. While the other was because one of her close relatives has breast cancer, "*Her experience encourages me to do the breast self-examination test"*.

Moreover, most of the women have some information on how to perform the breast self-

exam; they received the information from brochures, TV or from friends and health awareness sessions in clinics. In the FGDs there was no compliance from the women concerning the BSE, as half of the women had done it before but not on a regular basis.

The attitude toward BSE is positive deeming it a vital test for early breast cancer symptoms detection and as the women agreed saying "*it give signs if you have something in your breast"*.

5.9 CBE

The women lack sensitization about this type of early detection test. The majority of the respondents have not heard about this type of early detection, so the researcher rephrased the question in a different way "Has anyone of you visited a physician to examine her breast?".

One woman in each of the FGDs of Hebron and Jenin knew that clinical breast examinations are called "the examination that have done by physicians".

5.10 Mammogram limited knowledge regarding screening tests.

In the two FGDs in Jenin and Hebron, lack of knowledge about the mammogram technique was evident, as they did not have accurate information about the instructions of a mammogram, and they tried to guess the answers. While the Ramallah FGD had fair information.

One *27 year old woman* in the Hebron FGD knew about mammograms since her husband works as a nurse in the breast cancer department of Beit Jalla's hospital. *W*hile two women in Jenin knew about the mammogram from their experience" *one woman said the wife of my uncle had this examination done"*.

5.11 Barriers affecting the practicing of Early Detection Measurements

5.11.1 Children are coming first

The women prioritize children and family needs (in Arabic Alythar), placing them before their own health. Women claimed that if they have enough resources they would take care of their own health. However, when there is limited money; women prioritized their children's

and family's needs and neglect their own health. Women used these quotes *"**"it is not of the** first priorities, kids are the first priority" each one has children, our children are more important than us"* Another woman said *"the treatments are costly, because money should be spent on important issues"*.

5.11.2 Fear of Finding Symptoms

Women in all the FGDs discussed the fear of finding symptoms as a barrier that stopped them from practicing breast self- examinations. Women talked about avoiding palpitating their breasts or going for CBE or mammography because they feared finding a lump.

A 47 year old married woman said *"if you are scared of monkies you will see one in your way"*.

The women in the Hebron FGD agreed that fear is the main barrier stopping them from looking for symptoms "95% have a fear from exploring any symptoms".

The participants in Hebron reported that all women are scared of breast cancer. A 29 year old woman from Hebron said *"I saw women tore a prescription a nurse **would give** them for a breast examination in front of my eye , after they leave the clinic"*.

5.11.3 Feel Safe from the Disease

They felt safe from breast cancer and did not seek CBE or mammography screening because they did not feel any symptoms or because they are doing BSE at home and not having noticed any abnormal changes in their breasts.

One 36 year old woman from Jenin said *"If, by the breast self-exam, something is found, I would go, but if nothing is wrong, why should I go to get a clinical examination?"*

Women also expressed that they felt safe when the results of their first CBE or Mammography screening was negative and because of that they did not feel a need to go for periodic examinations.

5.11.4 Personal Barriers

Other reasons such as carelessness and laziness in addition to forgetfulness due to having many chores keep them busy and distracted them from practicing SBE, seeking CBE or

having a mammography. One 29 year old woman in Jenin said “my sister in law has a breast problem and she asked me to come to take the test in a clinic but I did not do that because I was busy with so many things

5.11.5 Cultural barriers

The issue of modesty and prudery is highly valued since the women were not comfortable exposing their breast to a health provider. A 49 year old woman from Jenin said “I *am too shy to expose my breast".*

5.11.6 Mammogram has side effect

In some FGDs, the women perceived mammography examination as painful and harmful. The women explained that such worries about possible harmful effects of x-rays were confirmed by their physicians.

One 45 year old woman from Ramallah said that “*the nurse did not give me any support during the mammogram, which was very painful”*.A 49 year old woman from Jenin said, “*We hear that if a woman undergoes a mammogram more than once, the x-rays would have a negative impact on her health later on”.*

5.11.7 Health Services /short falls

Lack of privacy

The women talked about the lack of respect, privacy, and confidentiality from their health care providers when they go to conduct a mammogram screening at MOH clinics. A 55 year old woman from Ramallah said*"I took off my clothes for the mammogram, but the mammogram technician left me with the door open and began talking with the nurse, I felt so shy, this is my experience”.*

Lack of quality

The mammogram devices at MOH clinics lack quality according to the participant’s views. *“When we have the mammogram done at an MOH clinic, and show it to a private phycain, the physician would say they do not trust the quality of the MOH mammogram devices. They would ask us to redo the mammogram in a private clinic”*

Two of the women have had CBE conducted by a female physician. A 42 year old married

woman from Hebron said "*the physician's examination was not satisfying, I did not like the quality, of the examination, she did it quickly, and I was not comfortable".*

Women are more concerned and have a fear of results of breast cancer, and they tend to rely on breast self-exam rather than mammography to detect a breast problem.

Despite the barriers mentioned above, fear remains the dominant one among women targeted for the screening. This fear comes from the possibility of finding out that something is wrong.

5.11 Family and Social Support towards Seeking Breast Health Care

In all the FGDs, family and social support appeared to be a motivator that enabled women to overcome their fear and reluctance of seeking breast health care. The women experienced and appreciated receiving encouragement from their husbands or their mothers to practice breast health care. They talked about daughters and sons, but most of them reported that their daughters were more supportive than their sons .woman in Rammalla " my daughters are more supportive and felt with me when I tested the lump"

Summary:

This part represented the main findings of the FGDs towards breast cancer and the screening tests, knowing about the Palestinian woman's level of information regarding breast cancer as well as their attitudes, paired with their quotations. This type of approach assists the researcher to dig deeply into the women's attitude towered breast cancer.

Part: survey results

This part is divided in two sections, section one represents the frequencies for the variables of: Knowledge, Attitude and Practices, and the barriers. The second section represents the of the relationship between the dependent and independent variables, by using Chi-square.

5.1 Statistical Analysis

Out of 390 women enrolled in this study, 341 were available for the final analysis with a response of (87.2%). To achieve the purpose of the study, frequency and percentage were used for the descriptive result, Chi-square to investigate the relationship between dependent and independent variables, The ANOVA test was not used to investigate the relationship in this study because this test should evaluate the variables which were interval or ratio scaled (Park, 2009). Thus, in this test, all the variables are nominal and not interval. In such cases, Chi-square test is recommended. The Chi square prerequisite sample size must be large

enough so that the expected count in each cell is greater than or equal to 5.In this research, more than 90%, of the cell is greater than or equal to 5. To test for more significance, we used approximations which are the likelihood ratio statistic the Pearson's chi-square statistic and linear by linear association (Sachan & Bhattacharya, 2012). In addition, to verify that there is an association between independent and dependent variables a confounding variable was. A level of $p<0.05$ was considered as statistically significant.

To evaluate the level of knowledge, we applied Bloom's cut Off Points. 80 – 100% - Good Knowledge,60, 79% - Moderate Knowledge, <60% Poor Knowledge (Coscarelli & Shrock, 2000; Guilford, 2011), yes is consider as right answer . While assessing the participants' attitudes of those who answered "yes" relating to the importance of the screening test were considered positive attitude. The assessing of good practice according to ACS for each screening test were as following, for those who have performed the BSE on a monthly basis regarded it as a regular practice, while those who performed the CBE, we considered each age interval according to ACS, however mammography practice was assessed, according to MOH breast cancer brochure, taking into consideration age of the women.

6.2 Demographic details of the respondents

The socio demographic characteristics of participants are shown in Table (9) which included residency, education, occupation, age, religion, marital status and income. The mean age of the women was, 33, median age is 31 and the majority of the participants were in the age group of 20-29, representing 41.5% of the sample. Most of the participants (86%) were married ,while 36 (11%) of the women from the sample are single, part of the women brought child from their families while others are insured menopausal women who were coming for consultancy from family planning or the nurse in the clinics about health problems. And Muslim (100%). Most of the participants 'education levels were Tawjihi 23%. The majority of participants income is up to 1599 NIS ,37.9%.Th.e result showed that most of the respondents were house wives-unemployed (77%), as for the rest of the sample, (10%) had full time jobs, (6%) had part time jobs, while (7%) were students.

(Table 6.1-A): Socio-demographic characteristics of the study group

Item	Number/ Percentage
Residency	
City	34 (10%)
Village	300 (89%)
Camp	4 (1%)
Total	338
Age group	**Number/ Percentage**
20-29	137 (41.5%)
30-39	115 (34.8%)
40-49	48 (14.5%)
50-59	16 (4.8%)
60-69	6 (1.8%)
Total	322
Marital status	**Number/ Percentage**
Single	36 (11%)
Married	292 (86%)
Widowed	4 (1%)
Divorced	4 (1%)
Separated	4 (1%)
Total	341 (100%)
Education level	**Number/ Percentage**
Illiterate	4 (1%)
Elementary	21 (6%)
Preliminary	69 (20%)
Secondary school	59 (17%)
Tawjihi	78 (23%)
Diploma	34 (10%)
BA	72 (21%)
High education	4 (1 %)
Total	341 (100%)
Occupation	**Number**
Full job more than 35hours /week	34- (10%)
student	23 (7%)
Part time	19 (6%)
House wife –unemployed	**264 (77%)**
Total	340 (100%)
Income	
up to 1599 NIS	128 (37.9%)
1600-2399NIS	87 (25.7%)
2400-3399	84 (24.9%)
3400 -4399	13 (3.8%)
4400 and above	26 (7.7%)
Total	338 (100.0%)

6.3 History of Breast Cancer

The results indicated that (18.8%) of the participants had family history of breast cancer, while (81.2%) had no family history of breast cancer. However, (12.2%) 6.2.

(Table 6.2): History of Breast Cancer.

Item	Are any of your relatives (first degree relatives: daughter, sister, aunt mother) affected by breast cancer?		Total
	Yes	**No**	
Frequency	64	276	**340**
Percent	18.8%	81.2%	**100.0%**

Most of the participants in the study (81.8%) knew that breast cancer is the most prevalent cancer in Palestine among women. While (91.5%) of the women agreed that breast cancer is a dangerous disease.

6.4 Risk Factors Knowledge

The results regarding the knowledge of risk factors using prompted questions indicated that (69.8%) of the sample knew that BC occurrence increases with increasing age, (65.9%) believed that family history play a role in the occurrence of BC. The knowledge regarding the late or early menarche occupied the percentage (30.2%, 40.0%) respectively. The other factors percentages are having a diet high in fat, lack of physical activity, smoking (-60.4%, 54.5%-, 77.1%) respectively. The other factors are infertility which formed (51.2%), consumption of oral contraceptive occupied (62.1%), while hormone therapy after menopause indicated (67.1%), and having a child at a late age indicated (44.3%),the highest percentage is the breast feeding (81.2%)

Table (6.3): Shows the result of risk factor knowledge of Respondents

	Is the BC a prevalent disease among women in Palestine?	Do you know that the BC presents a danger on women's health?	Advanced age(aging)	Inherited (family history)
	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent
Yes	279 (81.8%)	312 (91.5%)	238 (69.8%)	224 (65.9%)
NO	52 (15.2%)	20 (5.9%)	71 (20.8%)	98 928.8%)
I do not know	10 (2-9%)	9 (2.6%)	32 (9.4%)	18 (5.3%)
Total	**341**	**341**	**341**	**340**
	Infertility	Overweight	Lack of physical activity	Hormone therapy after menopause
	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent
Yes	174 (51.25)	183 (53.7%)	186 (54.5%)	228 (67.1%)
No	111 (32.6%)	107 (31.4%)	102 (29.9%)	49 (14.4%)
I do not know	55 (16.2%)	51 (15.0%)	53 (15.5%)	63 (18.5%)
Total	**340**	**341**	**341**	**340**
	Early age at menarche(12 years old	Late age at menarche (after 55 years old)	Recent oral contraceptive use	Breast feeding
	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent	Frequency/ percent
Yes	103 (30.2%)	136 (40.0%)	211 (62.1%)	277 (81.2%)
No	147 (43.1%)	123(36.2%)	79 (23.2%)	47 (13.8%)
I do not know	91 (26.7%)	81 (23.87%)	50 (14.7%)	17 (5.0%)
Total	**341**	**340**	**340**	**341**
	High fat diet	Smoking	Alcohol consumption	First birth at late age (30 years old
	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent
Yes	206 (60.4%)	263 (77.1%)	231 (67.9%)	151 (44.3%)
No	90 (26.4%)	49 (14.4%)	56 (16.5%)	123 (36.1%)
I do not know	45 (13.2%)	29 (8.5%)	53 (15.6%)	67 (19.6%)
Total	**341**	**341**	**340**	**341**

6.5 Knowledge of Breast Cancer Symptoms

The results concerning the knowledge of breast cancer symptoms indicated that finding a lump in the breast was (96.5%), nipple discharge or bloody discharge was (77.1%), nipple pain was (65.3%) and noticing thickening of the breast was (51.8%). Other symptoms included skin dimpling, (56.8%), thickness of breast skin is (53.5%), redness (52.1%) and breast or nipple pain was (71.5%) (Table 6.4).

(Table 6.4): Respondent's knowledge of symptoms

	Skin dimpling	Thickening of breast skin	Redness, irritation, of nipple or breast skin	Breast or nipple pain
	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent
Yes	193 (56.8%)	182 (53.5%)	177 (52.1%)	243 (71.5%)
No	82 (24.1%)	79 (23.2%)	99 (29.1%)	67 (19.7%)
I do not know	65 (19.1%)	79 (23.2%)	64 (18.8%)	30 (8.8%)
Total	**340**	**340**	**340**	**340**
	Lump in the breast	Nipple discharge or bloody discharge	Nipple pain	Thickening of the nipple
	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent	Frequency/ Percent
Yes	329 (96.5%)	262 (77.1%)	222 (65.3%)	176 (51.8%)
No	7 (2.1%)	50 (14.7%)	103 (30.3%)	96 (28.2%)
I do not know	5 (1.5%)	28 (8.2%)	15 (4.4%)	68 (20.0%)
Total	**341**	**340**	**340**	**340**

6.6 Respondent's knowledge of Early Detection Methods

The early detection methods are represented as following according to those who answered yes; BSE (91.8%), mammograms (74.6 **%),** and (85.6 %) of the women were aware of the clinical breast examination .

(Table 6.5): Distribution of women's knowledge level regarding early detection methods of Breast Cancer

Variable		Frequency/ Percent
Self-examination test	Yes	313 (91.8%)
	No	24 (7.0%)
	I do not know	4 (1.2%)
	Total	341 (100.0%)
Clinical breast examination	Yes	291 (85.6%)
	No	44 (12.9%)
	I do not know	5 (1.5%)
	Total	340 (100.0%)
Mammograms	Yes	253 (74.6%)
	No	58 (17.1%)
	I do not know	28 (8.3%)
	Total	339 (100.0%)

6.7 Source of Breast Cancer Information

Women reported that they received breast cancer information as follows; (33%) reported television, while (10%) from the internet, (11%) from the radio, (16%) from friends and relatives. (10%) of the women reported being informed from printed press, (18%) from health providers, while (2%) reported that their own experience with the disease was their source.

(Table 6.6): Source of Breast Cancer Information

Variable	Frequency / Percentage
TV	251 (33%)
Health providers	140 (18%)
Friends and relatives	123 (16%)
Radio	83 (11%)
Printed press	76 (10%)
Internet	73 (10%)
My experience with this disease	15 (2%)
Total	761 (100%)

6.8 Knowledge of Breast Self-Examination

The first sub question related to breast self- examination information was the right age, which is 20 years old according to the American Cancer Society; to begin performing BSE, (30.5%) of the participants provided the right answer. The second item concerned the timing of performing BSE, and (50.7%) of the women responded with the correct answer reported that BSE should be performed once monthly four days after the menstrual cycle end. (69.3%) of the participants think they know how to perform the BSE. The fifth item concerned performing the BSE monthly and regularly, (44.2%) answered they did ,see annex J :regular practicing of BSE monthly regarding the age .The sixth item asked of the number of times the women actually performed BSE during the past 12 months only (21.6%) of them answered correctly; (monthly). Furthermore, the seventh sub item concerned realizing the importance of BSE as a method for early detection of breast cancer, (93.4%) responded with yes. (69.8%) of the respondents have known the technique of standing in front of a mirror to perform the BSE, while, (12.8) of the respondents have known the technique of standing with their arms slightly raised to perform the BSE. Moreover, (17.4%) have known the technique of putting their arm behind their head for the BSE. As for the barriers hindering women from performing BSE, the six most highlighted barriers were; “I do not have breast problems” (20.8%), “carelessness” (16.6%), “Laziness” (14.6%),“,**fears of detecting symptoms “ (14.1)** and (11.5%) said “My God protects me”.

(Table 6.7- A): Knowledge of Breast Self-Examination.

At what age should a woman begin breast self-examination?	Frequency/ Valid Percent
20	104 (30.5%)
30	77 (22.6%)
35	102 (29.9%)
I do not know	58 (17.0%)
Total	341 (100.0%)
How often should breast self-examination be performed?	
Per week	26 (7.6%)
Monthly, four days after the end of menstrual cycle	173 (50.7%)
Per two month s	72 (21.1%)
I do not know	70 (20.5%)
Total	341 (100.0%)
Do you know how to perform Breast Self -Examination (BSE)?	
Yes	233 (69.3%)
No	103 (30.7%)
Total	336 (100.0%)
Mention the main steps to performing BSE	
Standing in front of a mirror with hands pressing firmly down on your hips, look at your breasts for any changes of size, shape contour.	164 (69.8%)
Standing with your arm only slightly raised so you can easily feel in this area, , look at your breasts for any changes of size, shape contour	30 (12.8%)
Put your arms behind your head, stress your body muscles, and notice any changes in your breast	41 (17.4%)
Total	235 (100.0%)
Do you perform or practice self-breast examination monthly and regularly?	
Yes	111 (44.2%)
No	140 (55.8%)
Total	251 (100.0%)
How many times have you practiced BSE in the past 12 months?	
Monthly	47 (21.6%)
One per two months	24 (11.0%)
Twice or more per year	38 (17.4%)
Five times during five years	3 (1.4%)
Undefined	106 (48.6%)
Total	218 (100.0%)

(Table 6.7- B): Knowledge of Breast Self-Examination.

At what age should a woman begin breast self-examination?	**Frequency/ Valid Percent**
Is the BSE important and assists in early detection of breast cancer?	
Yes	225 (93.4%)
No	3 (1.2%)
I do not know	13 (5.4%)
Total	241 (100.0%)
Why did you not practicing breast self-examination regularly?	
I do not have breast problem	166 (20.8%)
Carelessness	133 (16.6%)
Laziness	117 (14.6%)
Fears of detecting any symptoms	113 (14.1%)
My God protects me	92 (11.5%)
I am still young to perform such examination	46 (5.8%)
Unsure about its benefit or accuracy	42 (5.3%)
I don't have enough knowledge about this examination	40 (5.0%)
Time consuming	23 (2.9%)
I have not been advised for doing so	19 (2.4%)
Embracement to see my breast in mirror or touch	8 (1.0%)
Total	799 (100.0%)

6.9 Clinical Breast Examination Test Information

The first sub item was "Have you ever had your breasts examined by a physician or nurse?" only (28.5%) answered yes, see the Appendix-J percentage of women examined breast by physician or nurse regarding the age .The second sub item was "At which age should a woman begin performing CBE**?" (**55.4%) answered correctly20-30 years old. The third sub item was "Do you know the number of times the breasts should be examined by a physician or nurse prior to the age of 40?" (70.4%) answered correctly, the forth sub item "Do you know the number of times the breasts should be examined by a physician or nurse after to the age of 40". The fifth sub item was "How many times did you have your breasts examined by a nurse or physician during your life?" (68.3%) of the participants replied saying they did not perform it at all during their life. The sixth sub item was "Do you believe it important to perform CBE by a nurse or physician?" to which (92.4%) responded with yes. The seventh sub item was "Would you allow a male physician perform CBE for you?" to which (57.6%) answered yes. The eighth sub item was the barriers hindering women from performing CBE; the five most highlighted barriers were "I do not have breast problems, and no one advised me

to do so" (22%), "My God protects me" (14%), "Fear from detecting symptoms" (14%), "Laziness" (14%), and "Financial cost; I have other priorities" (15%) .

(Table 6.8.A): Clinical Breast Examination Test Information

Item	Frequency/ Valid Percent
Have you ever had your done your breast examination by doctor or nurse?	
Yes	97 (28.5%)
No	243 (71.5%)
Total	340 (100.0%)
At which age should a woman begin performing CBE?	
20-30	189 (55.4%)
35	111 (32.6%)
I do not know	41 (12.0%)
Total	341 (100.0%)
Do you know the number of times the breasts should be examined by a physician or nurse after the age of 40?	
once from 1-3 years	240 (70.4%)
I do not know	101 (29.6%)
Total	341 (100%)
How many times did you have your breasts examined by a nurse or physician during your life?	
1-3 times	88 (25.8%)
3-5 times	9 (2.6%)
More than 5 times	6 (1.8%)
Never	233 (68.3%)
I do not know	5 (1.5%)
Total	341 (100.0%)

(Table 6.8.B): Clinical Breast Examination Test Information

Item	Frequency/ Valid Percent
Do you believe it important to perform CBE by a nurse or physician?	
Yes	314 (92.4%)
No	26 (7.6%)
Total	340 (100.0%)
Would you allow a male physician perform CBE for you?	
Yes	194 (57.6%)
No	143 (42.4%)
Total	337 (100.0%)
What are the barriers hindering women from performing CBE?	
I do not have breast problems, I have not been advised for doing so	179 (22%)
Financial costs and I have other priorities.	120 (15%)
My God protects me	118 (14%)
Laziness	115 (14%)
Fears of detecting any symptoms	114 (14%)
Embracement Because the health provider is man	48 (6%)
I am still young to perform such examination	47 (6%)
The examination needs time	26 (3%)
I don't have enough knowledge about this examination	18 (2%)
Unsure about its benefit or accuracy	15 (2%)
I don't want anyone to know about my disease	9 (1%)
I've heard it is painful examination	8 (1%)
Total	817 (100%)

6.10 Information about Mammogram

The first sub item was "recommended age for mammogram examination", to which (16.1%) of the women answered correctly, above 40 years old according to the MOH protocol) The second sub item was "How often should a mammogram be performed after the age of 40 to which (28.7%) answered correctly. The third sub item was "How often should a mammogram be performed after the age of 50?" to which it is once a year (54.9%) answered correctly. The forth item was "Do you know that mammogram test is free of charge at MOH clinics in West Bank?" to which only (37.5%) said yes. The fifth sub item was "have you had a mammogram performed at the age of 40 and above?"(47.3: The sixth sub item was "the number of times you examined your breast by mammogram?" to which (84.1%) of women answered "never". See Annex J: distributing of practicing of mammogram according to the age. The eighth sub

item was “Is the mammogram important in assisting and detecting early breast cancer?” to which (83.6%) answered yes. The ninth sub item was about “barriers hindering women from performing mammogram”, to which (25.3%) responded “fear of detecting symptoms”, (13.2%) reported that “laziness” was their reasons. (11.7%) said “I am still too young to perform this test”.

(Table 6.9- A): Information about Mammogram

Item	Number / Percentage
Recommended age for mammogram examination	
Above 40 years old	55 (16.1%)
Above 45 years old	36 (10.6%)
I do not know	101 (29.6%)
Total	341 (100.0%)
How often should a mammogram be performed after the age of 40?	
Once per two years	96 (28.7%)
Once per three years	45 (13.4%)
Once per year	194 (57.9%)
Total	335 (100.0%)
How often should a mammogram be performed after the age of 50?	
Once per a year	184 (54.9%)
Once per two years	90 (26.9%)
Once per three years	61 (18.2%)
Total	335 (100.0%)
Have you had a mammogram performed?	
Yes	36 (10.6%)
No	304 (89.4%)
Total	340 (100.0%)
The number of times you examined your breast by mammogram?	
Once	27 (9.2%)
Twice	6 (2.0%)

(Table 6.9- B): Information about Mammogram

Item	Number /Percentage		
More than two	1 (0.3%)		
Five times	13 (4.4%)		
Never	248 (84.1%)		
Total	295 (100.0%)		
Is the mammogram important in assisting and detecting early breast cancer?			
Yes	285 (83.6%)		
NO	56 (16.4%)		
Total	341 (100.0%)		
The barriers hindering women from performing mammogram			
Fears of detecting any symptoms	147 (25.3%)		
Laziness	77 (13.2%)		
I am still young to perform such examination	68 (11.7%)		
I do not have breast problem	63 (10.8%)		
Unsure about its benefit or accuracy	61 (10.5%)		
I have other priorities.and the cost is high	49 (8.4%)		
The examination needs time	41 (7.0%)		
I've heard it is painful examination	23 (4.0%)		
I don't have enough knowledge about this examination	19 (3.3%)		
I have not been advised for doing	12 (2.1%)		
Embracement Because the health provider is man	10 (1.7%)		
God Bless me	9 (1.5%)		
I don't want anyone to know about my disease	3 (0.5%)		
Total	582 (100.0%)		
Do you know that mammogram test is free of charge in MOH clinics	Yes	No%	I do not know %
	37.5	41.4	21.0

6.11 Women's feelings and expectations towards being affected with breast cancer

The main three attitudes most obvious were; "I will feel scared" (31.9%), "I will suffer from a nervous breakdown" (11.3%), "I will consult a physician immediately" (27.3%).

(Table 6.10): Women's feelings and expectations towards being affected with breast cancer

Item	Frequency/ Percentage
1. I will be scared	211 (31.9%)
2. I will suffer from nervous breakdown	75 (11.3%)
3. I will not tolerate that	65 (9.8%)
4. I will consult a physician immediately.	181 (27.3%)
5. I will ask help from my relatives and friends	42 (6.3%)
6. I will use traditional and local therapeutic remedies	5 (0.8%)
7. I will go to the mosque or church and pray for god	10 (1.5%)
8. I will perform mastectomy	11 (1.7%)
9. I will not do any thing	13 (2.0%)
10.I will accept that, because it is my fate	49 (7.4%)
	662 (100.0%)

6.12 If you feel a lump in your breast, how fast you will go to see physician?

According to the participants' answers, (69.7%) said they would go on the same day. (22.1%) said they would go within a week. As for the women who responded with "within a month" and "I do not know" gave the same percentage of (4.1%).

6.13 Do you believe that breast cancer only occurs for the aging women?

When the women were asked whether they believed that breast cancer only occurs for the aging women, (60%) answered yes. (23).

6.14 Do you believe it rare for a woman with breast cancer to live more than five years?

When the women were asked "do you believe it rare for a woman with breast cancer to live more within five years?"(42.8%) of them responded with yes.

Table (6.11): women response about that breast cancer as curable disease .

	Frequency/ Valid Percent
Yes	146 (42.8%)
No.	195 (57.2%)

6.15 Part two: relationship between knowledge aspects of breast cancer and screening tests and demographic variables.

Chi square was used to investigate the relationships between the dependent and independent variables, in addition the co-founder was used to explain the impact of the demographic variables (age, income, education marital status) on the knowledge ,attitude and practice ,however ,only selected questions tested by the co-founder (selected questions from the sections of knowledge, practice).

6.15.1 The relationships between knowledge of breast cancer & socio demographic variables

The table (6.14) addresses the research question "Are there relationships between demographic variables (age, residency, educational level, religion, marital status, occupation and income) and the level of knowledge of breast cancer risk factors? "The Chi-square analyses were conducted in order to address this research question. The study shows, the variable which was significant was the level of education (.0490). Age(.0006) and the income (.0522)

(Table 6.12): Knowledge of breast cancer (Risk factors of breast cancer)/ associated with Demographic variables

Variable	Yes	No	P-value
Education			
Less than tawjihi Tawjihi Above twajihi level	17(16.7%) 50(37.6%) 77(72.6%)	85(83.3%) 83(62.4%) 29(27.3%)	0.0490
Age			
20-29 30-39 40-49 Above 49	80(55.17%) 70(60.86%) 35(72.9%) 13(59.09. %)	65(44.8%) 45(39.1%) 13(27%) 9(40.9%)	.0006
Income			
up to 1599 NIS 1600-2339 NIS Above 2400NIS	76(59.37%) 55(63.2%) 75(60.97%)	52(40.6%) 32(36.78%) 48(39%)	.0522

The table (6.13) The table shows the strength of the relationship which amounted to 12%, a statistically significant amount of interpretation of any changes to the dependent variable of the so-called (R) square, thus the strength of the relationship achieved is very suitable to explain the impact of the factors (income, age, occupation, education) on the knowledge See Appendix M

Table (6.13): the relationship between knowledge and the independent variables to (income, age, occupation and education)

Sig.	t	Standardized Coefficients	Unstandardized Coefficients			Model
		Beta	Std. Error	B		
.000	4.553		1.776	8.088	(Constant)	1
.020	2.346	.146	.042	.097	Q2age	
.054	1.899	.111	.218	.414	Q3education	
.055	1.978	.103	.032	.087	Q6work	
.957	-.054	-.003	.000	.000	Q7income	

6.15.2 The relationships between of knowledge of breast cancer symptoms & socio demographic variables

The table (6.15) addresses the research question "Are there relationships between demographic variables (age, educational level, and occupation) and the level of knowledge of breast cancer symptoms?" The significant variables were educational level, occupation and age (.0136, .0449, .0164) respectively.

(Table 6.14): The relationship knowledge of breast cancer symptoms and demographic variables

Variable	Yes	No	P-value
Education			
Less than tawjihi Tawjihi Above twajihi level	32(20.8%) 19(24.8%) 39(35.5%)	122(79.2%) 58(75.3%) 71(64.5%)	.0136
Occupation			
Full job more than 35hours /week Part time Unemployed	32(60.4%) 214(75%)	21(39.6%) 71(24.9%)	.0449
Age			
20-29 30-39 40-49 Above 49	91(63.2%) 73(63.5%) 33(68.8%) 16(72.7%)	53(36.8%) 42(36.5%) 15(31.3%) 5(27.2%)	.0164

6.15.3 The relationships between the knowledge of breast cancer screening tests & Socio demographic variables

The table below addresses the research question "Are there relationships between demographic variables (age, residency, educational level, religion, marital status, occupation and income) and the level of knowledge of early detection method for breast cancer (breast self-examination, Clinical breast examination, mammogram, and biopsy)?" The significant variables regarding to BSE were, education, age and marital status, (.0021, .0001, .0275.) respectively.

(Table 6.15): The relationships between the knowledge of breast cancer screening tests & Socio demographic variables

Variable	Yes	NO	P-value
1. BSE/Education			
Less than tawjihi Tawjihi Above twajihi level	135(87.7%) 70(89.7%) 100(91.7%)	19(12.3%) 8(10.3%) 9(9.3%)	.0021
Age			
20-29 30-39 40-49 Above 49	135(93.1%) 107(93%) 43(89.6%) 17(77.27%)	10(6.9%) 8(7%) 5(10.4%) 5(22.7%)	.0001
2. CBE/Education	**Yes**	**No**	**P-Value**
Less than tawjihi Tawjihi Above twajihi level	132(86.2%) 65(84.4%) 94(85.5%)	21(13.7%) 12(15.6%) 16(14.5%)	.0384
Age			
20-29 30-39 40-49 Above 49	120(83.3%) 98(85.2%) 43(89.6%) 15(68.2%)	24(16.7%) 17(14.8%) 5(10.4%) 7(31.8%)	.0538
Income			
up to 1599 NIS 1600-2339 NIS Above 2400NIS	111(87.4%) 73(83.9%) 105(85.4%)	16(12.6%) 14(16.1%) 18(14.6%)	.0187
Mammogram/Education	**Yes**	**No**	**P-Value**
Less than tawjihi Tawjihi Above twajihi level	112(73.2%) 58(74.4%) 83(76.8%)	41(26.7%) 20(25.6%) 25(23.1%)	.0458
Income			

up to 1599 NIS 1600-2339 NIS Above 2400NIS	95(74.2%) 60(69.8%) 96(78.7%)	33(25.8%) 26(30.2%) 23(21.3%)	.0187
4. Biopsy	**Yes**	**No**	**P-value**
Less than tawjihi Tawjihi Above twajihi level	115(75.1%) 58(75.3%) 77(71.3%)	38(24.8%) 19(24.6%) 31(28.7%)	.0008
BSE/Marital status	**Yes**	**No**	**P-value**
Married Unmarried	264(90.4%) 40(58.6%)	28(9.6%) 9(41.4%)	.0275
Mammogram /Martial status	**Yes**	**No**	**P-value**
Married Unmarried	219(75.2%) 34(69.4.2%)	71(24.5%) 15(30.6%)	.0239
CBE/Occupation	**Yes**	**No**	**P –value**
Full job more than 35hours /week& Part time Unemployed	43(81.8%) 247(92.1%0	10(18.2%) 75(7.9%)	.0372

The second test (CBE) "Are there relationships between demographic variables (age, residency, educational level, religion, marital status, occupation and income) and the level of knowledge of early detection method for breast cancer (clinical breast examination)?" The table (6.16) shows that the significant variables regarding to CBE were educational level, income, occupation and age (.0384, .0187, .0372, .0538) respectively.

The third test mammogram "Are there relationships between demographic variables (age, residency, educational level, religion, marital status, occupation and income) and the level of knowledge of early detection method for breast cancer (mammogram test)? The table (24) shows that the significant variables were education, marital status and income (.0458, .0220,.0187respectively). However, the variable found to be insignificant was the residency variable (.0958).

The last test the research question "is there relationships between demographic variables (age, residency, educational level, religion, marital status, occupation and income) and the level of knowledge of early detection method for breast cancer (Biopsy)?"There is a significant

association between the following variables; education, and occupation (.0008, .0352) respectively.

6.15.5 The relationship Knowledge of Breast self-examination and demographic variables

The table (6.17) addresses the research question "are there relationships between demographic variables (age, residency, educational level, religion, marital status, occupation and income) and the level of knowledge of breast-self-examination. In the following questions, three items of knowledge are addressed which are; the age recommended to start performing BSE, the frequency of BSE, and the procedure of BSE. The results indicate an association significant variables relating to the time of performing BSE were the marital status, age and education (.0009,.0557,.0051) respectively ,while the results indicate an association significant variables to the women's knowledge of recommended age to begin performing the BSE which were as follows education , age and income (.0017,.0421, .0070) respectively. While the results indicate an association significant variables' relating to the knowing of procedure of BSE, which were as follows, marital status, education ,and income (.0427,.0129,.0495) respectively.

Table (6.16): Knowledge of Breast self-examination associated with Socio demographic variables

Variable	Marital status	**Yes**	**No**	**P-value**
The time of performing BSE	Married Un married	19(6.5%) 11(28.2%)	273(93.5%) 38(71.8%)	.0009
	Age			
	20-29 30-39 40-49 Above 49	74(51%) 56(48.7%) 29(60.4%) 37(52.8%)	71(48.9%) 59(51.3%) 19(39.6%) 22(47.2%)	.0557
	Education			
	Less than tawjihi Tawjihi Above twajihi level	14(9.2%) 5(6.4%) 7(6.4%)	139(90.8%) 73(93.6%) 110(93.6%)	.0051
Do you know how to perform Self	**Marital status**			
	Married Unmarried	201(69.8%) 32(66.7%)	87(30.2%) 16(33.3%)	.0427

Breast Examination (BSE)	**Education**			
	Less than tawjihi Tawjihi Above twajihi level	147(64.8%) 26(50%) 59(71.9%)	80(35.2%) 26(50%) 23(28.1%)	.0129
	Income			
	up to 1599 NIS 1600-2339 NIS Above 2400NIS	83(72.2%) 58(66.7%) 91(74.6%)	42(27.8%) 29(33.3%) 31(25.4%)	.0495
At what age should a woman begin breast self-examination	**Education**	**Yes**	**No**	**P-value**
	Less than tawjihi Tawjihi Above twajihi level	42(27.5%) 19(24.3%) 43(39%)	111(72.5%) 59(75.6%) 67(60.9%)	.0017
	Age			
	20-29 30-39 40-49 Above 49	50(43.5%) 32(27.8%) 15(31.3%) 22(31.4%)	95(65.5%) 83(72.1%) 33(68.8%) 48(68.5%)	.0421
	Income			
	up to 1599 NIS 1600-2339 NIS Above 2400NIS	28(21.8%) 25(28.7%) 49(39.8%)	100(78.1%) 62(71.3%) 83(67.5%)	.0070

6.15.5 The relationship between knowledge of clinical breast examination and Socio demographic variables

The association between knowledge on clinical breast examination with three demographic variables; age of performing CBE and the frequency of performing CBE after the age of 40 is indicated in the tables (26).

Four variables are significantly associated with knowing the recommended age of CBE which are, education, marital status occupation, age and income (.0129,.0072,.0003,.0048,.0210) respectively.

(Table 6.17): knowledge of clinical breast examination associated with Socio demographic variables

Variable	Education	Yes	No	P –value
Do you know at what age CBE will have done?	Less than tawjihi Tawjihi Above twajihi level	19(12.4%) 15(19.2%) 18(23.1%)	134(87.6%) 63(80.8%) 78(76.9%)	.0129
	Marital status	**Yes**	**No**	
	Married Unmarried	40(13.7%) 12(24.4%)	252(86.3%) 37(75.5%)	.0072
	Occupation	**Yes**	**No**	
	Employed Unemployed	9(17.9%) 43(14.9%)	44(82.1%) 244(85%)	.0003
	Age			
	20-29 30-39 40-49 Above 49	56(38.6%) 53(46%) 21(43.8%) 5(22.7%)	89(62.4%) 62(53.9%) 27(56.3%) 15(77.3%)	.0048
	Income			
	up to 1599 NIS 1600-2339 NIS Above 2400NIS	44(34.4%) 36(41.3%) 55(44.7%)	84(65.6%) 51(58.6%) 68(55.3%)	.0210
Do you know how often CBE should be done after age 40 years old				
Marital status		**Yes**	**No**	
Unmarried Married		13(26.5%) 130(44.5%)	36(73.5%) 162(55.5%)	.0038
Age				
20-29 30-39 40-49 Above 49		63(43.5%) 47(40.9%) 15(31.3%) 11(50%)	82(56.6%) 68(59.1%) 33(68.8%) 11(50%)	.0079
Income				
up to 1599 NIS 1600-2339 NIS Above 2400NIS		44(34.4%) 39(44.8%) 54(43.9%)	84(65.6%) 48(55.2%) 68(56.1%)	.0137

6.15.6 The relationship between Knowledge of Mammogram and Socio demographic variables

The association between knowledge of mammogram with five demographic variables which are; knowing the recommended age to start performing mammograms, frequency of performing mammogram before and after the age of 40 and after the age of 50, as well as knowing that the mammogram screening test is free of charge in Palestine.

Three variables are significantly associated with knowing the recommended age to start performing mammograms; marital status, occupation and income (.0388, .0223, 0004) respectively.

The demographic variables with significant association to knowing the recommended about the frequency of performing mammogram between the age of 30-40 are occupation and income (.0384, .0306) respectively.

The variables with significant association to knowing the recommended frequency of performing mammogram after the age of 50 are residency, occupation and age (.0363,.0008) respectively

(Table 6.18): Knowledge of Mammogram associated with Socio demographic variables

Variable	Marital status	Yes	No	P- value
Do you know recommended age for mammogram examination to start?	Married Unmarried	50(17.1%) 13(26.5%)	242(82.9%) 36(73.5%)	.0388
	Occupation	**Yes**	**No**	
	Employed Unemployed	9(15.55%) 54(18.8%)	44(84.45%) 233(81.2%)	.0233
	Income			
	up to 1599 NIS 1600-2339 NIS Above 2400NIS	14(10.9%) 15(12.2%) 25(20.7%)	114(89.1%) 72(82.8%) 98(79.3%)	.0004
Do you know how often mammogram should be done before age 40 years (30-40)	**Occupation**	**Yes**	**No**	**P -value**
	Employed Unemployed	19(28.8%)(83(30.2%)	47(71.2%) 192(69.8%)	.0389
	Income			
	up to 1599 NIS 1600-2339 NIS Above 2400NIS	11(8.9%) 13(15.5%) 23(19%)	113(91.1%)71 71(84.5%) 98(80.9%)	.0306
Do you know how often mammogram should be done after age 50 years old	Occupation	Yes	No	
	Employed Unemployed	31(60.7%) 152(53.7%)	51(39.2%) 131(46.3%)	.0363
	Age			
	20-29 30-39 40-49 Above 49	82(58.6%) 68(59.6%) 17(35.4%) 11(50%)	58(41.4%) 46(40.4%) 31(64.6%) 11(50%)	.0008

6.15.7 The relationship between knowledge of breast cancer risk factors and symptoms and history of first degree relative affected with this disease

The table (20) shows that there is no significant association between having a relative affected with breast cancer and the level of knowledge. However, there is a significant association between the level of breast cancer early detection methods knowledge with having a first degree relative affected with this disease. The table (20) indicates that there is a significant relationship between having a first degree relative affected with this disease and knowing three tests; SBE, CBE and biopsy. (.0031, .0242, .0503, .0407) respectively.

Table (6.19): History of breast cancer

Item	P- Value For test (Chi-Square)
Symptoms	.0867
Self-examination test	.0031
Clinical breast examination	.0242
Biopsy	.0470

6.15.8. The relationship between knowledge of breast cancer and risk factor symptoms and the history of breast cancer problems

The following table indicates if the participating women have breast health problems during the last year and whether there is a significant association with their level of knowledge of risk factor and symptoms for breast cancer. Table 29 shows that there was only one significant association between knowing breast cancer risk factors and having had breast health problems in the past year (.0482).Also table (29) indicates if the participants have had breast health problems during the last year, thus there is a significant association with their level of knowledge of early detection methods of breast cancer. The results indicated that there is a relationship between the level of knowledge of three early detection methods; Breast self -examination, clinical breast examination and mammograms (.0292, .0159, .0357) respectively with having being affected with any breast problems in the past year.

(Table 6.20): History of breast cancer

Variable	P- Value For test (Chi-Square)
Self-examination test	.0292
Clinical breast examination	.0159
Mammograms	.0357
Biopsy	.0650

6.16 Part three the relationship between practicing of screening tests and demographic variables

The table (30) shows that there is a significant association between performing BSE regularly and education, occupation and income (.0258, .0304, .0324) respectively. Moreover ,the results show that relationships between examine of breast by doctor and marital status , occupation ,age and income (.0233,.0456,.0005.0007)respectively .While the results show there relationships between performing mammogram and education ,marital status, age and income (.0134,.0035,.0002,.0055)respectively

Table (6.21): The relationship between practicing BSE/CBE/Mammogram and demographic variables

Variable	Education	Yes	No	P- value
Do you perform or practice BSE regularly.	Less than tawjihi Tawjihi Above twajihi level	46(451%) 27(46.6%) 36(41%)	56(54.9%) 31(53.4%) 52(95%)	.0258
	Occupation	**Yes**	**No**	**P –value**
	Employed Unemployed	9(26.4%) 38(21.7%)	25(73.5%) 139(78.5%)	.0304
	Income			
	up to 1599 NIS 1600-2339 NIS Above 2400NIS	36(41.3%) 26(40.6%) 49(49.5%)	51(58.6%) 38(59.4%) 50(50.5%)	.0324
Have you ever done your breast examination by doctor or nurse	**Marital status**	**Yes**	**No**	P –value
	Married Unmarried	88(30.2%) 11(22.4%)	203(69.8%) 38(77.6%)	.0233
	Occupation	**Yes**	**No**	**P -value**
	Employed Unemployed	14(27.5%) 83(29.2%)	37(72.5%) 201(70.8%)	.0456
	Age	Yes	No	P -value
	20-29 30-39 40-49 Above 49	28(19.4%) 38(33.1%) 20(41.7%) 9(40.9%)	116(80.6%) 77(66.9%) 28(58.3%) 13(59.1%)	.0005
	Income	Yes	No	P -value
	up to 1599 NIS 1600-2339 NIS Above 2400NIS	31(24.2%) 18(20.9%) 48(39%)	97(75.9%) 68(79.1%) 75(60.9%)	.0007
Have you had a mammogram performed	**Education**	Yes	No	P -value
	Less than tawjihi Tawjihi Above twajihi level	11(10.8%) 16(27.6%) 9(10.2%)	91(89.2%) 58(72.4%) 88(89.8%)	.0134
	Martial status	Yes	No	P -value
	Married Unmarried	31(10.36%) 5(10.2%)	260 (69.6%) 40(90%)	.0035
	Age	Yes	No	P -value
	20-29	42 (30.6%)	95(69.4%)	.0002

	30-39 40-49 Above 49	26(22.2%) 15 (30.7%) 2(8.1%)	89(77.8%) 33(69.1%) 20(91%)	
	Income	Yes	No	P -value
	up to 1599 NIS 1600-2339 NIS Above 2400NIS	10(7.8%) 5(5.8%) 21(17.1%)	118(92.2%) 81(94.2%) 102(82.9%)	.0055

The table(6.22)shows the strength of the relationship which amounted to 21%, a statistically significant amount of interpretation of any changes to the dependent variable of the so-called (R) square, thus the strength of the relationship achieved is very suitable to explain the impact of the factors (income, age, occupation, education) on the practice . For more details, see Appendix M.

Table (6.22): the relationship between practice and the independent variables to (income, age, occupation and education

Sig.	F	Mean Square	df	Sum of Squares		Model
.008(a)	3.527	137.796	4	551.184	Regression	1
		39.065	322	12579.073	Residual	
			326	13130.257	Total	

a Predictors: (Constant), Q7income, Q2age, Q6work, Q3education
b Dependent Variable: practice

6.17 Part three the relationship between the participants' attitude toward screening tests and demographic variables

The table (31) shows that there is relationships between sense of the importance of the screening tests as follows ,there is relationships between sense of importance for BSE and marital status , education and age (.0155,.0116,.01111) ,moreover ,there is relationships between sense of the importance of BCE and each of these variables, education ,marital status, age and income (.0016,.0135,.0018,.0000)respectively ,while the results of the sense of importance of mammogram indicated that there were relationships in the following ,education ,marital status ,and income (.0287,.00214,.0012) respectively .

(Table 6.23): **The relationship between the participants' attitudes toward the sense of important of screening tests and demographic variables**

Variable	Marital status	Yes	No	P -value
Is the BSE is important and helper in early detection of breast cancer	Unmarried Married	24(82.05%) 198(93%)	6(17.95%) 13(6.9%)	.0155
	Education	**Yes**	**No**	**P –value**
	Less than tawjihi Tawjihi Above twajihi level	78(88.6%) 50(90.9%) 80(90.9%)	10(11.3%) 5(9.1%) 8(9.1%)	.0116
	Age			
	20-29 30-39 40-49 Above 49	93(91.2%) 82(94.2%) 22(73.3%) 35(81.4%)	3(8.8%) 5(5.7%) 7(26.7%) 8(18.6%)	.0011
Is the CBE is important and helper in early detection of breast cancer	**Education**			
	Less than tawjihi Tawjihi Above twajihi level	88(89.8%) 46(83.7%) 80(90.9%)	10(10.2%) 9(16.3%) 8(9.1%)	.0016
	Marital status	**Yes**	**No**	**P value**
	Unmarried Married	28(77.77%) 284(92.2)	8(22.3%) 24(8.8%)	.0135
	Age			
	20-29 30-39 40-49 Above 49	126(86.8%) 107(93.8%) 42(87.5%) 16(72.7%)	19(13.1%) 7(6.1%) 6(12.5%) 6(27.2%)	.0018
	Income			
	up to 1599 NIS 1600-2339 NIS Above 2400NIS	120(94.5%) 82(94.2%) 102(82.9%)	7(5.5%) 5(5.7%) 21(17%)	.0000
Is mammogram is important and helper in early detection of breast cancer?	Education			
	Less than tawjihi Tawjihi Above twajihi level	66(75%) 44(80%) 80(86.9%)	22(25%) 11(20%) 12(13%)	.0287
	Marital status			
	Married Unmarried	20(55.6%) 264(87.4%)	16(44.4%) 38(12.5%)	.0214
	Income			
	up to 1599 NIS 1600-2339 NIS Above 2400NIS	85(66.9%) 82(94.3%) 99(79.8%)	42(33.1%) 5(5.7%) 25(20.2%))	.0012

The table(6.24)shows the strength of the relationship which amounted to 20%, a statistically significant amount of interpretation of any changes to the dependent variable of the so-called

(R) square, thus the strength of the relationship achieved is very suitable to explain the impact of the factors (income, age, occupation, education) on the attitude. For more details, see Appendix M

Table (6.24): the relationship between attitude and the independent variables to (income, age, occupation and education

Sig.	F	Mean Square	df	Sum of Squares		Model
.015(a)	3.141	71.897	4	287.586	Regression	1
		22.888	322	7370.071	Residual	
			326	7657.657	Total	

a Predictors: (Constant), Q7income, Q2age, Q6work, Q3education
b Dependent Variable: attitude

Summary:

A total of 341 women responded to fill out the questionnaire in this research. The majority of them are (20-29) years, the main findings showed that three risk factors have high percentage among the women ; not to breast feed (81.2%), smoking (77.1%) and the advanced age (69.8%),while the three main symptoms have known among women ,lump in the breast (96.5%),nipple discharge or bloody discharge (77.1%) and the breast or nipple pain (71.5%). The women reported that TV is the main source to get information about the breast cancer.

Women appeared to have a positive attitude toward the importance of the breast cancer screening tests in detecting the cancer in early phase, 93.4% ,92.4%, 83.6% reported that three breast cancer screening tests are important ,BSE ,CBE ,and mammogram respectively .The women showed poor practice toward breast cancer screening tests,44.2% of the sample performed BSE regularly ,while 28.5% have visited doctor or nurse for CBE, while 47.3% from age 40 and above had examined breast by mammogram. Finally, the study showed that there is an association between the demographic variables (age, income, occupation, marital status and education) and knowledge, attitude and practice towards breast cancer and screening test among Palestinian women. There is association between Education ,age, and the risk factors ,the significance value .0490 ,women above Tawjihi are the most impact ,age (20-29) have association with risk factors ,the significance value .0006 ,in addition there were association between attitude and demographic variables for the three screening tests, as an example between the age and BSE ,the significance ,.0156 ,the women between the age 20-29 have more significance ,while there was association between education and CBE ,.0016,the women less than Tawjihi are more significant ,moreover ,there were association between

education and performing the BSE, .0258 ,women less tan Tawjihi have significance ,while age (30-39) has association with CBE examined .0005 , and the women with income above 2400NIS have association with performed mammogram with significance .0055. The main barrier in the two screening tests (BSE,CBE) “I do not have breast problem “ .While “fears of detecting symptoms is the main barrier from examined breast by mammogram.

Chapter six

Discussion of qualitative and quantitative findings

6. Introduction

This study aimed to assess the knowledge, attitude and practice (KAP)toward breast cancer and screening tests among women who were attending maternal health clinics in 26 primary health care centers in four governances, this chapter presents the results about the level of the knowledge of risk factors ,level of knowledge of symptoms ,level of knowledge about the early detection methods of breast cancer, level of knowledge about ,mammogram aspects ,women attitudes, factors affecting participants KAP, and compare the results of the study with results of other studies conducted in different places.

The study findings provided new insights into the KAP of Palestinian women towards breast cancer and its screening tests, trying to deeply assess their KAP employing a technique that applied the FGD and gained their quotations, giving them the opportunity to express regarding their attitudes. A majority of the women enrolled in this study were Muslim, in the reproductive age, mean age of 32 and come from villages and towns, most have finished Tawajhi which means they have a fair level of education. However, a majority of them were housewives with a level income that ranged between 1600-2399NIS. According to the 2010 population report by the Palestinian Central Bureau Of Statistics, the poverty line (For two adults and three children) is 2,2337 NIS , this means that our sample is very near the poverty line (PCBS, 2010).

The majority of the sample are aware of the fact that breast cancer is the prevalent cancer among women in Palestine, with a percentage of (81.8%), and (91.5%) of them agreed that it is a dangerous disease. This result is consistent with the views the women expressed in the FGDs, considering breast cancer a common disease amongst women in Palestine.

In one study conducted in Jordan, a neighboring country with very similar cultural aspects to Palestine, which enrolled 5230 Jordanian women above the age of 20 aimed at evaluating the knowledge and practicing of BSE. The results were similar to the ones of this study, women of both countries agreed that breast cancer is a prevalent disease. The results of the study conducted in Jordan indicated that (87%) of the women knew that breast cancer is prevalent disease among Jordanian women, (Akel, et al., 2006).

Also, another study conducted in Iran concurred with the results of this study conducted in Iran; the women were aware of the prevalence of breast cancer with a percentage of (75%) (Mahmoodi et, al .2007). These studies results assured our results, that women shared the same idea and strongly agree and are aware in opinion that breast cancer is a prevalent disease.

7.1 The knowledge of risk factors

Is the essence of prevention, the results show that the women participants have moderate knowledge level in some risk factors and a poor level of knowledge in other risk factors. Results show that aging, family history, smoking, taking oral contraceptives and hormonal therapy after menopause were factors women had moderate levels of knowledge in, (65.9%, 69,8%, 62,1%, 77.1%, 67.1%) respectively. While, early and late menarche, infertility, lack of physical activity having a first child at a late age, the women possessed low levels of knowledge in (30.2%, 40%, 51.2%, 54.5%, 44.3%) respectively. The 69.8%of the women reported that the family history is risk factor and participants across FGDs consistently reported that family history is an obvious main factor as to whether someone might be affected with breast cancer.

In different studies that indicted different levels of knowledge about risk factors such as one study conducted in Vietnam found that women recognized that the family history as a risk factor with a percentage of (55%) (Pham, et al , 1992). While another study in Jeddah in the same field indicated that (80%) of students answered incorrectly questions about risk factors (Milaat, 2000). In addition, a base line study in the Emirates showed that only (30%) recognized family history as a risk factor of breast cancer (Bener, et al, 2001).

Thus, based on the aforementioned studies, women attended MCH/MOH in the four governance's possess a moderate level of knowledge about breast cancer and a fair background about the risk factors ,and women in this study have good knowledge compared with the other women as an example in Emirates ,this is consider as positive issue to focus on and take it into while plan for health educational policy in Palestine.

7.2 Knowledge of Symptoms

Regarding the level of knowledge of symptoms, participant women have high knowledge that detecting a lump in their breast is a breast cancer symptom with a percentage of (96.5%),

which is considered a good percentage according to Bloom's cut off point. This result was strongly consistent with that which women said in the FGDs. However, nipple discharge and nipple pain as well as nipple and breast pain, were symptoms the women possessed moderate levels of knowledge (77.1%, 65.2%, 71.5%). The other symptoms, thickness of breast skin, thickness of nipple, dimpling and redness, were symptoms the women possessed poor levels of knowledge in (53.3%, 51.8%, 56.8%, and 52.1%) respectively, according to Blooms cut off point.

In the FGD, nipple discharge was the second well known symptom to women after the detection of a lump.

A survey study in the UK agreed with this study's results, showing that detecting a lump and nipple discharge are potential symptoms (Grunfeld, et, al. 2002). In another study conducted on Latinas in Huston, (29%) of the women were aware that pain in the breast is a warning sign for breast cancer (Maria A. et al, 2001). While women in two studies in Vietnam and Jeddah, showed opposite results to those mentioned above; 1/3 reported that they did not know that a lump in the breast is not a sign of breast cancer, and (39.1%) of the women in the study in Jeddah reported that a lump is one symptom of breast cancer, while (16.2%) said blood discharge is a sign of breast cancer. (Milaat, 2001; Pham et al, 1992).

7.3 Source of Information

In this study, television occupied the highest percentage as the source of information for women, with a percentage of (33%). The second highest source of information was the health provider (18%), and the third source was friends and relatives (16%). In MOH clinics, a brochure about breast cancer aspects is distributed, and these clinics have trained nurses to conduct health awareness sessions about the breast self-examination test. The women of the Hebron FGD mentioned that nurses would give the women referrals to go perform CBEs and mammograms, as this type of direction is a protocol of MOH for that reason health providers are the second source of information. This is a sign that health providers strive in their efforts to educate women about breast health, but more awareness activities should be carried out and headed. Also, the women in the Ramallah FGD talked about an outreach program from Augusta Victoria hospital.

A study in Saudi Arabia to investigate KAP surrounding breast cancer, the women reported that printed media is the main source of information (Dandash, et al.,2007).Also, another study in Turkey applied Champion Health Believe Model which revealed that half of the

participants received their information from health professionals (Dündar et al., 2006). In Jordan, a descriptive cross sectional study was carried out among women above the age of 20; (58%) reported that their source of information about BSE was from the media (Akel, et al, 2006). According to the results, it is clear that MOH has occupied good position relating to source of information among Palestinian women, however, MOH should work more to expand their health awareness activities to target more women..

7.4 Knowledge of Early detection method

The participants were highly aware of early detection methods for breast cancer. The most prevalent method was BSE with a percentage of (91.8%). This result concurred with the results of the FGDs that BSE was the most popular technique the women knew of. In the quantitative results, (85.6%) of the women answered yes about knowing of the CBE. However, in a dissimilar result from the qualitative research, the women lack sensitization about this type of early detection test. The majority of the respondents have not heard about this type of early detection method, which required the questions be rephrased. One woman in each of the FGDs knew that the CBE was known as the examination performed by a physician. The two other early detection methods, and mammogram scored very similarly (74%, 74.6%) respectively. In Al-Quds hospital in Iran, a study aimed to determined knowledge and practice of breast cancer screening; the results showed (8.3%) were only aware of such screening methods (Heidari, et al, 2008). Another study in Malaysia showed that (68%) of the participants knew about mammogram (Al-Naggar & Bobryshev, 2012). In a study carried out in Houston among Latinas, over (60%) of the women either did not respond or did not know about the breast cancer screening test (Maria, et al, 2005). The aforementioned literature of studies show that women lack information about early detection methods, while women in Palestine, according to this study showed higher levels of knowledge, mainly of two methods; CBE and BSE which are recommended tests for women between the ages of 20-35 years and should continue to the rest of their lives, and the sample of study had a mean age of 32 years. This is a good indicator of the women's awareness about these tests as it is between these years that women should perform these two tests. According to Hejazi's personal interview in 2012, the MOH applies an ongoing protocol that demands physicians and nurses to clinically examine female patients who attend any maternal and child center (Hejazi, 2012 Personal interview).

7.5 BSE Information Aspects

Most of the participants have known that BSE is an early detection method by with a percentage (91.8%). While, in two studies conducted in Nigeria, one about breast cancer knowledge and screening practices among women in selected rural communities by (Olowokere et al, 2012), as (52.8%) of the women heard about BSE. The other study was about KAP of breast self-examination in Rivers State by (Bellgam et al, 2012). This indicated that only (16.06%) heard about BSE as an early detection method. Thus, Palestinian women are more aware of BSE as an early detection method than the Nigerian women in both studies. The reason behind the Palestinian women's knowledge is their educational level, as most of the respondents in the study (23% have Tawjihi level, 32.1% above Tawjihi level). In addition, the results of the study showed that educational level is associated with the knowledge of BSE (.0021).

However, the information related to this test ranged between low and moderate levels. (30.5%) knew the right age to commence performing BSE, which is a poor level of information. While (50.7%) gave the correct answer concerning the time of performing the BSE which is also considered a poor level. When the women were asked about how they performed the BSE, (69.3%) were able to mention at least one of the steps in the technique, and this is considered a moderate level.

The other parts of BSE aspects, deal with the practicing issues (44.2%), performing the BSE monthly and regularly, (21.6%) performed BSE during the past 12 months regularly, while (55.8%) had not practiced it on a regular basis. These findings are consistent with the findings of FGDs that indicated that most of the participants know the breast self-technique, but only two participants practice this method regularly, these two are in Hebron. According to the results above, this means there was a gap between the practicing and the knowledge levels, the women well have known about BSE but at the same time did not performing regularly, and this result is not different from the other regarding studies; in one study in Riyad indicated that (82%) of women have high knowledge about breast cancer self-examination, but only (41%) of them had performed a BSE examination test (Alam, 2006).

In another cross sectional study conducted by (Akpınar, et al., 2011) processed among female health professional to investigate the KAP of breast cancer and screening tests, (27.3%) perform BSE regularly. Findings indicate that even health care providers do not practice BSE as regular as they should; one cross sectional survey among nurses in general hospital in

Lagos, only(39 %) conducted the procedure at a monthly interval rate (Odusanya& Tayo, 2001). In a descriptive cross-sectional study carried out in Jordan, a neighboring country similar to the Palestinian one in most cultural aspects, confirmed this study's findings, showing that BSE practicing was (48%) from the sample (Akel, et al., 2006).

Women participated in this study believed in the importance of BSE test as an early detection method with a percentage of (93.4%) who said yes it is an important test; this means that women have a positive attitude toward the importance of this test and this is consistent with what women said in the FGDs. The women said BSE is considered as a vital test for early breast cancer symptoms detection .This finding was rather similar to the finding in a study in Suburban Area in Terengganu where (73.3%) of respondents agreed that screening is important (Rosmawat, 2010).

Barriers observed in this study regarding the BSE practicing were as following; *"I do not have breast problems"* (20.8%), while "*carelessness*" (16.6%) and *"Laziness"* (14.6%) ranked second and third in the list of barriers. In addition, the religion aspect contributed in hindering women from practicing BSE (11.5%). The results of barriers were similar to those reported in FGDs, the name of God was a common expression heard in all the FGDs. Women in FGDs expressed that breast cancer is destiny and by God, being a common dominant expression. In addition, personal barriers such as carelessness, laziness in addition to forgetfulness due to having many chores keep the women busy and distracted them from practicing BSE.

The literature supports the argument that irregular practice of BSE is related to many barriers, as each culture has its own cultural barriers hindering women from complying with regular BSE practice. (Pattino , 2007)

A cross-sectional study was conducted by (Rosmawat, 2010) in Malaysia, expressed that the barriers of practicing come from the lack of support from friends and family, especially from the parents. A breast cancer screening study named "The Relationship of Fear and Fatalism with Breast Cancer Screening among a Selected target Population of African American Middle Class" indicated that the participants revealed a significant level of fear and fatalism in women relating to breast cancer screening. As a whole, these results indicated that women who hold fearful and fatalistic beliefs are less likely to seek screening (Talbert, 2008). While,

another study conducted by (Chong et. al., 2002), asked public health nurses in Singapore to asses knowledge and practices of breast cancer screening; results showed that the most common barriers for not practicing BSE were “too busy” , “forgot” and “not necessary.

Linked to the results, the study showed; high knowledge of early detection methods (mammogram, BSE and CBE) and lack of compliance to BSE coupled with barriers and that women mentioned with the expanded HBM which stipulated health efficacy and perceived barriers as the most significant construct of HBM. In terms of prevention of disease, self-efficiency and barriers are the strongest predictors to explain people’s behaviors to prevent disease. Low self-efficiency show avoidance behavior among people and in reverse, high self-efficiency tends to result in initiating behavior and high efforts to overcome personal obstacles like fear, carelessness and fatalism. In this study, women had low efficacy to take the action, thus impacting on performing the early detection method BSE acting as a drawback thus inducing the barriers.

7.6 Clinical Breast Examination Aspects

According to the aspects that addressed the CBE ,the study found that only (28.5%) examined their breast by a physician or nurse, the same findings came up by the FGDs ,only one woman in each of the FGDs of Hebron and Jenin knew that clinical breast examinations are called "the examination that have done by physicians”, in addition the women respondents regarding the information about the CBE is evaluated as a poor level of knowledge as an example the age of performing this test (32.6%) answered correctly, practicing of this type of screening methods was low. The result of the study also indicated (68.3%) of the participants replied saying they have never performed it all their life. The most highlighted barriers were “I do not have breast problems, and no one advised me to do so” (22%), “My God protects me” (14%), “Fear from detecting symptoms” (14%), “Laziness” (14%), and “Financial cost; I have other priorities” (15%). These barriers were also expressed in the FGDs; the participants identified the barriers as following, fear of finding symptoms, women in all the FGDs discussed the fear of finding symptoms as a barrier that stopped them from practicing breast examinations. Women talked about avoiding palpitating their breasts or going for CBE or mammography because they feared finding a lump.. The participants in Hebron reported that all women are scared of breast cancer. One of the limitations in the FGDs is the fear from hearing this disease controlled of *FGDs,* the women were very sensitive and there was more

apprehension about the breast cancer topic. In the study the women prioritize children and family needs as a barrier from performing CBE; “Financial cost; I have other priorities” (15%). This barrier was salient in the FGDs, the women supported their argument that children are more important than them. In addition, the women said that this test is costly, expressing their opinions using these quotes .These results were in harmony with what women reported worldwide despite diversity in terms of culture and religion. A study among Mexican and Dominican women to detect the barriers of breast cancer screening reported that carelessness attributed (52.3%) (Garbers et al., 2003).

(Talber, 2008) targeted in a study African American middle class women which aimed for investigating the barriers in screening tests, women indicated fearful and fatalistic beliefs are less likely to seek screening. (Bury et al., 2007) in a qualitative study to investigate barriers hindering women from performing screening tests; the main barriers were fear and anxiety.

Regarding to the sense of importance of CBE as an early detection method in this study, Palestinian women answered yes with a percentage of (94.2%).

7.7 Mammogram Aspects

Mammography is now considered the current 'gold standard' of breast screening that is able to identify up to (95%) of cancers diagnosed over the following years (U.S. Preventive Services Task Force, 2009). It can decrease breast cancer mortality by 20 to 30% in women over 50 in high-income countries when the screening coverage is over 70% (IARC, 2008). The scores in general regarding to information about mammogram in this study were assessed as poor knowledge, recommended age for mammogram examination”, to which (16.1.2%), how often should a mammogram be performed above age40 to which (28.7%) answered correctly, in FGDs lack of knowledge about the mammogram technique was evident, as they did not have accurate information about the instructions of a mammogram, and they tried to guess the answers. Also, (37.5 %) from all samples have known that mammogram is free of charge for women above 40 in MOH/clinics. Although the MOH pays great attention to breast cancer by taking applicable practical actions towards this disease to reduce the number of deaths and increase awareness in that regard, it is currently implementing new policies and protocols; the first ongoing action provision of mammography screening test for all women above the age of 40 and above is free of charge. For this reason, MOH allocated 13 mammography devices and distributed to all West Bank districts (Hejazi, 2013, Personal interview). However, the result

in both sides, quantitative and qualitative, revealed that women lack information regarding this type of screening; (18.50%) of women above 40 years old answered “never” to having had their breast examined by mammogram. “Barriers hindering women from performing mammogram”, to which (25.3%) responded “fear of detecting symptoms”, (13.2%) reported that “laziness” was their reasons, (11.7%) said “I am still too young to perform this test, while in FGDs women reported that, in some FGDs, the women perceived mammography examination as painful and harmful. The women explained that such worries about possible harmful effects of x-rays were confirmed by their physicians .

Also in the FGDs, women spoke of other barriers; lack of privacy in health centers, lack of respect and confidentiality when they go for a mammogram. Women complained from the lack of quality of the mammogram devices at MOH clinics.

In evaluating literature almost similar barriers were reported which hinder women from complying to the mammogram test. Reasons contributing to this barrier include; lack of information as a study conducted by (Luiz et al, 2008) in Brazil and another by (Elsie et al., 2010) in Uganda. (Sunkany et al., 2008) explored high cost, lack of time, lack of information and shyness in addition to worries surrounding the procedure of the mammogram among Korean women. (Al-Naggar & Bobryshev, 2012) explored the same barriers in Malaysian women. (Shaheen. et, al.2011) in a study of Gazan women indicated that religion and culture were not barriers to mammography for over 94% of the participants. While barriers regarding mammograms for women in Tahran in a study by (Ahmadian, et.al.2011) showed lack of doctors’ advice for the participant group and embarrassment for the non-participant group are the most salient barriers.

In sum, the studies above aim to highlight the factors influencing mammography practice. Some study results were found to be consistent with the results of this study such as fear, fear of x-ray, pain. This is indicated that each society has its own barriers.

7.8 Women’s Attitudes on Being Affected with Breast Cancer

Palestinian women in this study believe that breast cancer is a serious and prevalent disease (91.5%, 81.8%) respectively. Thus, according to HBM, the results indicated seriousness variable. In this study, the most salient attitudes among the Palestinian women toward being affected by breast cancer are as following; feeling scared” (31.9%), “I will consult a physician

immediately" (27.3%), suffering from nervous breakdown (11.3%). On the other hand, women expressed the same attitudes toward affecting of breast cancer in FGDs, when the women were asked about their feeling if they were to have known they had breast cancer. They became very anxious and their facial expression changed with complains from hearing such a question. The word breast cancer causes them to feel restless, anxious and uneasy; the mere stating of the word would result in getting the disease. Whenever anyone mentioned this it was left without being questioned and it put a lid on the discussion; "please" one 36 year old woman in Jenin said "I cannot be involved in this type of question", breast cancer is still a taboo subject, meaning it would be the end of a woman's life, the word cancer by itself is a source of restlessness and anxiety among women that is overstated by the community. The women in the three focus groups used many quotes to describe their reaction should they be affected by breast cancer; "I will be in full break down, scared and fear, general fatigue, extreme hopelessness".

Moreover, to investigate the women's attitude toward seeking treatment when they notice a lump in their breast cancer symptoms, the participants replied (69.7%) said they would go in the same day. This stresses that Palestinian women's attitudes regarding soon breast cancer treatment were described as positive, although they have fear and anxiety, which is a normal human reaction, but they eventually seek treatment on the same day. Thus encouraging policymakers to enforce this internal confidence to increase women's attendance for breast cancer treatments in early stage.

7.9 The factors affecting participants KAP

The questionnaire in this study comprised of the sioc-ecnomic -demographic variables (age, occupation, education, religion, and residency, and income, marital status) to investigate the relationship between KAP, breast cancer and screening tests and socio economic variables. Blanchard (2004) pointed out that the education factor and socioeconomic statues are major factors for women's delay in the screening and response to treatment in several cancers, including breast cancer (Chua, et al., 2005). Also, Champion and Miller stated that psycho-demographic variables may influence attitudes and indirectly affect behavior (Dündar et, al. 2006). The results of this study indicated that the demographic variables have significantly influenced the KAP of breast cancer and screening tests. The educational level influenced the level of knowledge regarding the risk factor and symptoms (.0490),(.0136) respectively ,

women above tawjihi were more knowledgeable about risk factors and symptoms than other, while the occupation factor influenced the level of knowledge of symptoms by (.0449), the unemployed women were more knowledgeable . Regarding the knowledge of early detection methods, education has a significant association; BSE (.0021), CBE (.0384), mammogram (.0458). Regarding the knowledge aspects of the BSE, mammogram and CBE, most of the demographic variables have a positive significant relationship.

In this study, the results showed that performing early detection methods (BSE, mammogram and CBE) were also affected by the demographic variables. BSE is affected by, education, and marital status (.0224, 0275) respectively. CBE is affected by and education level, 0384) respectively. Mammograms is affected by education and marital status (.0458, .0239) respectively.

(Mahmoodi et al, 2007) indicated in a study that the level of education and occupation are factors related with the increase of practicing CBE. (Madan, et ,al., 2000, in Ahmadian & Abu Samah, 2012) observed that culture, education, income and age assist the under use of cancer screening methods among women in the population. In another study by (Ahmadian & Abu Samah, 2012) indicated that the level of education impacts undergoing a mammogram.

Abd El Aziz (2009) pointed out that women's education and level of knowledge were significantly associated with the practice of BSE. Matthew, et al. (2011) conducted a study in Mexico which found that age, marital status and breast cancer knowledge were significantly influencing breast cancer screening tests.

In this study, the results indicated that there is an association between having a first degree relative affected by breast cancer and knowing about the early detection methods. This association is considered significant, and explains the fear and anxiety from hearing about a close relative being affected by this disease, thus supporting the fact that they realize the family history factor as a risk factor contributing to believe that they are susceptible to this disease. The HBM variable; susceptibility of the disease, which the HBM denotes that when one is at risk of an illness they are subjective to one extreme and that, would be an individual who is in full refutation of any risk while the other would be an individual who feels menace is certain. The area between contains those who admit the statistical possibility of contracting an illness, but do not fully believe they will (Rosenstock, 1966; Lizewski, 2010). The behavior of the Palestinian women indicates that they are highly susceptible to be at high risk

of being affected by breast cancer when they have a first degree relative affected with breast cancer, which concurs with the HBM; feeling the menace to be certain, thus motivating them to be learned about early detection methods, this finding appeared in the FGDs; knowledge of these methods comes from either their own personal experience or having a first degree relative affected with breast cancer. One woman in the FGDs said because one of her close relatives has breast cancer, she said “Her experience encourages me to do the breast self-examination test”.

This study showed that women’s attended MOH/MCH clinic in the four governances attitude toward breast screening methods affected by demographic variables (age ,income ,education level ,occupation ,marital status). Married women have the positive attitude toward BSE ,CBE and mammogram than unmarried one with significant relationships (.0155,.0135,.0124) respectively , in other side women who have finished tawjehi level and above have positive attitude towered BSE ,CBE and mammogram than other women with significant value (..0116, .0016, .0287) respectively .

These findings are consistent with the expected conceptual model designed for this study, which are the demographic variables associated with the independent variables (KAP).

7.10 HBM variables in supporting the findings

One of HBM items is the seriousness variable; example “I am afraid to think about breast cancer, if I developed breast cancer, I would not live longer than 5 years”. Perceived seriousness is the perception of the consequences of a negative health condition is also subjective; the beliefs of an illness causing pain, impairment, social stigma or death are examples of seriousness perceived (Rosenstock, 1966). The women in this study have two attitudes regarding whether breast cancer is curable and or incurable, in quantitative results 57.2% said no to the question, “Do you believe it rare for a woman with breast cancer to live more within five years”. This result concurs with FGDs findings. Two attitudes appeared in the FGD; one attitude expressed by the participants was that breast cancer is a curable disease while the other attitude expressed negativity; an incurable disease associated with death.

The women in the FGDs justified the possibility of cure from this disease by believing that it is dependent on early detection, mentioning that medical procedures are developing. However, the other attitude regarding the possibility of curability perceived breast cancer as a

source of suffering for a woman that leads to death. Women supported their perception by narrating what they had witnessed their relatives or friends who had suffered this vicious disease. There were women who explained that even if a woman is cured for a few years, the breast cancer will come back and kill her as one unmarried woman,49 years old in Jenin said "although a person would be cured from this disease, it will be the main cause of death later, I have experience in this, one of my relatives was cured but after some years she died from the breast cancer ,she is my brother's wife, affected by breast cancer and received full treatment but after she was cured the disease came back again". Thus, this disease according to Palestinian women is a negative health condition with consequences that will lead to certain death. According to the HBM considers this attitude that women became conscious to the severity of the disease (perceived seriousness), the women whom perceive that breast cancer is a serious disease will drive them to cues to action, which manifests in the results as (69.7%) responded that they would visit a physician on the same day they detect a symptom.

The other variables of the HBM is benefits variables example is "The screening test is important or not important to detect lumps", the women in this study highly believed that the three screening test methods (BSE, CBE and mammogram) are important tests to detect lumps. This attitude manifested in the results of the FGDs and the quantitative results.

The other variable of the HBM is the barrier of taking action, regardless of a belief being settled by a specific course of action may reduce a health threat, but the hesitancy may still take place among the clients, this hesitancy occurred when the readiness is low and negative aspects of the course of action are viewed as high, barriers are constructed preventing action. (Rosenstock, 1966; Lizewski, 2010). In this study, the women were asked the same question for each screening test (SBE, CBE, mammogram) "What is hindering you from breast cancer screening?" The results indicated that Palestinian women appeared to have barriers which hinder them from breast cancer screening, examples include; carelessness, laziness and fear from detecting symptoms.

The HBM expanded to include another factor, self – efficiency; this concept underlines on personal judgments and the ability or willing to perform the actions toward the task, (Lizewski, 2010; Bandura, 1986). Abraham and Sheeran (2005) agree about adding the self – efficiency in the HBM and reported that it is a useful factor for explaining health behavior, and has been attached to the HBM in1970s, when Bandura first introduced this concept of act

or task specific self-confidence, the example of self – efficiency" belief in one's ability to perform a given behavior (Bandura, 1977in Victorian Cytology Service. 2010). In this study, the self- efficiency was addressed as "Self - Efficacy variables "Do you know how to perform breast self- examination", to which (69.3%) responded by saying they were aware of how to perform BSE. This result concurs with the FGDs results; most of the women said they know how to perform BSE.

See Appendix K that summaries main results of the study related to HBM items.

Conclusion.

The study showed that women attended the MOH/MCH clinic in the four governances are aware that breast cancer is prevalent disease among women in Palestine ,with percentage of(81.8%),and women participated in the three FGDs reported that breast cancer is dangerous disease threated women life . The women the study have moderate to poor knowledge in the risk factors, advanced age, family history and smoking were the highest percentages (69.8%65.9,77. 1%) respectively, while family history is the obvious one as risk factor reported in the FGDs. lump in the breast has high percentage in level of symptoms knowledge with percentage (96.5%) while other symptoms with moderate level such as breast or nipple pain and nipple discharge (71.5%,77.1%) ,the lump in the breast also the main symptoms that reported by the women in FGDs. In knowing the screening tests the participants in two quantitative and qualitative are aware on a high level that the three screening tests (BSE, CBE and mammogram) are early detection methods for detecting breast cancer. However, women did not have sufficient information regarding the recommended age to start performing BSE, CBE and mammogram. Despite the fact that the women have a positive attitude of the sense of the importance of these tests to detect breast cancer at an early stage, and have positive attitude in visiting the doctor in the first day when they felt by any sing with percentage 69.7%.although they still lack compliance concerning these screening tests , the women performed BSE with percentage (44.2%, examined their breast with doctor or nurse with percentage (28.5%) and performed mammogram for women above 40 years with percentage 47.3% ,participants reported different barriers that deterred them from practicing the three screening tests, the common barrier among the two screening tests (BSE,CBE) is " I do not have breast problem", while the main barrier in mammogram is "fears from detecting symptoms", in the FGDs the women reported feel safe from symptoms is one of the barriers in practicing the breast cancer screening tests ,demographic variables (age, income, occupation, education and marital status) affected the women knowledge, attitude and practice .

Recommendations

The women attended the MOH/MCH clinics in the four districts in this study are aware of the breast cancer; it is a dangerous disease and prevalent amongst women in Palestine. Their knowledge regarding this disease is moderate; compliance to the screening methods can be described as inadequate, and the most salient finding is the vital role the demographic variables played in impacting the level of knowledge aspects of BC and screening tests and the level of compliance regarding the screening tests. This disease is still considered a source of anxiety and fear, the women manifested barriers regarding the three screening methods (BSE, CBE and mammograms).

The recommendation will be tackled using three dimensions; awareness methods, policy makers' and recommendations for further researches.

The women's awareness methods

The study findings revealed that fear and anxiety are barriers hindering women from complying with screening methods, and breast cancer is still an apprehended topic regarding, thus, awareness campaigns should take into consideration the feelings, emotions fatalism, culture, beliefs and the disparities among women concerning educational levels. Thus, to achieve successful intervention which aims to increase the level of awareness among women concerning the topic of breast cancer, the awareness campaign should address the following:

1- Planning campaigns must first involve women in an open discussion, in order to comprehend their beliefs, barriers and their cultural context revolving around this topic. Thus, the awareness campaign can build upon the targeted groups' perceptions and views. Later, these findings will be adapted to be more appropriately digested by the targeted group.

2- Language used in any pamphlet must be localized and tailored to be received as best as possible. The pamphlets distributed in MOH clinics possess good design and color but the information these pamphlets are too scientific and written in formal Arabic. Thus it is recommended to use simpler more local terminology acquired from the open discussion, and only highlight the main information rather than in details. As the study shows that women who have educational degree above tawjihi are more knowledgeable and this would give indication about targtinging different educational back grund upon producing educational material .

3- Women should be asked about the preferred means of communication when receiving awareness information.
4- From the findings and related previous studies conducted in other countries; it was found that the women participated in the study shared the same universal emotional with other women and the fear and anxiety is present, thus it is recommended that psychologists and religious people assist in the awareness campaigns that target breast cancer to support women to reduce the levels of fear and anxiety.
5- Encouraging woman to woman education by sharing success and survivor stories, as well as women who have undergone mammograms and CBE. This would reduce fear and anxiety and increase reassurance.
6- Design an efficiency educational model to improve mammography screening test among the Palestinian women, as in a study conducted by (Moodi et al. 2013), which aimed to determine the effect breast cancer screening education, they applied HBM components in a questionnaire which recruited two groups of women, one was the control and the other was the experimental one. The experimental group was exposed to four educational sessions; each lecture lasted 90 minutes, and was given a lecturing group and was shown a movie dependant on HBM. The results showed that executing an appropriate educational program, focusing on the benefits of mammograms as an early detection method increased their potential to attend the mammogram screening program. This assures that adapting educational intervention model, depending on the cultural aspects and the women's background will enhance screening tests.
7- At the level of the clinic, awareness and services must be provided by health care providers as part of the routine services, taking into consideration the human and the sensitive side of this matter. Encouraging and soothing behaviors might increase women's compliance, this recommendation came up from the in the FGDs when women reported that women tore prescription nurse gave them while two women in the FGDs complained doctors did CBE quickly without taking to them.
8- Pre-mammography counseling should be given to increase the level of confidence in managing the disease and to reduce fear and anxiety. For the fight against breast cancer to be successful, it is necessary to promote behavioral changes in both women and health professionals, especially those providing care to the poor, and to improve women's knowledge, attitude and practice regarding mammography screening.

9- According to these results, it can be concluded that the risk factors for breast cancer, especially those least known, should be emphasized during the education of health personnel.

Recommendations on the policy making level

1. To underscore the importance of continued work in educating and engaging Palestinian women in dialogue about the importance of breast cancer screening and the supporters like husbands, mothers in law and others.
2. MOH, NGOs, UNRWA and private sector health care providers must collaborate and coordinate efforts to work as one body in awareness Programs Data must be updated that captures cases, incidences, prevalence of breast cancer ; to thus assist researchers and decision makers on the national level in order to better tackle breast cancer issues. Most of the data related to breast cancer is taken from the annual MOH report, which is not sufficient;.
3. Awareness campaigns for breast cancer must not rely on seasonal campaigns, but must rather be independent and solid program, untied to projects.
4. The policy makers must adopt cohesive physician-patient relationships, which will counteract fear, fatalism, and negativism, and to increase the level of comfort among individuals who are more apprehensive about seeking health care services

Recommendations for further Research

This study provided valuable information about the three screening methods (BSE, CBE and mammograms), and breast cancer knowledge levels for women. It does not, however, provide in-depth information about the cultural issues. A recommendation for future studies is to conduct research using qualitative methodology about cultural issues and breast cancer screening methods practice and probe and know more about the reasons behind women not screened for breast cancer while they have knowledge on breast self-examination and other tests ,.

This is study is considered as base line, open the eyes about the attitude ,knowledge and practice towards breast cancer among Palestinian women ,future studies must dig deep about the effect of educational methods ,and the barriers of practicing focusing in cultural and social one.

Summary

This descriptive study provides valuable information that could be utilized by both researchers and those involved in public health programs. The results indicate that the level of the knowledge of breast cancer and the screening tests, as well as provided women's attitudes towards this disease and screening test. Moreover, it provided level of compliance towards the screening test. Thus, this research is considered as a basic line study to build on later.

References:

Aareleid Tyczynski JE,& Plesko I, (2004). Breast cancer mortality patterns and time trends in 10 new EU member states: mortality declining in young women, but still increasing in the elderly. Int J Cancer. 2004; 112:1056–1064.

Abd El Aziz, Akl OA, Ibrahim HK. (2009). Impact of a Health Education Intervention Program about Breast Cancer among Women in a Semi-urban Area in Alexandria, Egypt.

Abdeen Hani. (2006). Chronic Diseases in Palestine: The Rising Tide. By Israeli-Palestinian Public Health Magazine.

Abdullah A, Leung T .(2000). Factors associated with the use of breast and cervical cancer screening services among Chinese women in Hong Kong.Public Health Journal115, 212-7.

Abdullah, Mohammad Nasir Wan Nor Hazimah Wan Azib,Mohd Fauzi Mohd Harun Muhamad Addin Burhanuddin. (2013). Reliability and Construct Validity of Knowledge, Attitude and Practice on Dengue Fever Prevention Questionnaire, Department of Statistics Faculty of Computer and Mathematical Sciences MARA (Perak). American International Journal of Contemporary research. Vol. 3 No. 5; May 2013.

Abraham C, Sheeran P. (2005). The Health Belief Model. In: Conner M, Norman P, Eds) Predicting Health Behavior. Maidenhead: Open University Press.

Abu Samah Ahmadian Maryam, Asnarulkhadi, Ma'rof Redzuan and Zahid Emby. (2011) Faculty of Human Ecology, University Putra Malaysia, 43400, UPM Serdang, Selangor, Malaysia.

Ahmed F., Mahmud S., Hatcher Juanita H., Khan S.: Breast. (2006). Cancer risk factors Knowledge among nurses in teaching hospitals of Karachi, Pakistan: a cross-sectional study. BMC Nursing.

Akel Aya MD*, Mohammed R. Tarawneh MD**, Mohammed I. Tarawneh MD. (2011) Knowledge and Practice of Jordanian Women towards Breast Cancer and Breast Self-Examination: A Cross-Sectional Study in 2006, JRMS 18(2): 80-86.

Akhigbe A.& Vivian .O. Omuemu. (2009). Knowledge, attitudes and practice of breast cancer screening among female health workers in a Nigerian urban city Department of Radiology, University of Benin Teaching Hospital, Benin City, Nigeria and Department of Community Health, University of Benin Teaching Hospital, Benin City, Nigeria .

Akpınar Y.Yelen, Z. Baykan, Melis Na., İ. G., Fevziye. (2011). Knowledge, Attitude about Breast Cancer and Practice of Breast Cancer Screening among Female Health Care

Professionals Department of Cancer Control, Çorum Health Province, Çorum, 2 Department of Medical Education, 3Department of Public Health, Erciyes University Medical Faculty, Kayseri, Turkey *For correspondence: zbaykan@erciyes.edu.tr Asian Pacific Journal of Cancer Prevention, Vol 12,

Alam. A. Ali (2006). Knowledge of breast cancer and its risk and protective factors among women in Riyadh..Department of family and community Medicine King Saud University . King Saud University, Riyadh, Saudi Arabia. Annals of Saudi medicine (Impact Factor: 1.07). 01/2006; 26(4):272-7.

Ali R., Al. Mathew, B Rajan. (2008). Effects of Socio-economic and Demographic Factors in Delayed Reporting and Late-stage Presentation among Patients with Breast Cancer in a Major Cancer Hospital in South India Asian Pacific Journal of Cancer Prevention, Vol 9,

Alkhasawneh Israa. (2007). Knowledge and Practice of Breast Cancer Screening Among Jordanian Nurses, Oncology Nursing Forum – Vol 34, no 6, 2007.

Al-Naggar –N. ,R. Ahmed, D. Hamoud Al-Naggar, Y.Bobryshev., R. Chen, A. Assabri. (2011). Asian Pacific Journal of Cancer Prevention, 12, 1173-1178, Vol 12.

Al-Naggar1 Redhwan A, Yuri V Bobryshe. (2012). Practice and Barriers of Mammography among Malaysian Women in the General Population Asian Pacific Journal of Cancer Prevention, Vol 13.

American cancer society, (2009) (www.cancer.org)

American Cancer Society. (2011) Global Cancer Facts & Figures 2nd edition, (www.cancer.org)

American Cancer Society. (2012) (www.cancer.org)

Amin M. Abelrahman. (2005).Knowledge, Attitude and perceptions about Breast and Cervical Cancer and screening among Arabic Speaking Immigrant Women in Halifax. Mount Saint Vincent University.

Amin Tarek Tawfik ,Abdul Rahman Saleh Al Mulhim, Abdullalh Al Meqihwi .(2009). Breast Cancer Knowledge, Risk Factors and Screening Among Adult Saudi Women in a Primary Health Care Setting, 1 Asian Pacific Journal of Cancer Prevention, Vol 10,

Anthony and Amir Fazil, (2009), Approaches to increase attendance at Breast and Cervical Cancer Screening in Greater Manchester, Greater Manchester Public Health Practice Unit..Anttila A, Koskela J, Hakama M. (2002). Programmer sensitivity and effectiveness of mammography service screening in Helsinki, Finland. J Med Screen. 2002;9(4):153-8.

Areej K. Othman, , Marc T. Kiviniemi, , Yow-Wu B. Wu, , & Robin M. Lally,. (2011) Influence of Demographic Factors, Knowledge, and Beliefs on Jordanian Women's Intention to Undergo Mammography Screening School of Nursing, University at Buffalo, 3435 Main Street, 201F Wende Hall, Buffalo, NY 14216.

Arshad Samia & Karen Patricia Williams & Athur Mabiso & Subhojit Dey & Amr S. Soliman,(2010).(Evaluating the Knowledge of Breast Cancer Screening and Prevention among Arab-American Women in Michigan.

Austin LT, McNally M, Stewart DE (2002). Breast and cervical cancer screening in Hispanic women: a literature review using the health belief model. Women's Health Issues; 12 (3):122-128.

Avci IA, Gozum S. (2009). Comparison of two different educational methods on teachers' knowledge, beliefs and behaviors regarding breast cancer screening. Eur J Oncol Nurs, 13, 94-101.

Aylin Y., Bumin Deúürmencü1, Murat ACAR1, H.lya ELLÜDOKUZ Ramazan ALBAYRAK1, Alpay HAKTANIR. (2004). Knowledge About Breast Cancer and Mammography in Breast Cancer Screening Among Women Awaiting Mammography Department of Radiology, Faculty of Medicine, Afyon Kocatepe University.

Balogun MBBS (Ib), MPH (Ib) and Dr. E.T. Owoaje MBBS (Ib); FWACP (Comm. Hlth).(2003). Knowledge and Practice of Breast Self-Examination among Female Traders in Ibadan, Nigeria Dr. Department of Community Medicine, University College Hospital, PMB 5116, Ibadan Oyo State, Nigeria.

Bandura, A. (1986). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84 (2), 191-215.

Barron Foxall, CR, Houfek J (1998). Ethnic differences in breast self-examination practice and health beliefs. J Advanced Nurs, 27, 419-28.

Baselga J, Campone M, Piccart M, Burris HA, 3rd, Rugo HS, Sahmoud T, Noguchi S, Gnant M, Pritchard KI, Lebrun F et al N Engl J Med .(2012). Everolimus in postmenopausal hormone-receptor-positive advanced breast cancer., 366 (6):520-529.

Bellgam, Hope Ilanye , Yvonne Dabota Buowari. (2012), Knowledge, Attitude and Practice of Breast Self-Examination among Women in Rivers State, Nigeria. Department of Internal Medicine University of Port Harcourt Teaching Hospital, Port Harcourt, Rivers State, Nigeria Riverine Community Medical Centre, No 129/133 Woji Road, New GRA, Port Harcourt, Nigeria.

Bener A, Alwash R, Miller CJ, Denic S, Dunn EV. (2001). Knowledge, attitudes, and practices related to breast cancer screening: a survey of Arabic women. J Cancer Educ.

Bener A, Honein G, Carter A, Da'ar Z.(2002). The determinants of breast cancer screening behavior: A focus group study of women in the United Arab Emirates. Oncology Nursing Forum, 29, 91-8.

Blanchard, K. Colbert, J. A., & Puri, D. (2004). Mammographic screening: Patterns of use and estimated impact on breast carcinoma survival. Cancer 101, 3, 495–507.

Boulos, S., M. Godallah and S. Neguib, 2005. Attitudes toward Screening Tests'. Journal of Breast Screening in the emerging world. Psychosocial Oncology, 28(2): 189-201.

Canadian Breast cancer Network , (2012).

Canadian Cancer Society's Steering Committee on Cancer Statistics.(2011).Canadian Cancer.

Canadian national. (2000).breast screening study-2: 13-year results of a randomized trial in women aged 50-59 years. Journal of the National Cancer Institute 92 (18):1490–1499

Cancer research UK http://www.cancerresearchuk.org.2010

Center for Disease Control and Prevention (2004). Program Operations Guidelines for STD Prevention: Community and Individual Behavior Change Interventions, http:// www.cdc. gov/std/ program/htm.

Centers for Disease Control and Prevention (CDC).(2012). Department of Health and Human Services, Centers for Disease Control and Prevention, and National Cancer Institute; 2012. Available at: http://www.cdc.gov/uscs.)

Champion VL, Springston JK, Zollinger TW, Saywell RM, Jr., Monahan PO, Zhao Q, Rusell KM. Comparison of three interventions to increase mammography screening in low income African American women. Cancer Detection and Prevention.2006;30:535–544. doi:10.1016/j.cdp.2006.10.00

Champion, V. L. (2003). Breast self-examination: What now? [Electronic Version]. Oncology Nursing Forum, 30(5), 723-724.

Champion, V., & Menon, U. (1997). Reliability and validity of breast cancer screening scales in African American women. Nursing Research, 46, 331-337.

Champion, V.L. & Miller, T.K. (1992). Variables related to breast self-exam: model Generation. Psychology of Women Quarterly, 16(1), 81-96.

Chong P N, M Krishnan, C Y Hong, T S Swah. (2002) Knowledge and Practice of Breast Cancer Screening Amongst Public Health Nursesin Singapore. Singapore Med J 2002 Vol 43(10) : 509-516).

Choudhry UK., Srivastava R., Fitch MI. (1998): breast cancer detection practices of south Asian women: knowledge, attitudes and beliefs. Oncol. Nurs Forum 1693-701.)

Chua M, Franzcr M, Mok T, et al (2005). Knowledge, perceptions and attitudes of Hong Kong Chinese women on screening mammography and early breast cancer management. Breast Journal, 11, 52–6.

Clara Hergert MSN, RNd.(2005). Health beliefs and practices related to breast cancer screening in Filipino, Chinese and Asian-Indian women, Eastern Michigan University, 328 Marshall, Ypsilanti, MI 48197, USA Center for Statistical Consultation and Research, University of Michigan, USA.

Cleland, J.(1973.) A critique of P studies and some suggestions for their improvement. Studies in Family Planning 4(2), 42-47..

Cohen M.Zearly F (2005). Breast cancer detection practices health beliefs and worries in Jewish and Arab women.Prev Med. 2005 Nov-Dec;41(5-6):852-8. Epub 2005 Aug 24.

Collaborative Group on Hormonal Factors in Breast Cancer (2002). Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50302 women with breast cancer and 96973 women without the disease. Lancet, 360 (9328), pp187-195.

Collaborative Group on Hormonal Factors in Breast Cancer (2002). Alcohol, tobacco and breast cancer - collaborative reanalysis of individual data from 53 epidemiological studies, including 58,515 women with breast cancer and 95,067.

Comber Harry Paul M Walsh.(20080.Patterns of care and survival of cancer patients in Ireland 1994 to 2004

Cornell University Program on Breast Cancer and Environmental Risk Factors in New York State.(2002) fact sheet no 10.

Dandash, Khadiga F. and Abdurrahman Al-Mohaimeed.(2007). Knowledge, Attitudes, and Practices Surrounding Breast Cancer and Screening in Female Teachers of Buraidah, Saudi Arabia Copyright and License information , This article has been cited by other articles in PMC.

Darwish E Ahmed AM Farghaly S DrAmal Mohamed Mostafa Ahmed DrSamiafarghaly. (2010). ,Knowledge, attitude and practice of breast cancer screening among women visiting primary health care centers in Dubai, Faculty of medicine (girls) –Al Azhar university ., The Egyptian Journal of Community Medicine Vol. 28 No.

Darweesh Alaa & Hussein Ayman.(2009). Risk Factors of Breast Cancer among Palestinian Women in North West Bank.Najah National university .

Day Susan, Pauline van Dort Kiu-siangTay-Teo.(2010). Improving participation in cancer screening program, review of social cognitive model ,factors affecting participation and strategies to improve participation . Victorian Cytology Service, Centre for Health Policy, Programs and Economics, University of Melbourne

Dictionary of epidemiology. 4th edition. New York: Oxford University Press, 2001.

Divers.; 9(2):49-54

Dumitrescu RG, Cotarla I (2005), Understanding breast cancer risk - where do we stand in 2005?. J Cell Mol Med, 9, 208-21.international Journal of Epidemiology

Dumitrescu RG, Shields PG. (2005).The etiology of alcohol induced breast cancer. Alcohol; 35(3): 213–225,Lombardi Comprehensive Cancer Center, Georgetown University Medical Center, Pub Med.213-25.

Dündar Pınar Erbay, Dilek Özmen2, BeyhanÖztürk, Gökçe Haspolat1, FilizAkyıldız, SümeyraÇoban and GamzeÇakıroğlu. (2006) .The knowledge and attitudes of breast self-examination and mammography in a group of women in a rural area in western Turkey Published: 24 February 2006 BMC Cancer 2006, 6:43 doi:10.1186/1471-2407-6-43.

El Saghir N, Ali S, Fady G (2002). Breast cancer in Lebanon. Leb Med J, 50, 3-9.

Elmore JG, Armstrong K. (2005). Screening for breast cancer. J Am Med Assoc, 293, 1245-56.

Elsie Kiguli-Malwadde, Mubuuke A Gonzaga, and MuyindaZeridah.(2010).Current knowledge, attitudes and practices of women on breast cancer and mammography at Mulago Hospital, radiology department, School of Medicine, College of Health Sciences, Makerere University, Kampala, Uganda.The Pan African Medical Journal. 2010;5:9

Finney, R. L., &Iannotti, R. (2003). Health beliefs, salience of breast cancer family history, and involvement with breast cancer issues: Adherence to annualHealth beliefs, salience of breast cancer family history, and involvement with breast cancer issues: adherence to annual mammography screening recommendations. PubMedCancer Detect Prev. 2003;27(5):353-9.

Flynn, Patricia. (2011).Culture, Emotion, and Cancer Screening: an Integrative Framework for Investigating Health Behavior.Annals of Behavioral Medicine,Volume 42, Issue 1, pp 79-90

Frankenfeild.(2009) Jepson ,A Clegg ,C Forbes, R Lewis, A Sowden, J Kleijnen. The determinants of screening uptake and interventions for increasing uptake: a systematic review, Kristen. (2009)Health Belief Model of Breast Cancer Screening for Female College Students, Eastern Michigan University.

Garbers, S., Jessop, D. J., Foti, H., Uribelarrea, M., &Chiasson, M.A. (2003). Barriers to breast cancer screening for low-income Mexican and Dominican women in New York City. Journal of Urban Health, 80(1), 81-91.

Georgia R Sadler and al el.(f). Breast cancer knowledge, attitudes, and screening behaviors among African American women: the Black cosmetologists promoting health program. BMC Public Health 2007, 7:57.

Gilani S.Ijaz, M.Khurram, T.Mazhar, S. T. Mir, S. Ali, S. Tariq, A. Z. Malik.(2010).Knowledge, attitude and practice of a Pakistani female cohort towards breast cancer Rawalpindi Medical College, Rawalpindi /Holy Family Hospital, Rawalpindi Vol. 60, No.

Glance.(2007). Attitudes Toward Mammography Differ Across Ethnicities, Cultures, and Backgrounds. Radiological Society of North America (RSNA).

Glanz K, Rimer BK, Lewis FM .(2002). Health Behavior and Health Education.3th ed. San Francisco. Jossey-Bass

Graham, ME (2002) Health beliefs and self-breast examination in black women. *J Cult*Greiser CM, Greiser EM and Doeren M. (2005). Menopausal hormone therapy and risk of breast cancer: a met analysis of epidemiological studies and randomized controlled trials. Hum Reprod Update 11, 561-573.

Grunfeild EA, Ramirez AJ, Hunter MS, Richards MA. (2002). Women's knowledge and beliefs regarding breast cancer. Br J Cancer, 86 (9):1373-1378.

Guilford Kendra. (2011). Breast Cancer knowledge, Beliefs, and Screening Behaviors of college women: utilization of the Health Belief Model.Department of Health Sciencein the Graduate School ofThe University of Alabama,

Gürsoy A. A., Ağla Y, Fatma Y, Hacer E., Hacer K.Bulut, Havva K.Mumcu, Kıymet Y., İlknur.K.Sevilay H.Nesrin N. Gnderilme T. (2008). The Effect Of Peer Education On University Students' Knowledge Of Breast cancer

Hajian S., Khadijeh M. N. J. H. H. Reza ,Mirzaei K. V.,.(2011). Effects of Education Based on the Health Belief Model on Screening Behavior in High Risk Women for Breast Cancer Tehran, Iran Asian Pacific Journal of Cancer Prevention, Vol 12, 2011.

Haji-Mahmoodi M, Montazeri A, Jarvandi S, Ebrahimi M, Haghighat S, Harirchi(2007) Breast self-examination: knowledge, attitudes, and practices among female health care workers in Tehran, Iran Iranian Center for Breast Cancer, Tehran, Iran.PubMed;8(4):222-5..

Hamajima N, Hirose K, Tajima K.(2002.) Alcohol, tobacco and breast cancer–collaborative reanalysis of individual data from 53 epidemiological studies, including 58,515 women with breast cancer and 95,067 women without.Br J Cancer. 2002 Nov 18;87(11):1234-45.

Han,YWilliams,R.D,&Harrison.(2000). Breast Cancer Screening knowledge ,attitude and practice among Korean American Women Oncology Nurse Forum 27(10),1585-91.

Hana T. , R. Al-Qutob ,E.Nyström Ass, R.Wahlström Ass, V. Berggren (2012) .Voices of Fear and Safety Womens ambivalence towards breast cancer and breast health: a qualitative study from Jordan. BMC Women's Health doi:10.1186/1472-6874-12-21

Hausmann.M..Muela and I. Nyamongo. (2003) Health-seeking behavior and the health system's response. DCPP Working Paper no. 14.

Heidari, H. R., M. z.-Sagheb,, N.Sakhavar. (2008).Breast cancer screening knowledge and practice among women in southeast of Iran. Department of Histology, school of Medicine, ZahedanUniversity of Medical Sciences, Department of Gynecology and Obstetrics.Tums Journals .

Helsinki Liisankatu, Finland Cancer Epidemiology Biomarkers Prev (2005) Finish Cancer Registry;14(1):61–6

Herbs .T. Michael C.(2011). Cancer Breast Cancer Fact Sheet, (Cancer Association of South Africa (CANSA) Fact Sheet on Breast.

Hijazi, Taghreed (2011) Maternal and Child Health department, Minster of Health. (Personal Interview on the 265th. Sept. 2011

Hisham A ., Yip . H (2003). Spectrum of breast cancer in Malaysian women: An overview. World Journal of Surgery, 27, 921-3.

http://www.cancerresearchuk.org/cancer-info/cancerstats/types/breast/incidence/uk-breast-cancer-incidence-stati(2010)

http://www.cbcn.ca/index.php?pageaction=content.page&id=1531&lang=enupdate, July ,2012

http://www.iarc.fr/en/publications/pdfs-online/epi/cancerepi/CancerEpi-10.pdf

Huang, M.C., Huang, C.C., & Thomas, K. (2006). Febrile Convulsions: Development and Validation of a Questionnaire to measure Parental Knowledge, Attitude, Concerns and Practices. Formos Med Assoc, 105(1), 38-48.

IARC - International Agency for Research on Cancer (2002) IARC handbooks of cancer prevention, Handbook 6 .

IARC (2008). World cancer report2008. Lyon, International Agency for Research on Cancer.

IARC Press, Lyon, (July 1, 1995) Weight Control and Physical Activity France.

Ibrahim, Ezzeldin, Ahmed A. Zeeneldin, Bakr Bin Sadiq, Adnan A. Ezzat. (2010). The Present And The Future Of Breast Cancer Burden In The Kingdom Of Saudi Arabia. College Of Medicine And King Khalid University Hospital, King Saud University. Breast Cancer Researches In Saudi Arabia Volume 1 No. 1 1431 H - 2010 G

Im E. O, Park Y S, Lee EO .(2004). Korean women's attitudes toward breast cancer screening tests. International Journal of Nursing Studies, 41, 583-9.

Inger T. Gram, TonjeBraaten, Paul D. TerryAnnie J. Sasco, Hans-OlovAdami,Eiliv Lund and ElisabeteWeiderpass.(2004).Breast Cancer Risk Among Women Who Start Smoking as Teenagers.Cancer Epidemiol Biomarkers Prev January 2005 14; 61

Institute for Health Metrics and Evaluation, University of Washington, September (2011)The Challenge Ahead: Progress and Setbacks in Breast and Cervical Cancer.

Institute of Public Health of the Republic of Slovenia, (2008).Responding to the challenge of cancer in Europe Istanbul University, Florence Nightingale School of Nursing, Public Health Nursing Department, Sisli-Istanbul .(2004) 80270, Turkey.

International Agency for Research on Cancer World Health Organization, IARC(2009).

Ismail, Azza. Abd El Hamid and 3Amel G. AbdElNaby .(2013)Assessment of Factors that Hinder Early Detection of Breast Cancer among Females at Cairo University Hospital.Department of Community Health Nursing, Faculty of Nursing, Cairo University, Cairo, Egypt2Department of Maternal and Newborn Health Nursing, Faculty of Nursing, Cairo University, Cairo, Egypt 3Department of Medical Surgical Nursing, Faculty of Nursing, Cairo University, Cairo, Egypt.

Isreali Cancer association http://en.cancer.org.il/, 2013)

Jarvandi S, Montazeri A, Harirchi I , Kazemnejad A(2002). Beliefs and behaviors of Iranian teachers toward early detection of breast cancer and breast self-examination. Public Health, 116, 245-249.

Jebbin NJ and Adotey JM.(2004) :Attitude to,knowledge and practice of breast-self-examination(BSE) in port Harcourt.Niger J Med.

Jemal A, Bray F, Center MM, Ferlay J, Ward E, (2011).Global cancer statistics.

Jepson R, Clegg A, Forbes C, Lewis R, Sowden A and Kleijnen J. (2000). The determinants of screening uptake and interventions for increasing uptake: a systematic review. Health technology assessment Vol4:No.14.

Jerzy e. Tyczynski, Freddie Bray, d. Maxwell Parkin, ,(December 2002)Breast Cancer in Europe vol. 2

Jordan Ministry of Health (2008) Annual incidence of cancer in Jordan. Amman: http://www.moh.gov.jo/MOH/En/publications.php.

Journal of Cancer Epidemiology Volume 2012 (2012), Article ID 915610, 5 pages doi:10.1155/2012/915610 King MC, Marks JH and Mandell JB (2003). Breast and ovarian cancer risks due to inherited mutations in BRCA1 and BRCA2. Science, 302, pp643-646.

Kalager, M. M.Zelen,., F.Langmark, and H.-O.Adami, (2010). Effect of Screening Mammography on Breast-Cancer Mortality in Norway The New England Journal of Medicine. vol. 363 no. 13

Katapodi, M.,N. C.Facione, C.Miaskowski, M. J Dodd, C. Waters. (2003). the influence of social support on breast cancer screening in a multicultural community sample. Department of Physiological Nursing, University of California, San Francisco, CA, USA. Oncology Nursing Forum (impact factor: 1.91). 07/2002; 29(5):845-52. DOI:10.1188/02.ONF.845-852

Kitzinger J. (1994), “The methodology of focus groups: the importance of interaction between research participants”, Sociology of Health

Koffman,M.- D., Brownstein, J., Neiner, J., & Greaney, M. (2005). Site-specific literature review of policy and environmental interventions that promote physical activity and nutrition for cardiovascular health: What works? American Journal of Health Promotion, 19, 167-193

Kraemer, H. C., Kazdin, A. E., Offord, D. R., Kessler, R. C., Jensen, P. S., &Kupfer, D. J. (1997). Coming to terms with the terms of risk. Archives of General Psychiatry, 54, 337-343

Kruk J. (2007).Association of Lifestyle and Other Risk Factors with Breast Cancer According to Menopausal Status: A Case-Control Study in the Region of Western Pomerania (Poland), Asian Pacific Journal of Cancer Prevention, Vol 8.

Lacey JV Jr. et al. (2009). Breast cancer epidemiology according to recognized breast cancer risk factors in the Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial Cohort. BMC Cancer, 9, 84.

LagerlundM.(2002). Factors affecting attendance at population –based mammography screening. Department of Medical Epidemiology Karolinska Institute .Stockholm

Madan, A., Barden, C., & Bee ch, B. (2000). Socioeconomic factors, not ethnicity, predict breast self examination. Breast Journal, 6, 263-6.

Madanat H, Merrill RM (2002) Breast cancer risk-factor and screening awareness among women nurses and teachers in Amman, Jordan. Cancer Nurs 2002, 25:276-282)

Mahmoodi,H.i-, Montazeri A, Jarvandi S, Ebrahimi M, Haghighat S, Harirchi I .(2002).Breast self-examination: knowledge, attitudes, and practices among female health care workers in Tehran, Iran. Iranian Center for Breast Cancer, Tehran, Iran.

Margaret S.T Chua.(2005) Knowledge ,perception and attitudes of Hongkong Chinese women on screening mammography and early breast cancer management. The breast Journal

María R. Schettino, María A. Hernández-Valero, RocíoMoguel, Richard A. Hajek, Lovell A. Jones .(2009).Assessing Breast Cancer Knowledge, Beliefs, and Misconceptions Among Latinas in Houston, Texas, Journal of Cancer Education, Vol. 21, No. 1, suppl: pages S42-S46)

Marinho ,A. ,Barcelos, J. G.Cecatti, M. J. Duarte O. M. S. C. GurgelI, R. S.Pública.(2008) Knowledge, attitude and practice of mammography among women users of public health services,;42(2):200-7.

Marston, L. Introductory Statistics for Health and Nursing Using SPSS. Thousand Oaks, California: Sage Publications, Ltd. 2010.

Matthew P. Banegas, Y. Bird, J.Moraros, S. King, S.iPrapsiri, and Beti Thompson. (2011). Breast Cancer Knowledge, Attitudes, and Early Detection Practices in United States-Mexico Border Latinas Journal of Women's Health. January 2012, 21(1): 101-107. doi:10.1089/jwh.2010.2638. Published in Volume: 21 Issue .

McDonald J., A. Sherman,. (2010). Determinants of mammography use in rural and urban regions of Canada, Department of Economics, University of New Brunswick, Fredericton, NB.Can J Rural Med 2010;15(2):52-60[full text in PDF]

Meleis, A. & Hatter-Pollard, M. (1995). Arab Middle Eastern American women. Stereotyped, invisible, but powerful. In. Adams (Ed.), Health Issues for Women of Color: A cultural diversity perspective (pp. 133-163). Sage Publications

Mia M. SoheL.(2007). Knowledge, Attitude and Practice Regarding Breast Cancer among Medical Students of Bangladesh- A protocol study.

Milaat.(2000) Knowledge of secondary-school female students on breast cancer and breast self-examination in Jeddah, Saudi Arabia. Eastern Mediterranean Health Journal,6:338-343)

Miller, A.B. . (2002). Breast self-examination. Canadian Medical Association Journal166 (2):163

Ministry of Health of Turkey, Department of Cancer Control (2002), Cancer Control Programmer and Cancer Statistics in Turkey, No. 618, Ankara, Turkey, 121.

Minnesota Department of Health, Division of Health Policy, Center for Health Statistics. Teens and tobacco in Minnesota, the view from 2008:results from the Minnesota Youth Tobacco and Asthma Survey.

Minster of Health. (2010), leaflet "of protection from breast cancer ",UNFPA, Cooperazoine Italian

Mittra, I 1998.. Breast cancer screening. Abstract from “Cancer Strategies for the New Millennium.” London,October 19-20,Available online at www.who.int/ncd/cancer/publications/abstracts/abs9810_08.html)

Modeste, Naomi N Vonna Lou Caleb-Drayton, and Suzanne Montgomery Rev PanamSalud (1999) Barriers to early detection of breast cancer among women in a Caribbean population.

National Breast Screening Baines, C.J. Physical examination: (1989). Its role as a single screening modality in the Canadian Study. Cancer 63:1816–1822 .

National cancer institute. (2010) SEER data submission, posted to the SEER(Surveillance Epidemiology and End Results) web site, (2012).

National Cancer Institute. Bethesda, http://seer.cancer.gov/csr/1975_2009_pops09/, based on November.

National Cancer Institute. Targeted cancer therapies. Last accessed August (2011).at http://www.cancer.gov/cancertopics/factsheet/Therapy/targeted

National Cancer Registry (2008). Cancer projections 2005-2035. National Cancer Registry, Cork

Nichter, M. (1993). Social science lessons from diarrhea research and their application to ARI. Human Organization 52(1), 53-67

Nielsen Schack- L, Larnkjaer A, Michaelsen KF (2005). Long term effects of breastfeeding on the infant and mother. AdvExp Med Biol., 569, pp16-23.

Odusanya O. O., Tayo O. O.(,2001) Breast cancer knowledge, attitudes and practice among nurses in Lagos, Nigeria. ActaOncol

Okobia Michael N, Clareann H Bunker, Friday E Okonofua and UsifoOsime .(2006).Knowledge, attitude and practice of Nigerian women towards breast cancer: A cross-sectional study .

Okobia MN, Bunker CH, Okonofua FE, Osime U. (2006) Knowledge, attitude and practice of Nigerian women towards breast cancer: a cross-sectional study. World Journal of Surgical Oncology. Feb 21; 4:11. http://www.path.org/resources/pub_outlook.htm.(2002)

Olowokeredekemi E. Adenike C. Onibokun and Abimbola O. Oluwatosin.(2012). Breast cancer knowledge and screening practices among women in selected rural communities of Nigeria, Department of Nursing Science, ObafemiAwolowo University, Ile-Ife, Osun State, Nigeria. 2Department of Nursing, University of Ibadan, Oyo State, Nigeria, Journal of Public Health and Epidemiology Vol. 4(9), pp. 238-245,

Orgéas, Chantal Per Hall,1 Lena U Rosenberg,1,2 and Kamila Czene1(2008). The influence of menstrual risk factors on tumor characteristics and survival in postmenopausal breast cancer PMCID: PMC2656904

Park, Hun Myoung. (2009). Comparing Group Means: T-tests and One-way ANOVA Using Stata, SAS, R, and SPSS, University Information Technology Services Center for Statistical and Mathematical Computing Indiana University ,HOF Melanie.(2012) Questionnaire Evaluation with Factor Analysis and Cronbach's Alpha

ParsaParisa, Mirnalini Kandiah2, H Abdul Rahman3, NA MohdZulkefli.(2006).Barriers for Breast Cancer Screening Among Asian Women: A Mini Literature Review3Asian Pacific Journal of Cancer Prevention, Vol 7,)

Pattino, Patricia. (2007). Breast Cancer: relationship between acculturation and barriers to breast cancer screening in south west Florida Latinas, University of South Florida.

Pelto, J. P., and G. H. Pelto. (1997). Studying knowledge, culture, and behavior in applied medical anthropology. Medical Anthropology Quarterly 11(2), 147-163.

Peto J. (2001). Cancer epidemiology in the last century and the next decade .Nature, 411, 390–5.

Petri AL, Tjonneland A, Gamborg M, et al.(2004)Alcohol intake, type of beverage, and risk of breast cancer in pre- and postmenopausal women. Alcohol ClinExp Res 28 (7): 1084–1090

Petro-Nustus W, Mikhail B (2002). Factors associated with breast self-examination among Jordanian women Public Health Nursing, 19, 263-71

Petty, R. E., and J. P. Cacioppo. (1981) Attitudes and persuasion-classic and contemporary approaches. Dubuque, IA: W. C. Brown Co. Publishers

Pham CT., Mcphee SJ.(1992) Knowledge, attitudesand practices of breast and cervical cancer screening among Vietnamese women Cancer Educ.;7(4) :305-10.

Phyllis Peter M. Ellis, N. Butow, Martin H.N. Tattersall, Stewart M. Dunn and NehmatHoussami. (2001). Randomized Clinical Trials in Oncology: Understanding and Attitudes Predict Willingness to Participate. American Society of Clinical Oncology.

Powell R.A., Single H.M., Lloyd K.R. (1996) 'Focus groups in mental health research: enhancing the validity of user and provider questionnaires', International Journal of Social Psychology 42 (3): 193-206.

Qalawi .(2013) Palestinian Central Bureau of Statistics - State of Palestine,personal interview .

R, Maira C, Ute S, et al. (2006). Breast cancer in limited resource countries: early detection and access to care. Breast J, 12, 16-26.

Rahman Turnbull C, N. (2008). Genetic predisposition to breast cancer: past, present, and future. Annu Rev Genomics Hum Genet.;9:321-345.62)

Rosenstock, I. M. (1966). Why people use health services. Lizewski Larry , Katheryn Maguire.(2010) The Health Belief Model Communication Theory Wayne State University

Rosmawati, NH Nik. (2010).Knowledge, Attitude and Practice of Breast Self-examination Among Women in a Suburban Area in Terengganu, Malaysia Asian Pacific Journal of Cancer Prevention, Vol 11, Asian Pacific J Cancer Prev, 11, 1503-1508

Russo J, Moral R, Balogh GA, Mailo D, Russo IH. (2005). the protective role of pregnancy in breast cancer. Breast Cancer Res., 7(3), pp131-42.

Sachan , Mayank, Arnab Bhattacharya. (2012). Mining Statistically Significant Substrings using theChi-Square Statistic, Dept. of Computer Science and Engineering Indian Institute of Technology, Kanpur.India.

Saikakumikosobutomotaka.(2009**)**epidemiology of breast cancer in japan and SamahAhmadian Maryam, Asnarulkhadi. (2012). A Literature Review of Factors Influencing Breast Cancer Screening in Asian Countries Department of Social and Development Sciences, Faculty of Human Ecology, Universiti Putra Malaysia 43400, UPM Serdang, Selangor, Malaysia, Life Science .

Secginli S, Nahcivan NO. (2006). Factors associated with breast cancer screening behaviors in a sample of Turkish women: A questionnaire survey. International Journal of Nursing Studies, 43, 161-71.

Shaheen R. a, , P.J. Slanetz a, S. Raza b, M.P. Rosen a Beth Israel.(2011). Barriers and opportunities for early detection of breast cancer in Gaza women Deaconess Medical Center, Harvard Medical School, Boston, MA 02215, USA b Brigham and Women Hospital, Harvard Medical School, Boston, MA 02215, USA Elsevier Ltd. All rights reserved.

Sharp Linda Aileen Timmons .(2010). The financial impact of cancer diagnosis, National Cancer Registry/Irish Cancer Society.

Shrock, S. A., &Coscarelli, W. C. (2000). Criterion-referenced test development: Technical and legal guidelines for corporate training and certification. (2nd ed.). Washington, DC: International Society for Performance Improvement.

Slovenia. (2008). Responding to the challenge of cancer in Europe, institute of Public Health of the Republic.

Smith RA, Saslow D, Sawyer KA, et al. (2012). American Cancer Society guidelines for breastcancer screening: Update 2003. CA Cancer J Clin. 2003.

Solomon Tang TS, LJ, McCracken LM Ruttenberg. (2000) .Cultural barriers to mammography, clinical breast exam, and breast self-exam among Chinese-American women 60 and older. Cancer Center, Medical Center, New York, New York 100029,Box 1130, Mount Sinai, USAPreventive Medicine [, 31(5):575-583].

Statistics. (2011). Toronto, ON: Canadian Cancer Society; May 2011 ISSN 0835-2976

Stith, Karma M. Rabon.(--). The Relationship Between Select Variables And The Breast Cancer Screening Practices Of A Convenient Sample Of African American Women From Grambling State University And The Willis-Knighton Neighborhood Clinic, Blacksburg, Virginia.

Straughan, P., &Seow, A. (2000). Attitude as barriers in breast screening: A prospective study among Singapore women. Social Science and Medicine, 51, 1695-703

SunkanyHee, Eileen f, Boeun Kwon. (2008). Stages of Change: Korean Women's Attitudes and Barriers toward Mammography Screening

Talbert Patricia Yvonne. (2008). The Relationship of Fear and Fatalism with Breast Cancer Screening Among a Selected Target Population of African American Middle Class Women North Hennepin Community College, Journal of Social, Behavioral, and Health Sciences Volume 2, Issue 1, Pages 96–110 Walden University, Minneapolis, MN DOI: 10.5590/ JSBHS.2008.02.1.07

Task Force & Rockville (MD. Screening for breast cancer.(2002). AHRQ Publication No. APPIP02-0016.).

Task Force(2009). Screening for breast cancer. AHRQ Publication No. APPIP02-0016. Rockville .

Temiz Muhyitti,nAhmetAslanTacettinI˙nandıElmirBeshirovFikretBeyaz Mustafa .(2002) . Knowledge, Attitudes, and Behaviors of Female Teachers Related to Breast Cancer and Breast Examination in Southern Turkey Kemal University Faculty of Medicine Department of General Surgery, Antakya, Hatay, Turkey the disease. Br J Cancer 2002; 87 (11): 1234–1245.

Tfayli Arafat, Sally Temraz,1 Rachel AbouMrad, Ali Shamseddine.(2010). Breast Cancer in Low- and Middle-Income Countries: An Emerging and Challenging Epidemic. Division of Hematology/Oncology, American University of Beirut Medical Center. Corporation Journal of Oncology. Volume 2010, Article ID 490631, 5 pages doi:10.1155/2010/490631

Thomas David B., Dao Li Gao, Roberta M. Ray, Wen Wan Wang, Charlene J. Allison, Fan Liang Chen, Peggy Porter, Yong Wei Hu, Guan Lin Zhao, Lei Da Pan, Wenjin Li, Chunyuan Wu, ZakiaCoriaty, Ilonka Evans, Ming Gang Lin, HelgeStalsberg and Steven G. Self. (2002). Randomized Trial of Breast Self-Examination in Shanghai. Program in Epidemiology, Fred Hutchinson Cancer Research Center

Thomas, D.L. Gao, S.G. Self, et al. (1997): "Randomized trial of breast self-examination in Shanghai: methodology and preliminary results," Journal of the National Cancer Institute 89, 355-65.)

Tseng M, Weinberg CR, Umbach DM, Longnecker MP.(1999) Calculation of population attributable risk for alcohol and breast cancer (United States). Cancer Causes Control1999; 10 (2): 119–123

Umeh, K. & Rogan-Gibson, J. (2001). British Journal of Health Psychology, 6(4), 361-372.

Victorian Cytology Service (2010,). Victorian Cytology Service PO Box 161 Carlton South VIC 3053 Website: www.vcs.org.au©

Webster, Premila&Austoker, Joan. (2006). Women's knowledge about breast cancer risk and their views of the purpose and implications of breast screening—a questionnaire survey. Oxford Journals, Medicine, Journal of Public Health, Volume 28, Issue 3. Pp. 197-202.

WHO. (2008). Advocacy, communication and social mobilization for TB control: a guide to developing knowledge, attitude and practice surveys.46

World Health. Report. 1998. Life in the 21st century. A vision for all. Report of the Director-General. World Health Organization. Geneva.1998

Wu Tsu-Yin PhD, RN, Brady West MA, BSb, Yu-Wen Chen MSN, RNc, Clara Hergert MSN, RN. (2005). Health beliefs and practices related to breast cancer screening in Filipino, Chinese and Asian-Indian women, Eastern Michigan University.

Yarbrough CJ, Braden SS (2001). Utility of health belief as a guide for explaining or predicting breast cancer screening behaviors. J Advanced Nurs, 33, 677-88.

Yip CH et al. (2008). Cancer epidemiology in the last century and the next decade. Nature, 411, 390–5. Guideline implementation for breast healthcare in low- and middle-income countries: early detection resource allocation. Cancer, 113, 2244–56

Yoder, P. S. 1997. Negotiating relevance: Beliefs, knowledge and practice in international health projects. Medical Anthropology Quarterly 11(2), 131-146

Zahedan University of Medical Sciences.(2008). Breast cancer screening knowledge and practice among women in southeast of Iran, Department of Histology, School of Medicine, Zahedan, Iran Tehran University of Medical Sciences,. ActaMedicaIranica 2008; 46(4): 321-328.

Zavare, M.A.Khtari-, M. h.juni, R Mnaf, IzarinaI, Salmiah (2011) knowledge on breast cancer and practice of breast self-examination among selected female university students in Malaysia medical and health science journal, mhsj

Appendix A

بسم الله الرحمن الرحيم

جامعة القدس
القدس
كلية الصحة العامة

Al-Quds University
Jerusalem
School of Public Health

التاريخ: 2013/1/15
الرقم: ك ص ع/2/2013

حضرة الدكتور اسعد رملاوي المحترم
مدير عام الرعاية الأولية/ وزارة الصحة الفلسطينية

الموضوع : مساعدة الطالبة كفاح بني عوده

تحية طيبة وبعد،،

تقوم الطالبة كفاح بني عوده بإجراء بحث كمتطلب لرسالة الماجستير في برنامج ماجستير السياسات والإدارة الصحية/ كلية الصحة العامة/ جامعة القدس بعنوان:

(knowledge, attitude, and practices of women about breast cancer and its screening at MoH clinics)

نرجو مساعدة الطالبة بتزويدها بأسماء المراكز الصحة الأولية في منطقة جدين، الخليل، رام الله، حتى تتمكن الطالبة من اختيار عينة العيادات ضمن المعايير الصحيحة. علماً بان هذه الدراسة ستكون لأهداف البحث العلمي فقط. وسوف تزويدكم بنسخة عن نتائج البحث.

مع الشكر والتقدير،،

عميد كلية الصحة العامة

نسخة: الملف

فرع القدس / تلفاكس 02-2799234
ص.ب. 51000 القدس

Appendix B

Al-Quds University
Faculty of Public Health
Health Management and Policy

Knowledge, Attitude and practices Among Female Patients at MOH Clinics in Ramallah, Jenin, Hebron and South Hebron Districts.

Dear:

My name is Kifah Bani Odah, a post graduate student in health management and policy program in Al-Qudus University, conducting a study titled "Knowledge, Attitude and practices Among Female Patients at MOH Clinics in Ramallah, Jenin, Hebron and South Hebron Districts" as a requirement of my master's degree. Therefore, I would like to fill out a questionnaire with you on this topic. The information collected from you is only for the purpose of research. This information will be coded and will be dealt with as information without names. I hope you will cooperate with me and spare 20 minutes of your precious time to fill out this questionnaire. You may refuse or accept. However in case you decline, please mention the reason behind that as it is important for my research

□ I agree to participate
□ I do not agree to participate Reasons:…….

For more information, please call me on my telephone number 0599782639

Thanks for your cooperation and understanding.

Appendix C

جامعة القدس

كلية الصحة العامة

برنامج السياسات والإدارة الصحية

المعرفة والاتجاهات والممارسات لنساء حول سرطان الثدي وطرق الكشف المبكر عنةفي عيادات الحكومة في الضفة الغربية

أختي العزيزة :

أنا اسمي كفاح بنى عودة طالبة في برنامج السياسات والإدارة الصحية في جامعة القدس أقوم بعمل دراسة حول المعرفة والاتجاهات والممارسات لنساء في فلسطين حول سرطان الثدي وطرق الكشف المبكر عنة كمتطلب لرسالة الماجستير، لذا أنا ارغب في تعبئة استمارة معك حول هذا الموضوع ،أن المعلومات التي يتم الحصول عليها منك هي فقط لغاية البحث ويتم ترميز والتعامل معها كمعلومات بدون أسماء ،أتمنى التعاون معي وإعطائي من وقتك 20 دقيقة لتعبئة هذه الاستمارة ،لك الحق في الرفض أو القبول ولكن في حالة رفضك أرجو منك ذكر السبب لأهميته للبحث.

□ أوافق على الاشتراك

□ لا وافق على الاشتراك الأسباب----------

لمزيد من المعلومات أرجو الاتصال على رقم هاتفي :0599782639

شكرا لتعاونكم

Annex D

Faculty of Public Health

In-depth interviews / Knowledge, Attitude and practices Among Female Patients at MOH Clinics in Ramallah, Jenin, Hebron and South Hebron Districts.

Focus group interview guide

Information about the participants in the Study

The Faculty of Public Health / health management and policy Graduate program, is conducting study by one of its students about knowledge, attitude and practices for breast cancer and method of early detection among women in the West Bank.

Dear, you are invited to participate in this study. But before you decide to participate in this study, we would like to inform you of the following:

What is the topic of study?

This research aims to evaluate the knowledge, attitudes and practices of women about breast cancer and method of its early detection, and what are the obstacles that women face in practicing the methods of early detection of breast cancer.

What should I do if I decide to participate in the Study:

If you agree to participate in this study, you will be asked to answer questions accurately knowing that the time of interview will be from one hour to one and a half, and the interview will be recorded with your consent. However, if you do not agree we will record the remarks only.

If you agree to record your the interview, you may ask to stop recording at any time you desire. If you feel after the end of the interview, that you desire to exclude any information you feel you should not mention, or if you want to add some information you have omitted, you can call the researchers and she will add or delete what you want.

Am I compelled to Participate?

No, the participation is not compulsory and it is voluntary. Whether you agree to participate or not, your decision will remain a personal not to be discussed with anyone else.

Confidentiality

All information obtained by us during the interview will be preserved, and no one can go through them during interview. All the information will be converted into symbols and your name will not be mentioned. In addition, all the personal information that you mentioned during the interview will be gathered during the stage of analysis and writing of the results. If you have any questions we are ready to answer.

Thank you for reading these information about the study. We hope that you will participate in the study.

For any query, please call the main researcher Kifah Bani Odah on telephone Number: 0599782639

Contract used for the participants in the study:

I have read and understood the information about the study	
I was able to ask questions and discuss the study objectives.	
I have understood that I can withdraw from the study any time I want / without giving any justifications.	
I have agreed on recording of my interview.	
I agree on participation in the study	

Name (Participant) …… Signature ……..….Date …….

Name (Researcher) …… Signature ……. Date …….

Appendix E

مقابلات معمقة / حول المعرفة والاتجاهات والممارسات لسرطان الثدي وطرق الكشف عنها بين النساء.

معلومات للمشاركات في الدراسة:

تقوم كلية الصحة العامة /تخصص إدارة وسياسات صحية بعمل دراسة لأحد طلبتها حول (المعرفة والاتجاهات والممارسات لسرطان الثدي وطرق الكشف عنها بين السناء في الضفة الغربية) في ثلاث محافظات في الضفة الغربية .

عزيزتي آنت مدعوة للمشاركة في هذه الدراسة، ولكن قبل أن تتخذين قرارا حول مشاركتك في هذه الدراسة نود اطلاعك على المعلومات التالية :

ما هو موضوع الدراسة ؟

يهدف هذا البحث إلى تقييم معرفة واتجاهات وممارسات النساء حول سرطان الثدي ووسائل الكشف المبكر عنه، وما هي المعيقات التي تواجه النساء في ممارسة وسائل الكشف عن سرطان الثدي.

ماذا يجب علي أن اعمل إذا قررت المشاركة في الدراسة.

إذا وافقت على المشاركة في هذه الدراسة سيطلب منك الإجابة على الأسئلة بدقة مع العلم بان مدة المقابلة من الساعة إلى ساعة ونصف، وسوف يتم تسجيل المقابلة بعد موافقتك وإذا لم توافقي على التسجيل سوف نكتفي بأخذ الملاحظات.
إذا وافقني على تسجيل مقابلة بإمكانك أن تطلبي إيقاف التسجيل في أي وقت تردين. إذا شعرت بعد انتهاء المقابلة انك تردين استثناء أي معلومات تشعرين انك لا تردين ذكرها أو تردين إضافة أي معلومات لم تذكرينها بامكانك أن تتصلي بالباحثين وسوف نعمل على إضافة أو حذف ما تردين.

هل أنا مجبرة على المشاركة

لا، المشاركة غير إجبارية بل هي طوعية وسواء وافقت على المشاركة أم لا ,سيبقى ذلك قرارا شخصيا لا يناقش مع أي شخص أخر.

الثقة والسرية

سيتم حفظ كل المعلومات التي سنحصل عليها ولا يمكن لأحد الاطلاع عليها أثناء المقابلة عليها,كل المعلومات ستحول لرموز ولن يذكر اسمك وكل المعلومات الشخصية التي تذكرين خلال المقابلة سيتم جمعها خلال تحليل وكتابة النتائج.
وإذا كان عندك استفسار نحن على استعداد للإجابة.
شكرا لك على قراءة هذه المعلومات عن الدراسة ونحن نتامل ان تشاركين في هذه الدراسة.

للاستفسار الرجاء الاتصال بالباحثة الرئيسية كفاح بنى عودة على هاتف رقم 0599782639

العقد المستخدم للمشاركات في الدراسة

لقد قمت بقراءة وفهم المعلومات الخاصة بالدراسة	
لقد كنت قادرة على طرح الاسئلة ومناقشة اهداف الدراسة	
لقد فهمت انني استطيع الانسحاب من الدراسة فـــي أي وقـــت اي\ بـــدون اعطاء تبريرات	
لقد وافقت على تسجيل المقابلة	
اوافق على المشاركة في الدراسة	

الاسم (المشترك) _____ التوقيع _____ التاريخ _____

الاسم (الباحث)_____ التوقيع _____ التاريخ_____

Appendix F

Focus Group Participants: Demographic Information

No.	Place of Residence	Age	Job	Social Status	Education Level	Do you have children?	Number of Children
1	Hebron	36	House Wife	Married	Elementary	Yes	8 children male 3, female 5
2	Hebron	42	House Wife	Married	Elementary	Yes	5 children, 3 females, 2 males
3	Hebron	32	House Wife	Married	Elementary	Yes	2 males, 2 females
4	Hebron	50	Nursery Teacher	Married	Elementary	Yes	One daughter
5	Hebron	29	House Wife	Married	Bachelors	Yes	4 daughters
6	Hebron	40	Social Worker	Married	Bachelors	Yes	2 sons, 4 daughters
7	Hebron	28	House Wife	Married	Bachelors	Yes	3 sons
8	Hebron	40	Teacher	Married	Bachelors	Yes	3 sons
1	Jenin	47	House Wife	Married	Elementary	Yes	male 3, female 2
2	Jenin	36	Teacher	Married	Bachelors	Yes	6 daughters
3	Jenin	50	House Wife	Married	Elementary	Yes	3 males, 3 females
4	Jenin	49	House	Unmarried	Elementary	No	---
5	Jenin	29	House Wife	Married	Elementary	Yes	One male, one female
6	Jenin	29	Social Worker	Married	Elementary	Yes	3 daughters, one son
7	Jenin	39	House Wife	Married	Elementary	Yes	2 males, 2 females
8	Jenin	43	House Wife	Married	Elementary	Yes	2 males, 3 females
9	Jenin	35	House Wife	Married	Elenmtary	Yes	2 males, 3 females
1	Ramallah	40	House Wife	Married	Elementary	Yes	6 males, 3 females
2	Ramallah	44	House Wife	Married	Elementary	Yes	2 males, 2 females
3	Ramallah	55	House Wife	Married	Bachelors	Yes	6 females, 3 males
4	Ramallah	50	House Wife	Married	Elementary	Yes	3 males, 2 females
5	Ramallah	37	House Wife	Married	Bachelors	Yes	2 males, 2 females
6	Ramallah	45	House Wife	Divorced	Elementary	Yes	6 females, 3 males
7	Ramallah	41	House Wife	Married	Elementary	Yes	2 males, 2 females
8	Ramallah	38	House	Married	Elementary	2 males, 3 females	Yes
9	Ramallah	36	House Wife	Married	Elementary	2females	Yes

Appendix G

Guide questions of FGD

The following are the questions that were asked to the participants:

Main question	Probe question
How do you think a woman should screen breast lumps in order to make sure that everything is intact?.	Please mention the main technique, according to your knowledge or experience.
What is the source of your information about this technique?	
What are the main risk factors that develop breast cancer?	Could you tell me a story about a woman who has developed breast cancer?
In your opinion, what are the main symptoms of breast cancer?	If you have detected any symptom, how would you feel and what would you do?
Is breast cancer prevalent in your community?	How many cases have you heard about? Do you believe that breast cancer is a dangerous disease to Palestinian women?
Do you believe this disease is curable if it is detected in an early stage? If not, why?	Please explain more.
Breast Self-Examination	
How important do you think self-breast exams are, as a screening tool for a breast lump?	Why? Please explain Would you recommend self-breast exams to a family member or a friend? Why?
Do you know how to perform the BSE?	At what time is it recommended that you practice this test? Who of you practices it regularly?
According to your opinion, what deters women from practicing BSE regularly?	
Would you feel comfortable performing self-breast exam by yourself? Why? Please explain	Are you comfortable touching your breasts to do the exam? Why or why not? Do you feel comfortable performing a self-breast exam in your home? Why or why not?

Clinical Breast Examination	
How important do you think clinical breast exams are as a screening tool for detecting breast lump? Why? Please explain.	Do you think that clinical breast exams can detect breast lumps? How? Please explain.
Do you know at what age is the CBE performed?	Has anyone of you gone to the physician to undergo a CBE?
According to your opinion, why don't women go for CBE?	Ask about financial, social and personal barriers.
Are you willing to receive a clinical breast exam? Why?	Do you think clinical breast exams are worthwhile to your health? Why? Please explain. If you have gone to get a clinical breast exam where do you go? Why?
How was your experience? Would your experience be different if you had a male or female physician?	Please explain more about your experience and how it would be different if the health provider would be male or female?
Mammography	
Do you know at what age mammography is recommended?	Do you know that mammography is free in Palestine?
How important do you think a mammography is, as a screening tool for a breast lump? Why? Please explain.	Do you think that a mammography can detect breast lumps? How and why? Please explain.
Would you go to receive a mammography? Why? Please explain.	Ask about main financial, social and personal barriers.
Do you think a mammography is worthwhile to your health? Why? Please explain.	If you have gone to get a mammography exam, where do you go? Why? How was your experience?

.

Appendix H

كلية الصحة العامة

معرفة واتجاهات وممارسات النساء حول سرطان الثدي وطرق الكشف المبكر عنه في عيادات الحكومة في الضفة الغربية

تاريخ تعبئة الاستمارة : / /

I. المعلومات الديمغرافية (الاجتماعية)

1. **مكان السكن:** ☐ مدينة ☐ قرية ☐ مخيم
2. **العمر:** _____
3. **عدد سنوات التعليم:** ☐ أمي ☐ ابتدائي ☐ إعدادي ☐ ثانوي ☐ توجيهي
   ☐ كلية متوسطة ☐ بكالوريوس ☐ دراسات عليا
4. **الديانة:** ☐ مسلم ☐ مسيحي
5. **الحالة الزواجية:** ☐ عزباء ☐ متزوجة ☐ مطلقة ☐ أرملة ☐ منفصلة
6. **العمل:**
   ☐ اعمل بوظيفة كاملة (35 ساعة وأكثر في الاسبوع) ☐ أعمل بشكل جزئي
   ☐ عاطلة عن العمل ☐ ربة بيت ☐ طالبة
7. **ما هو متوسط دخل الأسرة في الشهر (بالشيكل)** ----------

II. خلفية عامة عن المرض

1. **هل لديكِ أحد من العائلة من الدرجة الاولى (اخت /خالة/ عمه/ بنت/ام) اصيب بسرطان الثدي؟**
   ☐ نعم ☐ لا

2.هل برايك سرطان الثدي مرض منتشر بين النساء بين في فلسطين؟
☐ نعم ☐ لا ☐ لا أعرف

3. **هل تعلمي أن سرطان الثدي يشكل خطرا على النساء**
☐ نعم ☐ لا ☐ لا أعرف

III. أسئلة لها علاقة بالمعرفة حول الإصابة بسرطان الثدي

الرجاء الإشارة بوضع علامة × في المكان المناسب "نعم، لا، لا أعرف"

3.1 بناء على معرفتك هل تؤثر العوامل التالية على الإصابة في سرطان الثدي

	البند	نعم	لا	لا اعرف
1	التقدم في العمر (مع زيادة عمر المرأة)			
2	أصابة احد أفراد الأسرة من جهة الأم /الاخت/الجدة			
3	الأطعمة التي تحتوي على نسبة دهون عالية			
4	التدخين			
5	تناول المشروبات الروحية			
6	إنجاب المرأة لأول طفل لها في سن متأخر			
7	حدوث الدورة في سن مبكر (12سنة) من عمر الفتاة			
8	تأخر سن الأمان أي انقطاع الدورة ما بعد سن 55			
9	تناول موانع الحمل			
10	عدم ممارسة الرضاعة الطبيعية			
11	عدم الانجاب			
12	زيادة الوزن عند السيدات			
13	قلة ممارسة النشاطات الرياضية			
14	استخدام الهرمونات بعض انقطاع الدورة الشهرية			

2.3: بناء على معرفتك ما هي أعراض وعلامات الإصابة بسرطان الثدي (اقرئي الخيارات)

البند		نعم	لا	لا اعرف
1	ظهور كتل في الصدر			
2	وجود إفرازات وخاصة الدم من الثدي			
3	الإحساس بألم ووجع في حلمة الثدي			
4	زيادة سمك الحلمة			
5	تجعدات أو نقرات تحت الجلد			
6	زيادة سمك جلد الثدي			
7	تهيج الجلد			
8	الم في الحلمة والم في الثدي			

3.3 : مصادر معرفتك بالمعلومات حول سرطان الثدي "يمكن اختيار اكثر من مصدر

□ التلفزيون □ صحافة مكتوبة □ الانترنت □ راديو

□ الاصدقاء والاقارب □ العاملين في القطاع الصحي □ تجربتي مع المرض

3.4: بناء على معرفتك ما هي الطرق والوسائل التي تستخدم للكشف المبكر عن سرطان الثدي

	البند	نعم	لا	لا اعرف
1	الفحص الذاتي للثدي			
2	الفحص ألسريري عند الطبيب			
3	الصورة الإشعاعية			
4	اخذ عينة من الثدي بواسطة إبرة			

IV: المعلومات حول الفحص الذاتي لثدي

1. **هل تعرفي في أي عمر يتم البدء في الفحص الذاتي للثدي**

☐ 20 ☐ 30 ☐ 35 ☐ لا اعرف

2. **هل تعرفي متى يتم عمل هذا الفحص**

☐ كل أسبوع ☐ كل شهر بعد رابع يوم من انتهاء الدورة ☐ كل شهرين ☐ لا اعرف

3. **هل تعرفي كيف يتم عمل هذا الفحص**

☐ نعم (اذا نعم انتقلي الى سؤال 4) ☐ لا (اذا لا انتقلي الى سؤال 8)

4. **هل تذكري لي الخطوات الاساسية**

(تقوم الباحثة بمقارنة الخطوات المذكورة ويتم وضع اشارة حول الطرق التي تعرفها السيدة حول عمل الفحص الذاتي).

☐ الوقوف امام المرأة وضع اليدين جانبا ولاحظي التغيرات على الثديين من انتفاخ

☐ وضع اليدين على الخصر وشدي عضلات الجسم ولاحظ تغيرات في الثديين

☐ رفع اليدين فوق خلف راسك ولاحظي اي تغيرات في الثديين

5. **هل تقومي بعمل الفحص الذاتي لصدرك شهريا وبشكل مستمر**

☐ نعم ☐ لا

6. **كم مرة عملت الفحص الذاتي لصدرك خلال 12 شهر الماضية**

☐ كل شهر مرة ☐ كل شهرين ☐ مرتين او اكثر خلال سنة

☐ خمس مرات خلال خمس سنوات ☐ غير محدد

7. **هل برأيك الفحص الذاتي للثدي مهم للكشف المبكر عن سرطان الثدي**

☐ نعم ☐ لا ☐ لا أعرف

8. **لماذا لم تقومي بعمل فحص الذاتي لصدرك بانتظام (يجب الاشارة الى اهم ثلاث معيقات او اسباب منعت السيدة من ممارسة الفحص بشكل دوري ومنتظم)**

☐ الاهمال

☐ الفحص يحتاج لوقت

☐ الكسل

☐ انا ما زلت صغيرة على هذا الفحص

☐ اخاف من اجد بعض الاعراض

☐ لا يوجد عندي مشكلة في صدري

☐ لم يقم احد بنصحي

☐ الله يحميني

☐ اخجل من رؤية صدري اشعر بالإحراج من لمسة

☐ ليس لدية المعرفة الكافية لعمل هذا الفحص

☐ غير متأكدة من مدى فائدته

V: معلومات حول الفحص ألسريري

1. **هل قمتي بفحص صدرك من قبل طبيب او ممرضة**

☐ نعم ☐ لا

2. **في اي سنة يجب البدء في فحص الثدي عند الطبيب او الممرضة**

☐ 20 -30 ☐ 35 ☐ لا اعرف

3. هل تعرفي كم مرة يتم عمل فحص الصدر من قبل الطبيب او الممرضة قبل بلوغ سن الاربعين

☐مرة واحدة من 1-3 سنوات ☐ لا اعرف

4.هل تعرفي كم مرة يجب ان يتم فحص الصدر من قبل طبيب او ممرضة بعد بلوغ الاربعين عام

☐ مرة واحدة كل سنة ☐ مرة واحدة كل سنتين ☐ مرة واحدة كل ثلاث سنوات ☐ لا اعرف

5. **كم مرة قمتي بفحص صدرك عند الطبيب او الممرضة طيلة فترة حياتك**

☐ 1-3 مرات ☐ 3-5 مرات ☐ اكثر من خمس مرات ☐ ولا مرة ☐ لا اعرف

6. **هل برايك عمل فحص الثدي عند الطبيب مهم**

☐ نعم ☐ لا

7. هل تسمحي بفحصك من قبل طبيب ذكر

☐ نعم ☐ لا

8. **لماذا لم تقومي بعمل الفحص السريري عند الطبيب أو الطبيبة أو الممرضة (أشيري الى ثلاث اهم معيقات ذكرتها السيدة)**

☐ التكلفة المادية لدي أولويات أخرى

☐ الفحص يحتاج لوقت

☐ الكسل

☐ انا ما زلت صغيرة على هذا الفحص

☐ أخاف من اجد بعض الإعراض

☐ لا يوجد عندي مشكلة في صدري لم يقم احد بنصحي

☐ الله يحميني

☐ اخجل ان يقوم احد بفحصي وخاصة رجل

☐ سمعت ان هذا الفحص مؤلم

☐ لا يوجد لدي معلومات حول هذا الفحص

☐ لا اريد ان يعرف احد اني مريضة

☐ غير متأكدة من مدى فائدته

V1: معلومات حول الفحص الماموجرام

1. يبدا فحص الماموغرام

☐ في سن الثلاثين ☐ فوق سن35 ☐ في سن الأربعين ☐ فوق سن 45

☐ لا اعرف

2. كم مرة يجب ان يعمل فحص الماموغرام في سن 30-40

☐ مرة واحدة كل ثلاث سنوات ☐ مرة واحدة كل سنة ☐ مرة واحدة كل سنتين

3.هل تعرفي كم مرة يتم عمل الماموغرام فوق سن الاربعين

☐ مرة واحدة كل سنتين ☐ مرة واحدة كل ثلاث سنوات ☐ مرة وحادة كل سنة

4. هل تعرفي كم مرة يتم عمل فوق سن الخمسين

☐ مرة واحدة كل سنة ☐ مرة واحدة كل سنتين ☐ مرة واحدة كل ثلاث سنوات

5. هل تعرفي أن الفحص الماموغرام مجاني في فلسطين		
☐ نعم	☐ لا	☐ لا اعرف
6. هل قمت بعمل فحص الموغراف		
☐ نعم	☐ لا ***(اذا نعم قم بطرح السؤال الذي يليه مباشرة)***	
7. كم مرة عملت هذا الفحص خلال حياتك		
☐ مرة واحدة	☐ مرتين	☐ اكثر مرتين ☐ خمس مرات
☐ ولا مرة	☐ ما زلت صغيرة على عمل هذا الفحص	
8. هل الفحص الماوغرام مهم برايك للكشف الاولي عن سرطان الثدي		
☐ نعم	☐ لا	
9. لماذا لم تقومي بعمل فحص الماموغرامي . أشيري الى ثلاث معيقات ذكرتها السيدة	☐التكلفة المادية لدي أولويات أخرى ☐ الفحص يحتاج لوقت ☐ الكسل ☐ انا ما زلت صغيرة على هذا الفحص ☐ اخاف من اجد بعض الاعراض ☐ لا يوجد عندي مشكلة في صدري ☐ لم يقم احد بنصحي ☐ غير متأكدة من مدى فائدته ☐ الله يحميني ☐ اخجل ان يقوم احد بفحصي وخاصة رجل	☐ سمعت ان هذا الفحص مؤلم ☐ لا يوجد لدي معلومات حول هذا الفحص ☐ لا اريد ان يعرف احد اني مريضة لقد جربت هذا الفحص ☐ لا يوجد خصوصية في غرفة الفحص ☐ اذا ذهبت لعمل الفحص يؤثر هذا على مستقبل بناتي في الزواج.

V11: لا سمح الله اذا أصابك سرطان الثدي ماذا تتوقعي آن يكون شعورك لا تقرا الخيارات *(يمكن قبول اكثر من اجابه)*

	البند	اشارة عند الاجابه
1	أخاف كثيرا	
2	أصاب بالانهيار العصبي	
3	لا استطيع احتمال الحدث	
4	سأقوم بالإسراع إلى الطبيب حالا	
5	سأقوم بإخبار كل من حولي لمساعدتي	

6	استخدم وصفات علاجية محلية	
7	سأذهب لدور العبادة لأصلي وأدعو ربي ليشفيني	
8	أقوم باستصال ثدي	
9	سأستسلم ولا اعمل شيء	
10	أتقبل الموضوع لأنة قضاء وقدر من الله	

V111: إذا شعرت بوجود كتلة في ثديك، متى تذهبين للطبيب

☐ في نفس اليوم

☐ خلال أسبوع

☐ خلال شهر

☐ من شهرين الى ثلاث شهور

☐ اكثر من ثلاثة

☐ لا اعلم .

س9: هل تعتقدي أن سرطان الثدي يحصل للنساء الكبار في السن؟

☐ نعم ☐ لا

س10: **هل تعتقدي ان نادرا لمريضة مصابة في سرطان الثدي العيش اكثر من خمس سنوات؟**

☐ نعم ☐ لا

شكرا لتعاونكم

Appendix I

Faculty of Public Health

Breast Cancer Screening Tests:

Knowledge, Attitude and practices Among Female Patients at MOH Clinics in Ramallah, Jenin, Hebron and South Hebron Districts.

Date of form fill up: / /

I . Demographic / Social Information

1. **Residence** ☐ City ☐ Village ☐ Camp
2. **Age** ----------
3. **Level of education** : ☐ illiterate ☐ Elementary ☐ Preliminary ☐ Secondary ☐ Tawjihi ☐ Middle College ☐ Bachelors ☐ Post Graduate
4. **Religion :** ☐ Muslim ☐ Christian
5. **Marital Status** : ☐ Single ☐ Married ☐ Divorced ☐ Widow ☐ Separated
6. **Occupation:** ☐ Full time work (35 hours and more in a week) ☐ Part time ☐ Unemployed ☐ House Wife ☐ Student

7. What is the average family income in a month (in Shekals) ----------

II. General Background of the Disease

1. Are any of your relatives (first degree relatives: daughter, sister, aunt, mother) affected by breast cancer?

☐ Yes ☐ No

2. Is the BC a prevalent disease among women in Palestine?

☐ Yes ☐ No ☐ Don't know

3. Do you know that the BC presents a danger on women's health?

☐ Yes ☐ No ☐ Don't know

III. Knowledge of the risk factor

Please indicate by putting X mark what best suits your knowledge about the available options for this question with all its parts; "Yes, No, Don't Know"

3.1 Based on your knowledge, do the following factors affect the occurrence of breast cancer?

	Item	Yes	No	I Don't Know
1	Advanced age (aging)			
2	Inherited (family history)			
3	High fat diet			
4	Smoking			
5	Alcohol consumption			
6	First birth at late age (30)years old			
7	Early age at menarche (12)years old			
8	Late age at menarche (after 55 years old)			
9	Recent oral contraceptive use			
10	Breast feeding			
11	Infertility			
12	Overweight			
13	Lack of physical exercise			
14	Hormone therapy after menopause			

3.2 Based on your knowledge, what are the symptoms from breast cancer (Please read the options).

Item		Yes	No	I Don't Know
1	Lump in the breast			
2	Nipple discharge or bloody discharge			
3	Nipple pain			
4	Thickening of the nipple			
5	Skin dimpling			
6	Thickening of breast skin			
7	Redness, irritation, of nipple or breast skin			
8	Breast or nipple pain			

3.3 What are your sources of knowledge about the breast cancer? You may opt more than one source?

☐ Television ☐ Printed Press ☐ Internet ☐ Radio

☐ Friends and relatives ☐ Health care provider ☐ My experience with the disease

3.4 Based on your knowledge, what are the methods and means used for early detection of the breast cancer.

What are the methods and means used for early detection of the breast cancer?		Yes	No	I Don't Know
1	Self-examination of the breast			

2	Clinical examination by the physician			
3	Mammogram			
4	Biopsy			

IV: Information about the Self-Examination of the Breast

1. **Do you know at what age the breast examination should be done?**

☐ 20 ☐ 30 ☐ 35 ☐ I don't know

1. Do you know when this examination is performed?

2. Do you know how to perform this examination?

☐ Yes (If the answer is "yes", then move to the question 4)

☐ No (If "No", move to question 8

3. Mention the main steps to performing BSE
(The researcher will compare the below steps and a check mark will be made on method known to the lady about the method of self-examination).

☐ Standing in front of a mirror with hands pressing firmly down on your hips, look at your breasts for any changes of size, shape contour

☐ Standing with your arm only slightly raised so you can easily feel in this area, , look at your breasts for any changes of size, shape contour

☐ Put your arms behind your head, stress your body muscles, and notice any changes in your breast

4. **Do you perform or practice self-breast examination monthly and regularly?**

☐ Yes ☐ No

5. How many times have you practiced BSE in the past 12 months?

☐Monthly ☐ Once per two months ☐ Twice or more per year

☐ Five times during five years ☐ Undefined

6. **Is the BSE important and assists in early detection of breast cancer?**

☐ Yes ☐ No ☐ Don't know

7. Why do you not perform breast self-examination regularly. Mark three most important barriers or reasons that hinder you from performing self-examination regularly

☐ Carelessness

☐ Time consuming

☐ Laziness

☐ I am still young to perform such examination

☐ Fears of detecting any symptoms

☐ I do not have breast problem

☐ I have not been advised for doing so

☐ My God protects me

☐ Embracement to see my breast in mirror or touch

☐ I don't have enough knowledge about this examination

☐ Unsure about its benefit or accuracy

V: **Clinical Breast Examination Test Information**

1. **Have you undergone a breast examination by a physician or a nurse**

☐ Yes ☐ No

2. **Do you know at what age the breast examination should be done by a physician or a nurse**

☐ 20-30 ☐ 35 ☐ I don't know

3. **Do you know the number of times the breasts should be examined by a physician or nurse before the age of 40**

☐ once 1-3 years a year ☐ I Don't Know

4. **Do you know the number of times the breasts should be examined by a physician or nurse after to the age of 40**

☐ Once in a year ☐ One in every two years ☐ Once in every three years

☐ I Don't Know

5. How many times have you examined your breast by a physician or a nurse throughout your life.

☐ 1-3 times ☐ 3-5 times ☐ More than five times ☐ Not even once

6. **Do you believe it important to perform CBE by a nurse or physician?**

☐ Yes ☐ No

7. **Would you allow a male physician perform CBE for you?**

☐ Yes ☐ No

8. **Why have you not performed CBE (Do not read the options? Please mention three most important barriers or reasons that hinder you from performing self-examination regularly (Please select three most important obstacles.**

☐ Financial costs and I have other priorities.

☐ The examination needs time

☐ Laziness

☐ I am still young to perform such examination

☐ Fears of detecting any symptoms

☐ I do not have breast problems, I have not been advised for doing so

☐ My God protects me

☐ Embracement Because the health provider is man

☐ I've heard it is painful examination

☐ I don't have enough knowledge about this examination

☐ I don’t want anyone to know about my disease ☐ Unsure about its benefit or accuracy

V1: Information about Mammogram

1. **What is the Recommended age for mammogram examination** ☐ At the age of 30 years ☐Above 35 year ☐ Above 45 years ☐ I don't know
2. How often should a mammogram be done between the ages of 30-40? ☐ Once per three years ☐ One every year ☐ Once every two years
3. How often should a mammogram be performed after the age of 40? ☐ Once every two years ☐Once per three years ☐Once per year
1. **How often should a mammogram be performed after the age of 50?** ☐ Once per three years ☐ One every year ☐ Once every two years
2. Do you know that mammogram test is free of charge in MOH clinics in Palestine? ☐ Yes ☐ No ☐ Don't know
3. Have you had a mammogram performed? ☐ Yes ☐ No (If "yes" then answer the following question)
4. How many times have you examined your breast by mammogram in your life? ☐ Once ☐ two times ☐more than two times ☐ five times ☐ Never ☐ I am still too young for this examination
8. Is the mammogram important in assisting and detecting early breast cancer? ☐ Yes ☐ No
9. The barriers hindering women from performing mammogram Please select three most important answers ☐ I have other priorities and the cost is high ☐ The examination needs time ☐ Laziness ☐ I am still young to perform such examination ☐ Fears of detecting any symptoms ☐ I do not have breast problem ☐ I have not been advised for doing ☐ Unsure about its benefit or accuracy ☐ God Bless me ☐ Embracement Because the health provider is man ☐ I’ve heard it is painful examination ☐ I don’t have enough knowledge about this examination ☐ I don’t want anyone to know about my disease

V11: May Allah forbid, if you suffer from breast cancer, what would your feelings be towards being affected with breast cancer, Do not read the options (More than one answer may be accepted)

	Item	Indicate the Answer
1.	I will be scared	
2.	I will suffer from nervous breakdown	
3.	I will not tolerate that	
4.	I will consult a physician immediately.	
5.	I will ask help from my relatives and friends	
6.	I will use traditional and local therapeutic remedies	
7.	I will go to the mosque or church and pray for god	
8.	I will perform mastectomy	
9.	I will not do any thing	
10.	I will accept that, because it is my fate	

8. If you feel a lump in your breast, how fast you will go to see physician??

☐ The same day

☐ Within one week

☐ Within one month

☐ Within two to three months

☐ Within more than three months.

☐ I don't know

Question 9: Do you believe that breast cancer only occurs for the aging women?

☐ Yes ☐ No

Question 10: Do you believe it is rare for a woman with breast cancer to live more than five years?

☐ Yes ☐ No

Thanks for your cooperation.

Appendix J: **The practicing of the threes screening tests (BSE CBE, Mammogram according to age**

Do you perform or practice self-breast examination monthly and regularly?

	LESS 29	29-39	39-49	49-59	59-69	Total
Yes	43.9%	37.4%	14.0%	4.7%		100%
No	45.6%	36.0%	12.5%	3.7%	2.2%	100%
Total	44.9%	36.6%	13.2%	4.1%	1.2%	100%

How many times did you have your breast examined by a nurse or physician during your life ?

	LESS 29	29-39	39-49	49-59	59-69	Total
1-3 times	31.4%	41.9%	18.6%	5.8%	2.3%	100%
3-5 times	11.1%	55.6%		33.3%		100%
More than five times	33.3%	33.3%	33.3%			100%
Never	50.9%	30.8%	12.9%	3.6%	1.8%	100%
I do not know	20.0%	60.0%	20.0%			100%
Total	43.9%	34.8%	14.5%	4.8%	1.8%	100%

Have you had mammogram performed?

	LESS 29	29-39	40-49	50-59	60-69	Total
Yes	30.6%	22.2%	30.6%	11.1%	5.6%	100%
No	45.4%	36.5%	12.6%	4.1%	1.4%	100%
I do not know	43.8%	35.0%	14.6%	4.9%	1.8%	100%

The number of times you examined your breast by mammogram.

	LESS 29	29-39	40-49	50-59	60 -69	Total
Once	25.9%	22.2%	40.7%	7.4%	3.7%	100%
Twice	50.0%	16.7%		16.7%	16.7%	100%
More than two				100.0%		100%
Five	53.8%	46.2%				100%
Never	45.4%	36.1%	12.6%	4.6%	1.3%	100%
Total	43.9%	34.7%	14.4%	5.3%	1.8%	100%

Appendix K: HBM related to the results qualitative and quantitative

HBM items	Main quantitative results	Qualitative results
Perceived severity; how serious will breast cancer be? Is the perception of the consequences of negative health condition is also subjective ;the beliefs of an illness causing pain ,impairment ,social stigma or death are example of seriousness perceived (Rosentock, 1966)	81.8% believed that breast cancer is prevalence disease among women in Palestine. 48.8% said yes to the question "Do you believe it rare for women with breast cancer to live more than five years ? When asked women about feelings and expectations towards being affected with breast cancer" the main three attitude "I will be scared 31.9%, I will be suffer from a nervous breakdown " 11.3%, I will consultant physician immediately 27.3%. And the women felt serious towed this disease in the question "if you feel a lump in your breast ,how fast you will go to see physician "69.7% said at the same day	The majority of women in FGDs expressed that breast cancer is incurable disease, women supported their perception by narrating what they had witnessed their relatives or friends who had suffered this vicious disease ,the disease according to the women in FGDs is negative health condition with consequences that will lead to death In the FGDs ,the word breast cancer caused them to feel restless ,anxious and describe their feelings by "I will in completely break down ,extreme hopelessness
Perceived benefits of taking action and rule on a course of action is shaped by the options accessible to the individual and the belief in their effectiveness ;what I have gain from breast cancer screening?. Rosentock, 1966;Lizewski, 2010)	The variable of HBM" the screening tests is important or not to detect breast cancer in early phase " the women in the study highly believed that the three screening tests methods(BSE, CBE ,Mammogram) with percentage (93.4%, 92.4%,83.6%) respectively .	This attitude manifested in the results of the FGDs, the attitude toward BSE is positive deeming it will be vital test for early breast cancers symptoms detections as the women agreed saying "it give sings if you have some things in your breast "
Perceived barriers ; what is hindering me from breast cancer screening ? the barriers of taking actions, regardless of belief being settled by specific course of action may reduce health threat , but the	Practicing and performing the screening tests are poor and they mentioned three main barriers that deterred them from practicing .	In the FGDs ,women are poor practicing the three screening tests , they reported barriers ,such as carelessness , fears from detecting symptoms ,and the majority believe

hesitancy may still take place among the clients ,barriers are constructed preventing action.	Women in the study asked the same question “what is hindering you from breast cancer screening tests? The women in the studies mentioned three main barriers in each screening tests ,the common one in the two screening tests (BSE,CBE) with high percentage is “I do not have breast problem”20.8%,22%) while in the mammogram “fears from detecting symptoms “is the top barrier with percentage ,25.3%. The barriers reported regardless of their belief and attitude of the importance of the screening tests methods to detect the barest cancer.	in destiny and God protection .
Perceived self-efficacy “how I the skills /confidence to perform screening ? personal judgments and the ability or willing to perform the actions toward the task .	The self-efficacy variable ”do you know how to perform breast self-examination “ 69.3% responded by saying yes they knew how to perform BSE.	In the FGDs most of the women said they knew how to performBSE.

Appendix M : the co-founder results
The association between the practice and the (income, age, occupation and education)

Variables Entered/Removed (b)

Method	Variables Removed	Variables Entered	Model
Enter	.	Q7income, Q2age, Q6work, Q3education(a)	1

a All requested variables are entered.
b Dependent Variable: practice

Model Summary

Std. Error of the Estimate	Adjusted R Square	R Square	R	Model
6.25024	.030	.042	.205(a)	1

a Predictors: (Constant), Q7income, Q2age, Q6work, Q3education

The table shows the strength of the relationship which amounted to 21%, a statistically significant amount of interpretation of any changes to the dependent variable of the so-called (R) square, thus the strength of the relationship achieved is very suitable to explain the impact of the factors (income, age, occupation, education) on the practice.

ANOVA(b)

Sig.	F	Mean Square	df	Sum of Squares		Model
.008(a)	3.527	137.796	4	551.184	Regression	1
		39.065	322	12579.073	Residual	
			326	13130.257	Total	

a Predictors: (Constant), Q7income, Q2age, Q6work, Q3education
b Dependent Variable: practice

The table above shows the presence of a statistically significant relationship between all the independent variables on the dependent variable which is practice. It is a statistically significant as the value of statistical significance of less than 5% (008). The table also shows

that the model is appropriate in measuring and confining for most of the independent variables where the value of statistical indications are less than 5%, which demonstrates that the independent variables were well explained for the dependent variable and the amount of variation is little in this model to explain the errors.

Coefficients (a)

Sig.	t	Standardized Coefficients	Unstandardized Coefficients			Model
		Beta	Std. Error	B		
.000	5.759		2.859	16.464	(Constant)	1
.020	2.345	.146	.042	.098	Q2age	
.699	.387	.026	.260	.101	Q3education	
.244	1.167	.067	.351	.409	Q6work	
.042	-2.037	-.117	.000	-.001	Q7income	

a Dependent Variable: practice

The table above shows that each of the variables age and income affect the practice of the respondents and has a statistically significance because the statistical probability of T values is less than 0.05 and this means rejection of the null hypotheses, which denies the existence of the impact of these factors on the practice, and the more influential variable is Age, and not the income variable.

Variables Entered/Removed(b)

Method	Variables Removed	Variables Entered	Model
Enter	.	Q7income, Q2age, Q6work, Q3education(a)	1

a All requested variables entered.
b Dependent Variable: knowledge

Model Summary

Std. Error of the Estimate	Adjusted R Square	R Square	R	Model
3.88367	.001	.014	.117(a)	1

a Predictors: (Constant), Q7income, Q2age, Q6work, Q3education

The table shows the strength of the relationship which amounted to 12%, a statistically significant amount of interpretation of any changes to the dependent variable of the so-called (R) square, thus the strength of the relationship achieved is very suitable to explain the impact of the factors (income, age, occupation, education) on the knowledge

ANOVA(b)

Sig.	F	Mean Square	df	Sum of Squares		Model
.002(a)	11.600	116.764	4	460.369	Regression	1
		10.083	322	3226.845	Residual	
			326	4923.749	Total	

a) Predictors: (Constant), Q7income, Q2age, Q6work, Q3education
b) Dependent Variable knowledge

The table above shows the presence of a statistically significant relationship between all the independent variables on the dependent variable which is knowledge. It is a statistically significant as the value of statistical significance of less than 5% (002). The table also shows that the model is appropriate in measuring and confining for most of the independent variables where the value of statistical indications are less than 5%, which demonstrates that the independent variables were well explained for the dependent variable and the amount of variation is little in this model to explain the errors.

Coefficients(a)

Sig.	t	Standardized Coefficients	Unstandardized Coefficients			Model
		Beta	Std. Error	B		
.000	4.553		1.776	8.088	(Constant)	1
.020	2.346	.146	.042	.097	Q2age	
.054	1.899	.111	.218	.414	Q3education	
.055	1.978	.103	.032	.087	Q6work	
.957	-.054	-.003	.000	.000	Q7income	

a) Dependent Variable: knowledge

The table above shows that each of the variables age, education and occupation affect the knowledge of the respondents and has a statistically significance because the statistical probability of T values is less than 0.05 and this means rejection of the null hypotheses, which denies the existence of the impact of these factors on the knowledge, and the variables most influential are age then education and then occupation.

T**he association between attitude and the (income, age, occupation and education)**

Variables Entered/Removed(b)

Method	Variables Removed	Variables Entered	Model
Enter	.	Q7income, Q2age, Q6work, Q3education(a)	1

a All requested variables entered.

b Dependent Variable: attitude

Model Summary

Std. Error of the Estimate	Adjusted R Square	R Square	R	Model
4.78418	.026	.038	.194(a)	1

a Predictors: (Constant), Q7income, Q2age, Q6work, Q3education

The table shows the strength of the relationship which amounted to 20%, a statistically significant amount of interpretation of any changes to the dependent variable of the so-called (R) square, thus the strength of the relationship achieved is very suitable to explain the impact of the factors (income, age, occupation, education) on the attitude.

ANOVA(b)

Sig.	F	Mean Square	df	Sum of Squares		Model
.015(a)	3.141	71.897	4	287.586	Regression	1
		22.888	322	7370.071	Residual	
			326	7657.657	Total	

a Predictors: (Constant), Q7income, Q2age, Q6work, Q3education
b Dependent Variable: attitude

The table above shows the presence of a statistically significant relationship between all the independent variables on the dependent variable which is attitude. It is a statistically significant as the value of statistical significance of less than 5% (015). The table also shows that the model is appropriate in measuring and confining for most of the independent variables where the value of statistical indications are less than 5%, which demonstrates that the independent variables were well explained for the dependent variable and the amount of variation is little in this model to explain the errors.

Coefficients(a)

Sig.	t	Standardized Coefficients	Unstandardized Coefficients			Model
		Beta	Std. Error	B		
.000	11.783		2.188	25.784	(Constant)	1
.221	-1.225	-.077	.032	-.039	Q2age	
.404	-.836	-.056	.199	-.166	Q3education	
.906	-.118	-.007	.268	-.032	Q6work	
.002	-3.055	-.176	.000	-.001	Q7income	

a Dependent Variable: attitude

The table above shows that the variable income affects the attitude of the respondents and has a statistically significance because the statistical probability of T values is less than 0.05 and this means rejection of the null hypotheses, which denies the existence of the impact of these factors on the attitude, and the income variable is the most influential.

.

Appendix L: The names of the experts

Name	Qualification
Dr. Rand Jarralla	WHO, project director-Palestinian national institute of public health
Dr.Salwa -Alnjab	Director of Juzoor foundation
Dr. Fouad Sabateen	Senior of breast cancer