Deanship of Graduate Studies

Al-Quds University

Factors Affecting Utilization of Mammogram Screening among Palestinian Women Aged40 years and above, in Bethlehem District.

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M.Sc. Thesis

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B.SC.: Al-Quds University - Palestine

Supervisor: Dr. Mohammad Shaheen

A thesis Submitted in partial fulfillment of the requirements for the degree of Master of public health Al-Quds University- Palestine.

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Thesis Approval

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Committee members		Signature
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Jerusalem - Palestine.

2014/1435

Dedication

In thankfulness and greeting, this thesis is dedicated to my beloved wife Khitam, sons Aysar & Ihab, and to my family mother, father, brothers, and sisters.

To my friends and colleagues and to everyone who supported me in accomplishing this work.

To every woman who suffered from this disease and may suffer from it, hoping that this research would give them hope in life.

Issam Abd Al-Rhman Al-Hasanat

Declaration

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

الإقرار

أنا الموقع أدناه ، مقدم الرسالة التي تحمل عنوان :

أقر أنا معد الرسالة بأنها قدمت لجامعة القدس، لنيل درجة الماجستير، وأنها نتيجة أبحاثي الخاصة، باستثناء ما تم الإشارة له حيثما ورد، وأن هذه الدراسة أو أي جزء منها لم يقدم لنيل أية درجة عليا لأي جامعة أو معهد آخر.

Issam A. Ruhman AL-hasanat

2014

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Gratitude also goes to the thesis external examiner.

I would like to thank those participants, who kindly agreed to participate in this study.

Abstract

Back ground: Breast cancer is the most common type cancer in women around the world, and the second leading cause of death among women according to American Cancer Society, (ACS 2009). This is also true for Palestine.

Mammogram screening is the method of early detection of breast cancer and can help in early treatment of the disease, but in Palestine mammography utilization is low compared with other countries, A few research projects have analyzed why this utilization is low and how social determinants affect this utilization.

Aim: The objective of this study is to examine the factors affecting the utilization of mammogram screening among women aged 40 years and above in Bethlehem district.

Method: The participants of this cross-sectional and descriptive study were 511 women, those who never had a mammogram or had undergone one more than two years ago, women with previously diagnosed breast cancer were excluded from the sample.

A printed questionnaire covering socio-demographic variables, family history of breast cancer, Brest Self Examination (BSE) and mammography practices, and attitudes and knowledge of mammography, barriers, were filled out in self administrative and face-to-face interviews with trained female staff for those illiterate.

Frequencies and descriptive analysis, t-test, chi-square test, ANOVA test, Tukey test were applied.

Results: the study found that the majority of the sample have low knowledge about BSE (40.4% have a moderate level, 20.4% low level, and 14.9% don't know about BSE), also the majority (35.6%) had a moderate level of knowledge about mammogram screening, 23.9% had weak level, and 24.8% didn't have knowledge about mammogram.

48% of the participants didn't practice BSE 54% didn't have any examinations of early detection for cancer 74.4% of the women had health insurance and 68.2% of them had public insurance.

Analysis of the differences between the knowledge level about mammogram, practice and attitude toward BSE and mammogram, with demographic characteristics were performed.

The study results of descriptive analysis identified the barriers which prevent the women in Bethlehem district from getting mammogram screening, which were related to (lack of

mammogram unit in their town, lack of national program and advocacy for screening, long waiting time to do mammogram, also referral action to order the exam), These represented health system barriers, then the medical provider barriers (there is no doctor order to ask the women to undergo the test, also no one from the medical staff encouraged the women to undergo mammogram) .

Personal barriers were represented by (no need to get mammogram without any complication, lack of knowledge about doing mammogram yearly, fear of bad result of mammogram, fearing of the procedure).

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List Of Abbreviations

Term	
MOH	Ministry of Health
WHO	World Health Organization
BC	Breast Cancer
BSE	Breast Self Examination
CBE	Clinical Breast Examination
HBM	Health Belief Model
PHIC	Palestinian Health Information Center
ACS	American Cancer Society
NGO	Non-Governmental Organization
MT	Mammography Test
NHS	National Health System
MD	Medical Doctor
SPSS	Statistical Package for Social Sciences
OD	Odd Ratio
CI	Confidence Interval
RR	Relative Risk
PCBS	Palestinian Central Bureau of Statistics
ANOVA	Analysis of variance
TRA	Theory of Reasoned Action

Chapter one: Introduction

The aim of this chapter is to provide the context and structural outline of the thesis.

An overall rationale for the study is provided together with an overview of the setting of the study, in addition, this chapter introduces the theoretical and ethical underpinnings of the study.

1. 1 Background

Breast cancer (BC) is the most common type of cancer in women in most parts of the world, which appears to be global health problem of both developing and developed countries (WHO).

In 2002, it was the second leading cause of death overall (1.2 million new cases), BC ranked as the fifth leading cause of death around the world (Azaiza, Cohen & Daoud, 2010), In Palestine BC is one of the most common types of malignancies, It's the second leading cause of death due to cancer among women (Ministry of Health, 2012).

Table 1.1: The distribution of top ten reported types of cancer, West Bank, Palestine, 2012 (Ministry of Health, 2012).

Site العضو المصاب	ICD10 نظام الترميز الدولي العاشر للأمراض	Total No. مجموع عدد الحالات	النسبة المئوية %
Breast	C50	292	16.2
Colon	C18	187	10.4
Lung	C33 - C34	185	10.3
All Leukaemias	C91 - C95	110	6.1
Brain	C70 - C72	105	5.8
Bladder	C67	102	5.7
Prostate	C61	75	4.2
Stomach	C16	72	4.0
Liver	C22	70	3.9
N.H. Lymphoma	C82 - C85, C96	67	3.7

BC has a serious illness around the world, so is the case Palestine, American Cancer Society (ACS 2009) declared that about 1.3 million women will be diagnosed with breast

cancer annually worldwide, and about 465,000 will die from the disease, The incidence rate of breast cancer in the West Bank is 60 per 100,000 women (Ministry Of Health, 2012) .

The incidence of breast cancer has risen, and the reports from MOH –PHIC- 2012, showed that the lung cancer was the most prevalent type among males (13.8%) followed by prostate cancer in the second place (11.3%), and cola-rectal and anus cancer in the third place (9.6%). whilst among females breast cancer occupied the most prevalent type (32.1%), followed by cola-rectal (11.1%), and then trachea and thyroid (5.0%), as the table 1.1.1 (Ministry Of Health, 2012).

Table 1.1.1. The distribution of top ten types of cancer reported among females, West Bank, Palestine 2012, the incidence of the breast cancer in the highest.

Site العضو المصاب	ICD10 نظام الترميز الدولي العاشر للأمراض	Total No. مجموع عدد الحالات	النسبة المئوية %
Breast	C50	289	32.1
Colon	C18	100	11.1
Thyroid	C73 - C75	45	5.0
All Leukaemias	C91 - C95	44	4.9
Ovary	C56	43	4.8
Lung	C33 - C34	39	4.3
Brain	C70 - C72	38	4.2
Liver	C22	35	3.9
Stomach	C16	30	3.3
Non-Hodgkin's Lymphoma	C82 - C85, C96	26	2.9

The frequency of diagnosed cancer among the women in the Asian countries is high and arises in the younger age group of 40 to 49 years- olds compared to the other Western counterparts, where the peak prevalence is realized between 50 to 59 years. As has been described more than half of new cases of breast cancer were diagnosed in women below the age of 50 years in advanced stages. According to the geographic distribution, reports from the National Cancer Registries for Asian countries says that the crude incidence rate of breast cancer varied from 21.3 per 100,000 population in Jordan, 21.4 in Iran, 24.1 in Turkey, 34.86 in Malaysia, 48 in Japan to 54 per 100,000 population in Singapore (Ahmadian & Abu Samah, 2012).

The WHO regional office for the Eastern Mediterranean region (EMRO) reported in 2006 that breast cancer is more commonly diagnosed in Arab women under the age of 50 whereas in more developed countries the incidence rate is higher among women over the age of 50.

Prevention is the key element in all health promotion, so decision makers in the Government and Ministry of Health MOH, must take into consideration the growing trend and high prevalence of breast cancer risk factor in Palestinian Occupied Territories, This vital issue must occupy top priority in the agenda to construct a national program to increase the awareness about the risks of BC and the necessity of screening to decrease the number of women afflicted with breast cancer.

In most Arab countries, breast cancer screening is opportunistic, meaning that women who participate in screening activities are either self-motivated or referred by a physician, there is no centrally organized invitation or follow-up system.

Early detection is needed for breast cancer and recommended by three methods, routinely Breast-Self Examination (BSE) which advocated as a noninvasive screening test, Clinical Breast Examination (CBE), and annual mammography screening, before they become clinically evident, This will positively help the health professionals in early diagnosis and start the treatment in early stage and decrease the risk of metastasis. This will reduce the risks of the cancer, according to WHO which states that 40 % of cancer cases are curable if detected early (Bloom, Grazier, Hodge & William, 1991).

Also early detection is mainly based on health education and awareness about the risk and seriousness of BC and how we can check up any abnormal symptoms. We can also change the women's attitude of looking towards her body and increase self-awareness to become familiar with one's breasts, recognizing any changes that occur, and implementing effective screening programs for early detection of cancer at early stages, through expanding and promoting the current national screening programs and recommendations to undergo mammography screening as guidelines for women at age 40 and above as an annual routine to

avoid the delay of detection and increasing the chances of finding a cure. This can be achieved through improved healthcare provider-patient communication (Ministry Of Health, 2012).

The American Cancer Society (ACS) recommends clinical breast examination and mammography for the early detection of breast cancer, so that women would know how their breasts normally feel and report any breast changes to their health care providers. Breast self-examination (BSE) is an option for women starting from the early 20s. Also ACS recommended (2007), clinical breast exams as a part of periodic health exams, preferably every three years for women between 20 and 39 and preferably every year for women over 40 years of age and continuing for as long as a woman enjoys good health (Sadikoglu, Ozcakir, Dogan, Gokgoz & Bilgel, 2010) .

Mammogram is a form of high resolution film and low x-ray and high contrast, common way of detecting breast cancer. It creates detailed images about breasts through visualization of the internal structure of the breast, and identifying tissue abnormalities, including cancerous growths, which can detect breast cancer early as two years before a lump can be felt (American Cancer Society, 2009).

Mammogram is considered very important and helpful in diagnoses and treating breast cancer, since 85% of cases diagnosed with BC were detected through mammogram. Moreover it can reduce mortality rates for women aged 40 to 74 by 25% (Ma et al, 2012).

Hence I researched and highlighted the barriers women face in gaining regular access to screening and receiving timely care.

1. 2 Organizations that provide Mammogram screening :

It's important to note there are three tracks of health insurance in the Occupied Palestinian Territories: government insurance, which encompasses 35% of the residents and is affordable but with partial coverage of health needs, the United Nations Relief and Work Agency insurance, which is only for the refugee population (43%) and private insurance, which covers just 2%, the remaining 20% of the population is uninsured (MOH 2012).

There are three mammogram screening clinics in Bethlehem district, centered in the

main city. The MOH clinic, established in 2009, is classified as a public service, women must have public insurance to receive the service in this clinic and must pay a nominal fee of one NIS only. One of the barriers to visit this clinic is the long waiting list which compels women to take appointment two weeks in advance.

Another barrier relates to the privacy, since the women believe they want to undergo this examination confidentially, which cannot be achieved completely in this government and public center, the other reason is the non-availability of a physician or radiologist to follow-up the cases simultaneously with the report writing for the screening, entailing further waiting period for women who wish to consult the physician.

These barriers leave women with just one choice, and that is to seek about mammogram service in the private sector. There are two private clinics in Bethlehem, one was established in 2002 and is related to Health Work Committees, and the other was established in 2005 and is related to the Holy Family Hospital. In these centers, it's possible to make the screening in the short time with high level of privacy and immediate issuance of report and follow up. However women have to pay around 30$ because this clinic not covered under the public insurance which is affecting the access of women to this service in consideration the income of Palestinians. This implies that health insurance is a major precondition to health care access and its lack is one of the main barriers to mammography screening.

It's important to note that the distance between the city center and the closest village from the west is 15 km and from east is 20 km, which entails the need for transportation and time to reach these clinics. So the cost of transportation combined with screening costs prevents women's access to and utilization of mammogram screening, Additionally, this will

lead us to knowing if there is difference in access to mammogram screening services between the women living in the main city and those in the rural areas due to transportation cost.

1.2.1 General barriers toward getting mammogram screening:

In general, barriers and factors affecting women's access to mammography in Bethlehem could include demographic and logistic issues, such as the cost involved in seeking screening services in addition to transportation costs which hinder access to mammography service utilization particularly in case of rural women.

Low education, knowledge and awareness about the risks of BC and the benefits of mammography are also constitute barriers to the access and utilization of mammography services.

Various socio-cultural and psychological characteristics, and the interactions among these variables, may contribute to significant variations in mammography use among Palestinian women (El Hajj & Hamid, 2010).

Living in extended family units and holding traditional values and norms that stress the centrality of the family in a woman's life, which takes precedence over individual needs, also act as barriers to access and utilization of mammography services.

Similarly, a fatalistic view of breast cancer appears to be a significant barrier to women's participation in cancer screening services. The women who were fatalistic and believed that a breast cancer diagnosis would inevitably lead to death perceived fewer benefit is from screening (Kim & Kim, 2008).

Religion plays an important role in health in the Arab countries, although the boundaries between religion and other socio-cultural factors are not easily discernible, health, as a mirror of society, is influenced by religion.

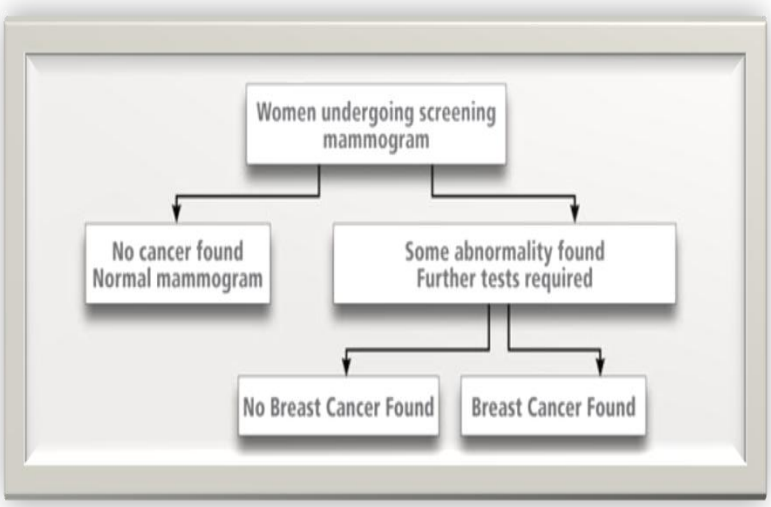
Due to the influence of various psychological, social, and cultural factors on breast cancer, women are reluctant to screen their breast cancer symptoms at the early stages when treatment is most expected to be successful.

The barriers scale can be classified into three groups or levels, to facilitate the explanation and understanding. These levels are personal, economic, and health care system barriers (Ahmad, Fort, Malin & Hargrgeaves, 2009).

Personal barriers: include the women characteristics and behavior, age, smoking, habits, awareness, health beliefs and attitudes, embarrassment, fear of positive result of screening, and that the belief that no one can prevent cancer (Ahmadian, Abu Samah, Redzuan & Emby, 2011).

Socio-economic barriers: social structure variables–educational level, income level, life style, insurance, social status, cost of the service, family size, personal enabling resources – employment, long waiting time, community enabling resources, culture and social support one of the main thoughts may cause women to avoid utilizing from this access, here may media and propaganda play essential role, educational level for the woman and if it is predictor of participation of this woman in the screening (Ahmad et al. 1997).

Health system barriers: provider characteristics- skills and attitudes, since physician factors may play a major role, doctors must recommend the exam and encourage women towards taking it, thus making it a regular breast self examination (BSE) privacy, communication between the provider and the women, health status and emotional distress, the organization of the health care system, health-conscious women are assumed to be more aware of the risk of breast cancer and more likely to request mammography and other cancer screening tests (Ahmadian et al. 2011).



Graph 1.2: Flow chart shows the screening outcomes and follow-up if a woman happens to participate in the breast cancer screening mammography, she would show two results a) No cancer found (normal mammogram) b) Some abnormality found requiring further tests.

I believe it is very important to understand the factors that affect cancer screening, and the findings of my study will be useful in order to develop interventions and program to address specific remaining barriers to breast cancer screening among low-income insured women.

In fact, this paper intends to find the most selected barriers that may have an impact on women's participation in mammography among women, and the findings will be useful for health administrators, health providers and educators to consider when designing strategies and educational practices in cancer prevention.

1. 3 Study Problem

Screening mammography is more effective in helping the physicians for treatment, and early detection of breast cancer.

Early detection, mammogram screening can also reduce the total expenditure for the treatment and medications for oncology patients.

In this study I researched about the factors representing barriers that make women avoid or hinders them access to mammogram screening which variety in this groups, personal, socio-cultural, economic , educational and awareness , health care systems barriers.

The results of research gave us indicators if they directly affect some personal or socially, economically and health system strategy on attendance to mammogram for women in Bethlehem district.

1.4 Study justification

Research around identifying the factors that challenge the receiving mammogram screening is very important to determine what causes women to avoid screening, and the results of the research will be put on the agenda of the strategic solutions to improve the health status of women in Bethlehem district, since they were in low level of socio-economic status and lifestyle as they also need support and to increase their awareness, and encourage them by using the data and results to implement the mammogram screening.

This will be necessary to reduce the number of those affected by breast cancer and so an reduce the mortality rate among women aged 40 years and above, also it is useful to limit the payment and expenditure for treatment of cancer patient.

There is no national program for breast cancer screening in Palestine, but some attempts like breast cancer prevention advocacy in health centers, hospitals, clinics, work places, or NGOs.

This issue should be introduced with great importance to the Palestinian hospitals, centers, family and obstetric physicians and also to public by media to increase the level of awareness and make enhancement over the traditional thought and culture which challenge visiting women to health center to make examination or take advice from the doctor.

Next table 1.2: illustrates the reports and statistics from the three centers in Bethlehem, for the years 2009, 2010, 2011, 2012, it showed the total number of the women attended to these clinics and access to screening, and also the distribution of the age for these women and the geographic location.

Table 1.2: Statistics of women who utilize mammogram screening among three centers in Bethlehem district 2009-2012.

Year	Place	Cases > 40 years	Cases < 40 years	Women from Bethlehem city	Women from Rural areas	women from other areas	Total Cases
2009	Beit Jala Govermental Hospital	438	1079	262	400	854	1517
	Beit Sahour Medical Center	*	*	*	*	*	*
	Holy Family Hospital	*	*	*	*	*	*
2010	Beit Jala Govermental Hospital	451	1109	251	325	984	1560
	Beit Sahour Medical Center	56	27	12	16	55	83
	Holy Family Hospital	77	77	51	15	62	128
2011	Beit Jala Govermental Hospital	311	836	185	225	737	1147
	Beit Sahour Medical Center	81	42	21	19	83	123
	Holy Family Hospital	60	38	43	14	41	98
2012	Beit Jala Govermental Hospital	1087	200	215	287	785	1287
	Beit Sahour Medical Center	65	43	16	27	65	108
	Holy Family Hospital	54	21	33	8	34	75

Note: * mean, data from Beit Sahour Medical Center & Holy Family Hospital for the year 2009 in not available .

The data represented in the above table about the total number of the women that attended the only three clinics in Bethlehem district which provide this service, according to the total number of population and these numbers show low level of accessing to the

mammogram, and the total number of the women from the different locations must be more than, also data show us that the total number of women aged under 40 years are more than those aged more, this may be due to the educational level, life style or other factors related to the awareness about the important of mammography, and the risk of breast cancer.

I expected, there are some reasons avoid the women, and this would be the justification to go through this study and identified these reasons and factors.

1. 5 Research Objectives

1. 5. 1 Aim & Objectives of the study

The aim of this study is to assess the factors that affect Utilization of Mammogram Screening among women aged 40 years old and above, in Bethlehem district.

1. 5. 2 Specific Objectives

- To examine the relation of:
  - Personal characteristics of the women.
  - Socioeconomic status.
  - Health system related factors.

  with utilization of mammogram screening among those women.

1. 6 Study Hypotheses:

The study question was built on the following hypotheses:

- There is significant differences at level of significant $\alpha \leq 0.05$ in the degree of knowledge level and demographic variables (age, address, marital status, religion, educational level, occupation, income, family size, health insurance, transportation).
- There is significant differences at level of significant $\alpha \leq 0.05$ in the degree of past practical for BSE and mammogram and demographic variables (age, address, marital status, religion, educational level, occupation, income, family size, past breast feeding, health insurance, transportation).
- There is significant differences at level of significant $\alpha \leq 0.05$ in the degree of barriers that women faced when utilize mammogram with respect to religion.
- There is significant differences at level of significant $\alpha \leq 0.05$ in the degree of barriers that women faced when utilize mammogram with respect to having medical insurance.
- There is significant differences at level of significant $\alpha \leq 0.05$ in the degree of barriers that women faced when utilize mammogram with respect to age.
- There is significant differences at level of significant $\alpha \leq 0.05$ in the degree of barriers that women faced when utilize mammogram with respect to address.
- There is significant differences at level of significant $\alpha \leq 0.05$ in the degree of barriers that women faced when utilize mammogram with respect to marital status.
- There is significant differences at level of significant $\alpha \leq 0.05$ in the degree of barriers that women faced when utilize mammogram with respect to educational level.
- There is significant differences at level of significant $\alpha \leq 0.05$ in the degree of barriers that women faced when utilize mammogram with respect to their occupation.

1.7 Ethical approval and confidentiality consideration:

The reviewing committee of the faculty agreed and approved this research and attached a consent form that signed from the administration who approved my study.

The data were collected after the permission was received from al-Quds University.

Staff who helped voluntary in collecting data those female radiologist were discussed about the nature and purpose of the study, and how much accuracy they are will affect the study result.

The purpose of the study was explained to respondents verbally, also ethical approval should be taken to carry up the study from the household's women.

Emphasizing the right of the women to non participation and data confidentiality and autonomy of the participants was maintained all through the study, and withdraw at any point in time with no pressure exerted on them.

Finally, this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution, results of my research used only for the purposes of scientific research.

Chapter two: Literature Review

Introduction

The aim of this chapter is to critically examine the literature related to the breast cancer attitude and practice, In addition, a review of the research-based literature pertaining to the barriers affecting the attendance of the women to access for mammogram screening and examine the awareness and perspective of Arab women‘s responses to breast cancer screening.

This previous literatures aimed to look into the factors influencing breast cancer screening, to facilitate the search process, and based on previous studies that looked at the factors influencing mammogram screening, and that these factors are divided into three directions, Personal factors, Socio-economic factors, Health factors.

2.1: Literature Search Strategy .

The literature search strategy focused on the purpose of the research, that is, to explore the personal factors and the affect of the socio-economic situation and health system on the utilization of mammogram screening, inclusion studies related to the topic around the world.

There are different kinds of resources including: books, journal articles (both academic and professional), policies, directives and web sources.

All these types of resources are important in the research process, but they differ in many ways, it is also crucial to verify the accuracy and reliability of any data sources, the key search terms were mammogram and factors affecting utilization.

All Studies that have been read, including Arabic and international interested in the study titled, was a well-read and understand the results and linked to the aim of the study, all studies were arranged by year of publication of the oldest until the latest.

2.1.1 Personal Barriers:

Includes the women's characteristics, which may form the barriers and avoidance for the women to undergo a mammogram, these characteristics like– age of the women, smoker, marital status if the women single or married with big family can affect on the decision to be examined or not, awareness and knowledge about BSE and mammogram, health beliefs and attitudes, embarrassment, afraid from the exam and bad result, and believes that no one can avoid cancer, and cancer treatment not worth going through or not much can be done to avoid cancer personal health practices, demographic variables.

All these personal characteristics are related to the women's awareness and attitude affect the practice of mammogram, becoming barriers affecting the utilization of mammogram screening, as these studies explained:

- Research titled as Factors Affecting the use of Screening Mammography among African American Women (Bloom et al.1991), objective to determine the influence of health consciousness in the utilization of mammography and to decrease the avoidable mortality from cancer among African American residents of an urban community in northern California.

  The sample was randomly selected included 670 women, a household face-to-face interview, after data collection descriptive analysis was performed.

  The study concluded the main reason why the women did not undergo mammogram which was the cost of the service, also the exam is not comfortable for the women, the risky of the result and being afraid formed another barrier which prevented them from getting a mammogram.

- Study setting by (Beaulieu, Beland, Roy, Falardeau & Hebert, 1996), in order to search about factors determining compliance with screening mammography for women aged 50-69 years in Montreal.

  Sample of women who were recommended for screening mammography during their visit at the clinic between Oct1991 and May1992, and also they did not have access to the screening in the preceding 2 years nor have they been treated for breast cancer.

Result of the research agreed and showed the strongest predictor of compliance was affecting by expression of fear of mammography as procedure or fear from the positive result and becomes infected with breast cancer, the other factor is the lake of time to take the test, and even being smoker was negatively associated with compliance.

- Research titled as: "Knowledge About Breast Cancer and Mammography in Breast Cancer Screening Among Women Awaiting Mammography" Implemented by (Yucel, Degirmenci, Acar, Ellidokuz, Albayrak & Hakantir, 2005), aimed to evaluate knowledge about breast cancer and mammography in breast cancer screening.

  A cross-sectional survey was carried out of 298 women with an age range of 29-79 years through interview before mammographic.

  The study noted that approximately half of our study population had never had a mammography screening test.

  Several reasons for not undergoing mammography were classified and related to the results to the personal barriers, which were the cost of mammography specially if those women do not have social security, pain and discomfort during the exam, the effects and fear of the radiation received during a mammogram, have also been reported as a barrier.

  Embarrassment during the mammography, makes the screening less than optimal, since it is not easy for the women to show their breasts even for the doctors, this is due to traditional or closed cultural issues, especially in small cities.

- (Wu, West, Chen & Hergert, 2006), addressed " Health beliefs and practices related to breast cancer screening in Filipino, Chinese and Asian-Indian women, proposed to identify differences between ethnic groups of Asian American women (i.e. Chinese, Filipino, and Asian-Indian women) in perceived susceptibility, perceived seriousness, perceived benefits, and perceived barriers for engaging in breast cancer screening after controlling for income level, three barriers were common across all three groups: being examined by a male practitioner, having the breast touched by a stranger, and being exposed to unnecessary radiation.

The barrier ‘‘having a mammogram will be painful’’ also was identified by both Filipino and Asian-Indian women, and ‘‘afraid that mammogram will find cancer’’ was important for Filipino women, the items ‘‘do not need mammogram if I feel ok’’ and ‘‘waiting time is too long’’ were frequently identified as barriers by the Chinese women, and ‘‘do not know where to get a mammogram’’ was a common barrier for the Asian- Indian women.

- Research institute by (Clark et al. 2006) titled as Factors Influencing Breast Cancer Screening Among Older Thai, this study purposed to determine why older Thai American women in Southern California do or do not participate in breast cancer screening.

  Methodology applied into two stages, one 30 to 40 TA women over 50 years of age asked to participate in group interviews, to identify factors that encourage those who have participate in these screening, and those who have not participated will be asked what factors have prevented them from doing so.

  Stage two, based on the information obtained in stage one, Questionnaire will then be used in telephone interviews with about 350 TA women.

  Those did not get mammogram described that the language difficulties is a barrier, and lack of time either due to family or work responsibilities and distance to services were other barriers, certain beliefs and perceptions of breast cancer and mammography were also barriers to screening.

- (Lamyian, Hydarina, Ahmadi, Faghihzadeh & Aguilar-Vafaie, 2007) study, aimed to examine the barriers and factors facilitating breast cancer screening among Iranian women, a qualitative study was conducted, data collection began with women who were housekeepers, as a result of in-depth interviews with 31 participants.

  The results identified the factors prevent Iranian women to get mammogram categories as personal barriers which were: negligence and carelessness, perception of good health and no needing for the test, and cancer–related fear considered as an important and critical factor in screening behavior, low self–efficacy would result in self-doubt,

fatalism, misinformation about the prevention of breast cancer were the barriers of screening.

- Qatari study by (Bener, El Ayoubi, Moore, Basha, Joseph & Chouchane, 2009), aimed to identify potential barriers to screening procedures with 1200 targeted Qatari women aged between 35 and 55 years of age, questionnaire prepared to fill through face to face interviews, with socio-demographic variables, the result of the study reported that personal barriers were, it is not easy for the Qatari women to accept asking any doctor/nurse how to perform breast self examination, feeling with embarrassment about CBE and to show their breasts to foreign, and the other barrier is the fear of mammography results and become diagnosed with breast cancer even they did not want to discover or know about that.

- (Tejeda, Thompson, Coronado & Martin, 2009) showed in his study, which titled as " Barriers and facilitators related to mammography use among lower educated Mexican women in the USA", a qualitative study were conducted, 40 participants among Mexican women aged 50 years and above were recruited, after participants home interview, data were analysis.

  The results showed that women who reported never having had a mammogram, say the lack of health insurance will avoid them since they should pay to receive the test, also the perception about the procedure and that the mammogram exam is painful form as barrier, and fear of finding and become diagnosed with breast cancer were cited as barriers to participation in mammography screening.

- Study done by (Sadikoglu et al. 2010), titled as "Mammography Utilization among Turkish Women" to identify the association between attitudes and knowledge about mammography and socio-demographic indicators and having mammogram.
  Descriptive study and cross-sectional method applied, with the participants of 1208 women aged between 20 and 90 years who attended the primary health care unit were recruited, and were asked to complete a printed questionnaire as well as face-to-face interviews.

The results of not attending mammogram were (fear even from the procedure or from bad result of the exam, not able to afford, believed it's not necessary to do mammogram if they have not any symptoms require to do mammogram screening, couldn't find a place to take a mammogram specially if those women were employers or work anywhere, other reasons related to carelessness or they haven't any reason to prevent them to get mammogram or they have but they don't want to claim about).

- Study executive by (Lages, Oliveira, Filho, Nogueira, Teles & Vieira, 2012), aimed to analyze the percentage of women aged 40 to 69 who did not attend mammogram screening in Brazil according to socioeconomic and demographic variables.

  A sample of 433 randomly selected women, results reported significant association between marital status, educational level, income level, availability of health insurance, with not having mammography screening.

- (Ahmadian, et al.2011) published a research paper entitled "Barriers to mammography among women attending gynecologic outpatient clinics in Tehran, Iran", a cross sectional survey, 400 of the women who attending to four obstetric and gynecologic clinics affiliated to Tehran after invited to participate in filling the questionnaire through face to face interview method.

  Results reported that personal factors like fear of women to be diagnosed with breast cancer after screening, in addition to bad thoughts around mammogram inducing the cancer.

- Study by, (Feldstein, Perrin, Rosales, Schneider, Rix & Glasgow, 2011) about the barriers to Mammogram identified during patient mammogram reminder, they evaluated the patient characteristics and reported barriers of mammogram compliance after a reminder program.

  Using cohort study, results showed association between personal characteristic (age, fear, time, worries about mammogram accuracy), and lower mammogram completion.

- (Kissal & Beşer, 2011), aimed to investigate experiences of BSE, CBE and undergoing mammography and perceived barriers among elderly Turkish women aged 60-75 years, data were collected from 46 elderly women with focus group interview.

  Results revealed that the barriers were, insufficient knowledge and awareness of breast cancer screening, fear of possibility diagnosed with cancer, or removal of breast, neglect/ postponement, discomfort due to mammography, lack of familial history of cancer, embarrassment/religious beliefs and the cultural factors, all these prevent women to get mammogram.

- To determine the practice and barriers toward Breast Self-Examination among young Malaysian women, (Al-Naggar, Bobryshev, Chen & Assabri, 2011) proposed this study, with cross sectional method among 251 female students at the Management and Science University, Shah Alam, students asked to fill the questionnaire in many places in the university.

  The results indicated that the majority of participants who never practiced BSE mentioned that the lack of knowledge about BSE and how to practice it was their main barrier, followed by do not have the symptoms and no need to do that, then scared of being diagnosed with breast cancer.

- Study by (Saadi, Bond & Percac-Lima, 2011), aimed to explore Iraqi refugee women's perspectives on preventive health, to assess perceived barriers to breast cancer screening and describe factors that may influence that.

  Twenty Iraqi refugee women invited to qualitative Arabic interview,and translating to English and coded to explore potential barriers to BC screening.

  After eligible women to the study, and obtain the data, analysis was applied, the results revealed that the women identified psychosocial barriers to obtain mammography screening like, fear of pain during mammography, fear associated with receiving a cancer diagnosis, screening for disease was not the norm in their home countries and because screening centers were typically far away, testing was done only when breast cancer was suspected, women preferred female doctors.

- Sami AR et al, 2012, aimed to assess the practice of BSE and its correlated factors and particularly barriers amongst urban women in Malaysia, through conducting cross-sectional study with 222 Malaysian living in an urban, using self-administrated questionnaire and recruited the women to answer.

  Analysis was performed, results showed the most common reasons for not doing BSE were 'I don't know how to do it', 'I don't have identifiable symptoms', fear of being diagnosed with breast cancer, embarrassing, time consuming.

- In Taiwan, (Al-Dubai, Ganasegeran, Alabsi, Abdul Manaf, Ijaz & Kassim, 2012), a study was published to assess the knowledge and attitude toward BC screening among Taiwanese women, and examine the factors which may influence the behavior of the women to get mammogram.

  434 of Taiwanese women aged 40 years and above were the sample of the study, data were collected among cross-sectional study, and reviewed coded, then data analysis were performed.

  The results identified the barriers toward BC screening were "no time, forgetfulness, too cumbersome, and laziness", followed by the perception of no need to get screened either because they are "feeling OK" "too young" "too old" "no family history" or "having small breasts".

- (Al-Naggar & Bobryshev, 2012), aimed to determine the barriers of mammography and associated factors among Malaysian women, through cross-sectional study with the sample of 200 women selected randomly and recruited to complete the questionnaire.

  Results reported the barriers which the most were lack of time, lack of knowledge about mammography, not knowing where to go for the test, and a fear of the test's result.

- Graduation research done by Odeh K, MHPM, 2014, aimed to assess women's knowledge, attitude and practice toward breast cancer and screening tests among Female Patients MOH Clinics in Ramallah, Jenin and Hebron Districts in Palestine. A cross-sectional design, in which quantitative and qualitative methods of data collection was used, results of the showed, 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, fear and anxiety drive women away from screening tests.

2.1.2 Socio-economic barriers :

This category of characteristics related to the social situation of the women and their family, which might influence women's decision to undregoing mammogram screening, these social structure variables include educational level, life style, insured or not, family size, social status, women have a work or not, and some resources related to community and social support to the women health , role of media in advocacy and increase the awareness of the women.

The other part related to the economic barriers which might prevent women to being screened, including the family income level, cost of the service specially for those not insured, transportation.

All these social and economical characteristics as mentioned in the following studies, will form basic barriers for the women to get mammogram screening, and may cause conflict with any attempt by the women to care for their health and undergo checkups.

- Research authored (Bloom et al.1991) .
  The study reported the main reasons for the women did not have mammogram was the cost of the service in the case of not having health insurance.

- Study by (Beaulieu et al.1996) .

  Results of the research agreed and showed there is no association between the patients socioeconomic characteristics and perceived health status, health utilization, and its disagree that's characteristics were predictors of compliance.

- " Barriers to mammography screening in a managed care population ", is the title of the study addressed by (Ahmad, Fort, Malin & Hargrgeaves, 2009), aimed to identify the barriers to access mammography among Black and White female residents of Middle Tennessee, 302 women aged 40 years and older were randomly selected.

  Results showed there is no difference on which race depends and is related to distribution of mammogram screening and breast exam or heath check up, transportation and associated costs remain ongoing factors, long service waiting times, low socioeconomic status and economic barriers probably affect mammography using.

- (Lamyian et al.2007).

  The study's results reported the socio-economic factors which might influence Iranian women to get mammogram, high cost of the exam and need to pay especially those didn't have health insurance, other women declared they didn't have a time to get the exam, exactly if they were employed or even if they have task to do in the home or with their children.

- Research aimed to assess ethnic and socioeconomic disparities in mammography use, executived by (Baron-Epel, Friedman & Lernau, 2006), titled as Reducing disparities in mammography-use in a multicultural population in Israel, 1550 women aged 52–74 were obtained from Maccabi Healthcare Service, the tool of the research was the questionnaire which was administered over the telephone by trained female interviewers.

  after analysis the data which collected from the participants, results revealed that the socioeconomic variables were not associated with mammography-use in 2002 and 2007 in any of the groups except for marital status in immigrant women in 2002.

- The study aimed to examine the perception and barriers of breasts screening of Hong Kong Chinese women, implemented by (Yan, 2009).

  A cross-sectional study, using questionnaire in English completed via face-to-face interview among 496 respondents of the women aged 20 years and older.

  Descriptive statistics and data collection analysis were employed, results showed that 68. 05% of total respondents aged above 40 years, said they had never had a mammogram because the cost of the exam.

- Study done by (Sadikoglu et al.2010).

  The results of the study revealed that the women who were university graduates were the ones who were most likely to use mammogram, then those were illiterate education, primary school, high school.

  Regarding to annual family income, women with lower incomes were more likely to not undergo a mammogram screening.

  Women with a family history of breast cancer were significantly more likely to have had mammography, women who had never a clinical breast examination and who were not aware of breast self-examination were more likely to not have a mammogram.

2. 1. 3 Health system barriers :

This category reviewed the studies reported in its results the barriers related to Health system, that prevent the women to undergo mammogram screening.

- Research authored by (Bloom et al. 1991).

  The study concluded that women who do not have any type of health insurance less likely to get mammogram and that's related to the cost of the exam, especially for those under the poverty line.

  With regards to doctors behavior, only 31.6% of women over 35 years stated their physician had ever recommended them to have a mammogram, and about the safety of mammography 28.6% considered it a little risky and less than 5% considered it very risky.

- Study by (Ahmad et al.2009).

  Results showed that a lack of physician's recommendation is the strongest barrier to get mammography screening, lack of trust in the system, and fear are deeply rooted barriers to mammography, clinical breast examination appears associated with embarrassment by the exam.

- Research instituted by (Clark et al.2006).

  Results of the study showed that, among those did not get mammogram annually, describe that the major factors impeding screening included lack of health insurance, cost of screening.

- (Lamyian et al. 2007) study.

  The study's results showed the factors which might prevent Iranian women to get mammogram categorized as, lack of effective physician– patient relationship, lack of medical recommendation and crowded physician's clinic, inadequate distribution of clinics.

- Study by (Çam & Gümüs,2009), aimed to examine the reasons of not doing breast cancer screening among Turkish women, a descriptive and cross-sectional study, 382 Turkish women selected by a stratified random sampling, data collected were among face-to-face interview, and they asked to complete printed questionnaire.

  Data were analyzed, the results defined the reasons as, the feeling of not having any symptoms requires mammogram, neglect of the importance of mammogram.

- Study done by (Sadikoglu et al.2010).

  The results showed women who they had never had a mammogram, had never heard about mammography from any source of information, or form health care provider, and those heard about mammography but unaware of necessity was rated 4.9%, and women were not suggested by doctors were 15%, and 11.2% of the women they couldn't find a place to take a mammogram.

- (Ahmadian et al. 2011), published a research paper.

  A cross sectional survey, 400 of the women, who attending to four obstetric and gynecologic clinics affiliated to Tehran, invited to participate in filling the questionnaire through face to face interview method.

  Results of this paper reported that the lack of advice from doctors is the factor affecting the compliance of the mammogram screening.

- Study by (Asadzadeh, Broeders, Kiemeney & Verbeek,2011), titled as" Opportunity for breast cancer screening in limited resources countries (LRCs).

  More than 200 articles were found, 96 of them met the criteria, then papers reviewed and categorized, the results addressed that: starting a breast cancer screening program in LRCs faces several challenges related to country's resources status, health service capacity and community awareness.

- Study carried out by (Saadi et al.2012).

  After seeking out eligible the women for the purpose of the study, analysis was applied, and results revealed that the health system barriers to obtain mammography screening like, women preferred a female doctor, and insurance and low English proficiency, and transportation were the least commonly reported as difficulties to get mammogram screening.

Chapter Three: Conceptual Framework

The aim of this chapter is to critique the current theoretical models, in order to locate the research problem within a broader conceptual framework.

Conceptual framework definition and HBM, and study variables are discussed.

The application of the theoretical frameworks to health services studies is reviewed in light of social, cultural, and familial influences on women.

3.1 Conceptual Framework definition:

The theoretical framework employed in the current study was the Health Belief Model (HBM),which is the most commonly used theory in health education and health promotion.

The HBM model, first proposed by Hochbaum, Leventhal, Kegeles and Rosenstock in the 1950s (Rosenstock,1974). It was designed to apply to various health-related decision making problems, and to explain why screening programs offered by the public-health services, were not successful, and it was one of the first theories to gain widespread use in developing interventions to increase cancer screening, (Wu, 2006).

The HBM explains the relationship between an individual's belief and behavior and defines the factors that motivate or demotivate an individual to do certain health-related actions, and the conditions that are effective in displaying health behaviors in particular, (Sheeran, 1996).

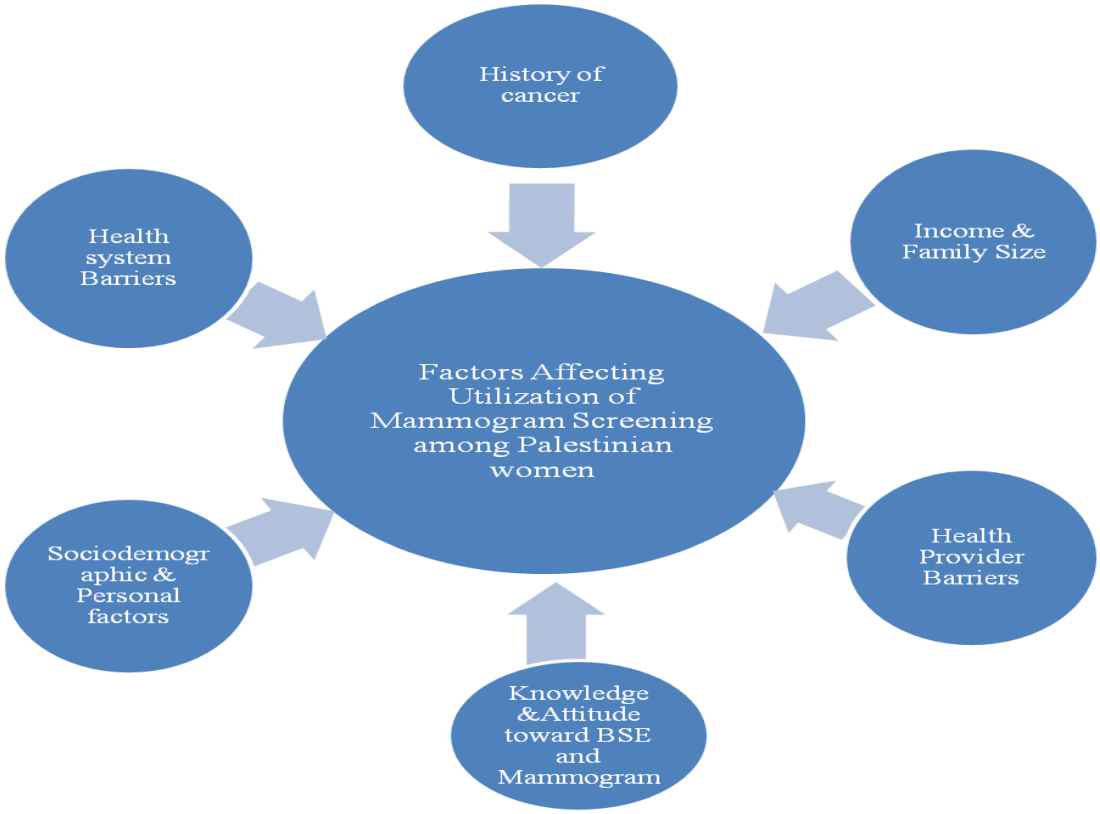
The conceptual framework used to predict the influences on mammography screening utilization for women is a culturally specific adaptation of the HBM, (Yan, 2009) .

The HBM assumes that an individual's perception of the susceptibility and severity of an illness produces the readiness to take a health action to reduce the health threat.

The model includes four dimensions: (a) perceived personal susceptibility to a disease, (b) perceived severity if contracted the disease, (c) perceived benefits of a particular health action and (d) perceived barriers taking a particular health action (Sheeran,1996) .

3.2: conceptual framework components:

The following graph represent the relationship between the dependent variables -utilization of mammogram screening-, with the independent variables that affect this utilization.



Graph 3. 1: Conceptual framework of the study.

3.3: Study Variables

The dependent variable in the study was, Utilization of Mammogram, and it is defined as how woman used this service yearly to check about her breasts, and had regular uses for the screening, or she had never one, in the other meaning it is the number of utilization per year.

And the independent variables which are affecting compliance of mammogram screening focused on the:

* Personal factors: related to age, smoking, awareness and knowledge about mammogram-health beliefs and attitudes , and demographic variables.

* Socio-economic factors: income, education, marital status, educational level, life style, insurance coverage, family size, social status, employment, the family income level, cost of the service, transportation.

*Health system factors: related to the availability of national program to advocate the women to get mammogram, also extend the role of the media to increase the awareness about the importance of this procedure, also to make good contact and communication relationship with trust between the physicians and patients.

3.4: Study Variables Definitions

The next table identify the variables used in this study, operational definition, according to the literature studies.

Table 3.1 : Operational Definitions of the Variables (Ahmadian et al.2010):

Variable	Operational definition
Utilization of Mammography Screening	State of having women uses a mammography in a specified period, although usually expressed as the number of services used per year per 100 or per 1000 women eligible for the screening.
Age (AGE)	Age of the woman at the time of survey and filling questionnaire, measured in years.
Level of Education	Number of years formal schooling completed, primary, secondary, graduated, higher educated –Diploma, PA, Master .
Awareness	Having knowledge about the dangerous of breast cancer and also about the benefit of breast self examination (BSA) and mammogram screening , Aware implies knowledge gained through means of information, understanding of, appreciation of, recognition of, attention to.

Family income (INC)	Total family income adjusted for purchasing power parity, Total compensation received by all family members age 15 or older living in the same household for at least one year, it may include business, farming, rent, interest, wages…
Traditional beliefs and Thoughts	Traditional customs, beliefs, or methods are ones that have existed for a long time without changing, prefers older methods and ideas to modern ones, traditional beliefs, like traditional cultural practices, are behavioral heirlooms passed down from previous generations, Traditions can be good or bad.
Health insurance	Coverage for accessing health services and mammogram screening, and protect the financial well-being of an individual, by a contract, it is governmental, private, social insurance and UNRWA, or without coverage .
Health care provider	A person who helps in identifying or preventing or treating illness or disability or health services to health care consumers. In mammogram unit need to be female technician can give the women privacy and comfortable.
Family History of Breast Cancer	Having an unusually high number of close relatives with breast cancer. So, having one relative diagnosed with breast cancer at the age of 50 or older usually wouldn't mean that you have a family history. It classified to non have if there is no cases, or moderate if having a close relative diagnosed with breast cancer under 40, or two close family members on the same side diagnosed with breast cancer over 50.
Family Size	The number of people living in the same house as a child including relatives and other household members.

Chapter Four: Methodology

This chapter aimed to outline the methodology, explained, defined the study's design, also explored the sample size and the way of targeted the sample.

Study tool, and its validation, data collection and analysis, were discussed in this chapter followed by statistical way to analyze the data, all these accurately defined in this chapter.

4.1: Study Design:

Quantitative descriptive was the design of the study, with a cross-sectional household survey in a representative sample from Bethlehem district, to assess the factors that affect and prevent women aged 40 years and above, to undergo mammogram screening.

This method is easily applicable and cost effective, and more representative, faster.

4. 2: Study Settings:

The settings where to collect the data, were the household and self administrative interview method employed, to meet the participants those agree to be included in the study, and they asked to fill structured questionnaire to collect the data about their perception about the subject of the study, accept those illiterate and with primary school (16.7%), they invited to face-to face interview and the interviewers applied their response and filled the questionnaire..

According to the aim of the study, women were recruited from the different geographical places, since urban were populated by about 40% of the population in Bethlehem district, rural consisting of 37 villages and formed 52% of the population, and the three Refugee Camps comprising the remaining 8% of the population, and these were study area for my research (Ministry of Health. Palestinian Health Information Center 2012).

4.3: Subject Population:

According to PCBS 2012, the total population in Bethlehem district about 176,23, and considering the total female population which is about 86,492, and those which their age more than or equal to 40 years in Bethlehem district is a around 15798, (PHIC 2012), and based on Statistical Calculation Raosoft, the total sample size was 511 women those above 40 years old, to be representative, and provide good results and indicators about the hypothesis of this study.

Applying the population distribution, proportionate sampling fraction was employed and the number of questionnaires distributed in urban, rural, refugee camps to commensurate their population percentages, so accordingly 207 women were selected from urban areas, 206 women from rural areas even from the east, west, south rural villages in Bethlehem district, and 98 women were also recruited from the refugee camps which are three in Bethlehem district.

4.4: Sampling method:

A random sample of 511 Palestinian women, 40 years and older, from Bethlehem district were selected.

The sample included respondents from cities, villages and refugee camps and according to the population density of each of them in the district.

4.4.1: Inclusion sample:

The criteria of sample selection was based on the following criteria which were:

- Aged 40 years and older.
- Living in Bethlehem district.
- Have not been diagnosed with breast cancer.
- They have not received a mammogram within the past two years.
- Agree to participate in the research and data collection.

4.4.2 Mechanism of Sample Selection :

- A stratified sample of 50 blocks i.e. primary sampling units (PSU`s) were selected among cities and villages and refugee camps in Bethlehem district, each of these geographic places shared a number of blocks commensurate to its population density i.e (refugee camps 10 blocks – Dheisheh 5, Ayda 3, Alazzah 2, and cities 20 blocks – Beit-Sahour 7, Bethlehem 6, Beit- Jala 6, and other three villages 20 blocks – Alkhader 7, Nahaleen 7, Al-Obydia 6 blocks).
- Each block (PSU) was assigned 10 questionnaires.
- The sampling interval in each block was 5, which means every 5th household in that block was interviewed.
- To avoid the possibility of survey bias, interviewers were provided with special starting point from which to commence interviewing, this starting point was randomly selected and statistically known, and canonical socially, for example, mosque, church, school.
- Interviewers selected only one woman to be interviewed from each household.
- To make up for possible mistakes 11 instead of 10 questionnaires were taken by interviewers for each block.
- If the interviewers did not find the criteria of the women to interview (age) in a certain household, an adjacent was selected, and if the latter happened to not have women respondent either, the next adjacent household was selected, the interviewers in this case were instructed to select three adjacent households in a row to seek a woman respondent.
- If the interviewers did not find the criteria, the sampling interval added to the number of the third adjacent household, for example if the interviewers did not find woman in household number 15, they must select household number 16, then 17, and finally 18, if all had no woman respondents then they would add 5 (i.e sampling interval) to 18 and they go to household number 23 to interview.
- If coincidently interviewers finished the interviewing process in a certain block before completing the questionnaires they have to start again in the same block with new starting point, with the same process until they completed the questionnaires assigned.

- During the walk in the block, to count housing, researchers usually walk on the right side of the street from the starting.

4.5: Study tool:

The Questionnaire was the instrument of research, because it is an inexpensive way to gather data from a large number of respondents.

One of the limitation of the study, is unavailability of proper, validated HBM questionnaire about mammogram screening, but depending on the Health Belief Model (HBM), and through the previous studies, questionnaire was constructed, adapted, modified, in order to collect the important and needed information for the study, and to evaluate the barriers constrains women to utilize from mammogram screening.

The questionnaire followed by revision for content and face validity by an expert panel, comprising of radiologist specialist in breast cancer diagnosis, two oncologist, gynecologist, family medicine physician, three specialist in research methodology, two specialist in public health, after that the questionnaire was tested for reliability and validity, which had illustrated high reliability.

The questionnaire first was developed in English and then translated into Arabic, and the final structure consisted of 96 closed and open-ended questions divided in three parts, that could be completed within 20 minutes, and it has been numbered for entering data and analysis easily (El Hajj & Hamid, 2010).

Section one of the questionnaire included 28 questions concerning social demographic and personal characteristics of the participants, such as the age, marital status, educational level, job, smoking, family income, family size, if the participant has any type of health insurance.

The questions of this part had statements as stem followed by variation of answering from open-ended, Yes or No or Don't know answering and the most questions need closed answer options, by tick marked around the choice that best described their beliefs and opinions from multiple choices (Maxwell, Kozak, Desjardins-Denault & Parboosingh, 1997).

Section two of the questionnaire objective was to measure the knowledge and attitude toward BSE and mammogram, through asking the participants 27 questions about the family

history with breast cancer (is there past family history with breast cancer?), and the relation of the diagnosed women with the participant.

Also questions to assess the knowledge about BSE, and mammogram, was consisted in this part, (What is the level of your knowledge about BSE?), (What is your knowledge level about mammogram?), (have you ever heard/read about breast cancer, BSE and mammography?), and also asking about the source of information about BSE and mammogram if available.

The questions of this part had statements as stem followed by variation of answering, open-ended, Yes or No or Don't know answering and the most questions need closed answer options, by tick marked around the choice that best described their beliefs and opinions from multiple choices (Maxwell et al.1997).

The main question of this part which decide if the participant included or excluded from the sample through asking the participant: (Did you had a mammogram before?), followed by Yes or No answering, then the next question was: (How long ago has it been since you had your last mammogram?), women had several choices for responding: within the past year, within the past 1-2 years, within the past 3-5 years, more than 5 years ago, one of these must describe period of doing mammogram, if the participant has long time more than two year as criteria for the sample, she was included, otherwise if she has less than two years, she was excluded.

Section three, aimed to measure the extent to which participants agree with positive statements regarding their beliefs about the barriers that prevent them to get mammogram screening, these barriers identified by listing 39 possible barriers, divided into three parts, personal barriers include 23 statements, other 7 statements to measure the health provider barriers, the last part listed 9 statements to measure health system barriers (Maxwell et al.1997).

A 5-point Likert scale used in this section to assess intensity of agreement of the women, through marked the statement with any level of agreement, by put (x) in the box regarding their beliefs and opinion (Feldstein et al.2011).

Some of the statements which listed in this part to measure the potential of personal barriers were :(Diagnosing with breast cancer, made me feel ashamed, so I avoided to detect it), (My getting a mammogram would be embarrassing because they have to touch my

breasts), (I'm afraid from the procedure), (I don't have time to do mammogram), (Low income is barrier to get mammogram), (It is not important to do a mammogram without any complication), (Available of breast cancer in the family feel me afraid to get mammogram), (Mammogram will not save my life), (No one from my family help me to do mammogram), (I don't have the knowledge about doing mammogram yearly).

Also to measure potential health provider and health system barriers were: (No one from the medical staff encourage me to do mammogram), (I can't trust the team those execute the mammogram screening), (Doctor who advised me to do mammogram, did not explain about the procedure), (Medical provider will not respect my privacy and exam result), (Lack of medical projects about the importance of mammogram screening, is barrier to access the test), (The cost avoid me to get mammogram), (Long waiting time to do mammogram is barrier), (Lack of advertising/media/advocacy/ national program about the importance of mammogram screening, is barrier to access the test), (Miscommunication doctor who advise me to do mammogram is barrier).

Questionnaire constructed and reviewed by the specialist, (annex D),and tested for the reliability and validity, through pilot study (annex E), then it is approved by the instructor to be ready for data collection.

4.6: Pilot Study, Validation of the questionnaire:

Questionnaire first administered to a pilot group of 25 women, selected from different sites, urban, rural, refugee camps, in Bethlehem district, it is not included in the sample size of the study.

Staff of female radiographer asked to help me in the study because of the sensitivity of the subject among the women in our society, and it is not easy to response to questions if the interviewer was male.

Several meetings were held with the interviewers, explained the objective of the study, and in order to acquaint them with the questions, and they must be accurate and be able to explain every statement reported in this questionnaire.

Random selected of 25 women from different geographic places, they recruited to fill the questionnaire through face-to-face interview, they asked for feedback, and pretesting of the

questionnaire, wording accuracy, readability, simplicity, content and face validity, also to estimate the time required to fill the sheet.

Pilot study took time period from 05 to15 of September 2013.

Statistically, all statements in the questionnaire were numbered and coded, to easy enter the generated and gathered data from the participants, then analyzed it. Pilot study was analyzed, and based on the reliability alpha, the instrument revealed high Cronbach's alpha values more than 0.90 as shown in the next table.

Table 4. 1: Represent the results of Cronbach's alpha values.

	Barriers	Cronbach's Alpha
1	Statements related to the personal barriers	%87. 5
2	Statements related to the medical provider barriers	%65. 0
3	Statements related to the health system barriers	%82. 0
Total degree		%90. 8

Based on the results of the pilot study, the necessary adaptation and some modification occurred to some questions, and the instrument was ready for data collection.

4.7: Data collection:

After validation of the questionnaire, approval to conduct the survey was obtained from Al-Quds University, among the supervisor who has been following the process of creating the questionnaire, and his observations and remarks were always taken interest.

The scientific method applied in data collection process, after defining problems and issues, several meetings were held with the interviewers, discussed the feedback of the pilot study, and improved the performance, focused in the objective of the study.

The mechanism of sample selection explained, and terms of choosing the participants, and how to fill out the questionnaire accurately, and empowerment of interviewers to clarify all questions to them among face-to-face interview, when needed.

Starting points in the process of filling the questionnaires in every village and town and camp selected, a plan of daily work developed, in order to complete the filling of 511 printed questionnaire, as planned in the process of selecting the sample, in 20 September 2013, we began the process of filling out the questionnaires.

Participants were invited to personal household interview, using pre-tested validated questionnaire available in Arabic, women asked to self administrative accept those illiterate, the interview required approximately 20 minutes to complete.

All participants were given a full explanation of the methodology and purpose of the research, sections of the questionnaire, how they must fill each section, assurance of confidentiality of all information and they requested to choose the best answer that described their beliefs, (Maxwell et al.1997) .

Participants were also assured that their participation in the study was voluntary, they could refuse to participate at any time during the interview (Ahmadian, Abu Samah, Redzuan & Emby, 2012) .

Participants with illiterate educational level, and those who could not read and write, (N=76) were assisted by the interviewers through face- to- face interview and explained the statement and question, and filling, marked their answering and response with confidence.

Questionnaires were distributed by geographical division, according to the planned number for each region, (N=511), and according to inclusion criteria 57 participants have been excluded because they did not correspond with the criteria of sample selection, (N=454), which took place during the period 20 September–25 October/2013.

After confirming the validity of the filling of all questionnaires, reviewed and audited, the data generated on the questionnaires were numbered and validated manually for errors and entered for analysis by SPSS version17.

4.8: Statistical method / Data Analysis:

The quantitative data sets collected from participants were cleaned, coded, and entered into the Statistical Package for the Social Sciences (SPSS 17).

All coding and data entries were verified, frequency distributions were calculated for all variables, and incorrect codes were identified and corrected (Saadi et al.2011).

SPSS also was used for descriptive statistics on the characteristics of research participants and to analyze and interpret the results.

Descriptive statistics, including percentages, means, standard deviation (SDs), were calculated. one way ANOVA test was used to recognize association between mammography use and demographic factors, knowledge, beliefs, and behavioral factors.

Differences between means of variables by attendance at breast examinations were calculated with t-test, Tukey test.

Multivariable logistic regression analysis with mammography-use as the dependant variable was performed for the entire population adjusting for the socioeconomic variables available from the questionnaire, these were hypothesized to be associated with mammography-use suggested in the literature.

Chapter Five: Results

5. Results:

This chapter aimed to review the findings of the study, results of demographic characteristics, knowledge and attitude, findings about the association of women characteristics and the compliance with mammogram.

5.1 Demographic characteristics of respondents

Among those women recruited to the survey (N=511), they were 11% excluded from the sample since they did not met the criteria (N=56), fore that the total number of the women which represented the sample were (N=455).

Table 5.1, defined the socio-demographic frequencies of the participants:

5.1.1: Age of participants.

59.78% were between the age 40-49 years, 30.5% of the respondents were between 50 and 59 years, and the remainder (9.67 %) were 60 years and older.

5.1.2: Religion.

87. 4% of the sample were Muslims, and 12. 6% were Christians.

5.1.3: Marital status of the participants.

Most of the participants (77.58%) were currently married, 11% were widowed, 8.13% were single, and those divorced were the remainder (3.3%).

5.1.4: Educational level.

Regarding to their educational attainment, the sample was generally educated, since 26.8% were high (secondary) school, 20.66% have university graduated with BA degree, 14.5% were with diploma degree, and those with primary and preparatory school were 13.2%, 18% respectively, 3. 5% of sample were illiterate, and the same rate 3% were with master degree.

5.1.5: The occupation of the women.

According to their job, most of the sample (57%) were housewives, 18% were work in the public sector, 17% in the private sector, and those unemployed were rated 7.9% of the respondents.

5.1.6: Attitude toward smoking and playing sport.

Most of the target women (90.3%) didn't smoke any type of cigarettes or tobacco, whereas only 9.7% of them had a habit of smoking, and in the same aspect, only 22% of the women they play sport on a regular basis on the time 78% of those women say (no) when asking them about playing sport.

5.1.7: Having health insurance.

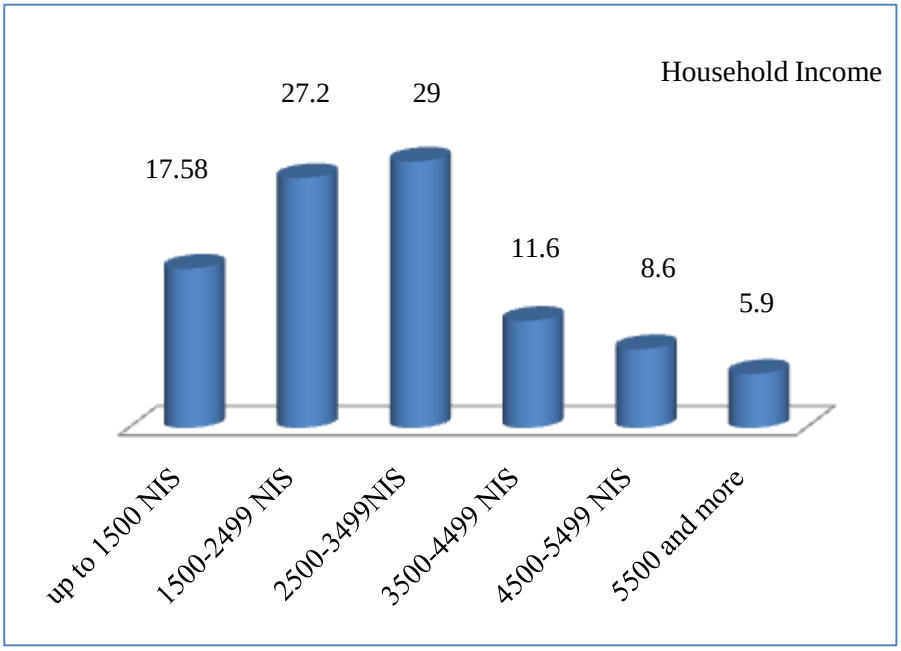
25.3% of the women declared they didn't had any type of health insurance for their families, whereas 74.7 % of them say they had, and the type of the health insurance diverse to public, UNRWA, private insurance with rates 68.2 %, 16.8 % , 15 % respectively.

Table 5.1: Frequencies of Socio-demographic characteristics of sample.

	Frequency	Percent
Age		
40-49 year	272	59. 78
50-59 year	139	30. 55
More than 60 year	44	9. 67
Marital status		
Single	37	8. 13
Married	353	77. 58
Widowed	50	11. 0
Divorced	15	3. 3
Religion		
Islam	398	87. 47
Christian	57	12. 53
Educational level		
Illiterate	16	3. 5
Primary school	60	13. 2
Preparatory School	83	18

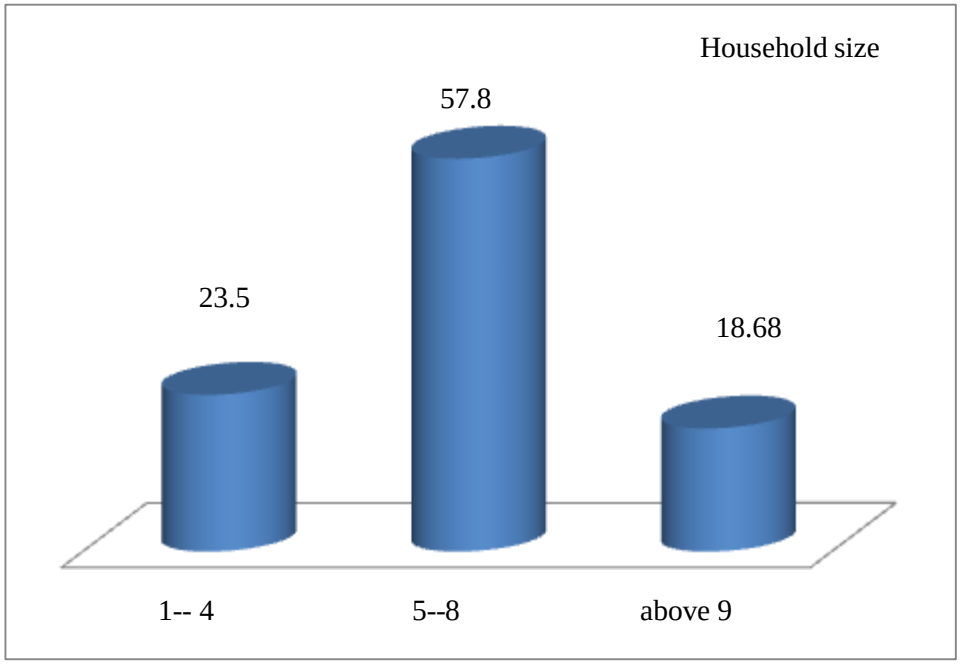
Secondary school	122	26. 8
Diploma	66	14. 5
PA degree	94	20. 66
Master degree	14	3
Job /occupation		
Public sector	82	18. 02
Private sector	77	16. 92
House wives	260	57. 14
Unemployed	36	7. 91
Smoking behavior		
Yes	44	9. 67
No	411	90. 3
playing sports		
Yes	100	22. 0
No	355	78. 0
Having health insurance for the family		
Yes	340	74. 7
No	115	25. 3
If yes, the type of the insurance		
Governmental insurance	232	68. 2
Private insurance	51	15
UNRWA insurance	57	16. 7

The following graph 5.1, represented the values of the families income, 29% of the sample their incomes between 2500-3499 NIS monthly, 27.2% between 1500-2499 NIS, those which their income is up to 1500 NIS monthly were rated 17.58% whereas 11.6% says their income were between 3500-4499 NIS, 8.6% between 4500-5499, and the remainder (5.9%) estimated their income more than 5500 NIS.



Graph 5.1 **:** Percentages of monthly income by NIS.

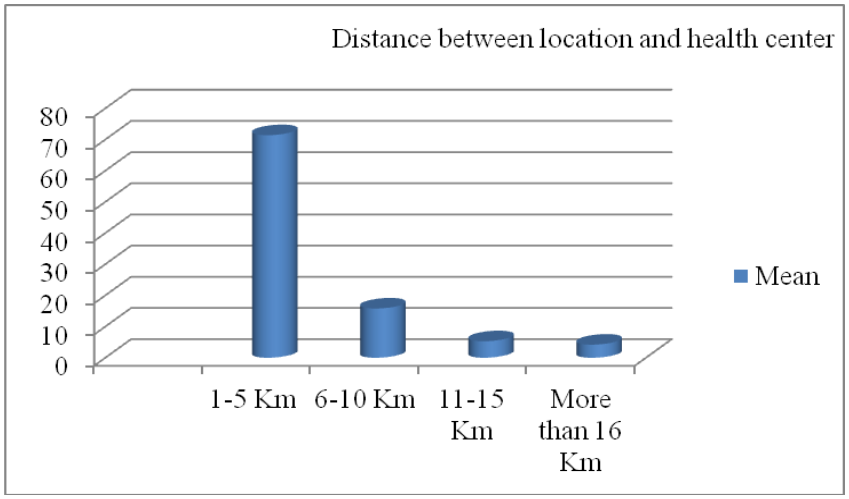
Graph 5.2, defined the families size of the participants recruited to survey, this size include the parents and children live in the same home, and results revealed the majority of the women (57.8%) have household size from 5 to 8 persons, 23.5% have 1 to 4 persons, the remainder (18.68%), have more than 9 persons.



Graph 5.2: Represent the percentages of household size for the women participate in the survey.

Graph 5.3, represented frequencies of the distance between the location of the women and the closest health center that provide mammogram service / kilometer.

The majority of the women (71.4%) said their location away one to five kilometers from the health center, while (15.8%) said their living location away between 6 –10 kilometers, the remainder away 11-15 km, and more than 16 km (5.3% , 4.2% respectively) .



Graph 5.3: Represent frequencies of the distance between the location of the women and the closest health center that provide mammogram service / kilometer.

5.2: Participants' Health Knowledge and Sources of Information:

By calculated the frequencies and percent for women's response toward their knowledge about health and mammogram, table 5.2, showed that most of the sample had moderate knowledge about BSE (40.4%), whereas those didn't know or had weak knowledge (35%) more than those had high and very high of knowledge about BSE(24%) .

Also the results showed 57.14% of the sample didn't read about mammogram, whereas 39.12% read about, 3.74% didn't remember if they read or not, but 60.88% of respondents heard about mammogram, 33.63% never heard, 5.5% didn't remember.

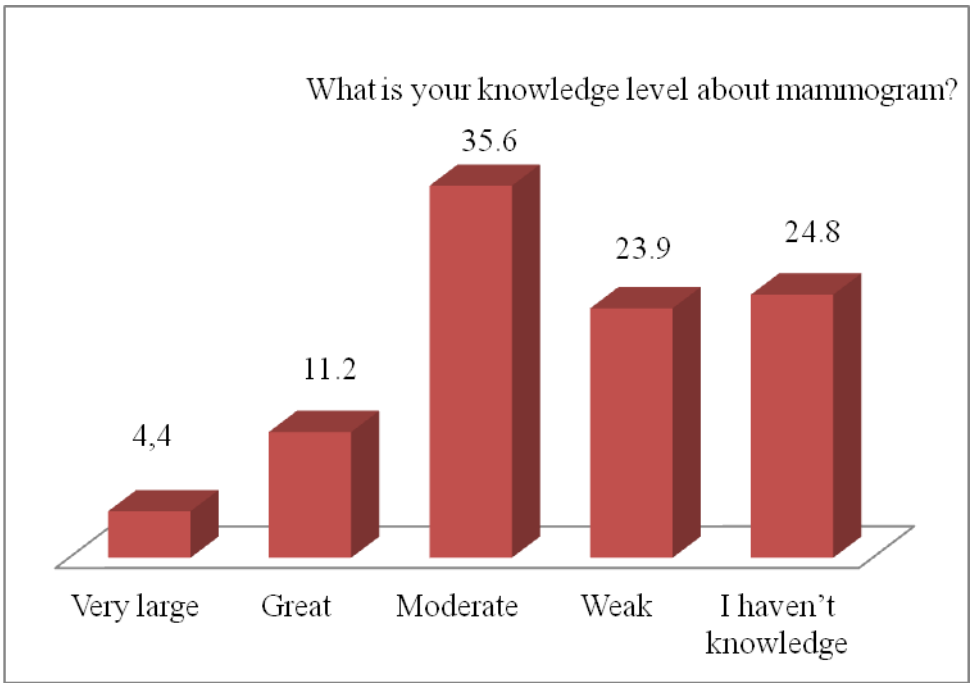
When asked about the knowledge level about statement "every women aged 40 years and above must do mammogram each year", results showed the most of the sample didn't know, and didn't care about, 37.6% , 14.3% respectively, whereas only 48.13% reported they know about, while 52.4% of the sample know that the mammogram in the government sector is for free, but 47.6% didn't know.

Table 5.2: Report the frequencies details about respondents health's knowledge.

What is the level of your knowledge about breast self examination (BSE) ?	**Frequency**	**Percent**
Very High level	31	6. 81
High level	79	17. 36
Moderate level	184	40. 44
Weak	93	20. 44
I don't know about	68	14. 95
Have you ever heard about Mammogram?		
Yes	277	60. 88
No	153	33. 63
I Don't remember	25	5. 49
Have you ever read about Mammogram?		
Yes	178	39. 12
No	260	57. 14
I Don't remember	17	3. 74

Did you know that the statement " every women aged 40 years and above must do mammogram each year" ?		
I know	219	48. 1
I don't know	171	37. 6
I don't care about	65	14. 3
Did you know that the mammogram in the government sector for free		
Yes	238	52. 4
No	217	47. 6

Graph 5.4, explained the knowledge level about mammogram, since the majority of the women (35.6%) had a moderate level, whereas 23.96% had a weak level, 24.84% didn't know about mammogram, and the remainder women had great and very large knowledge 11.21%, 4.4% respectively.

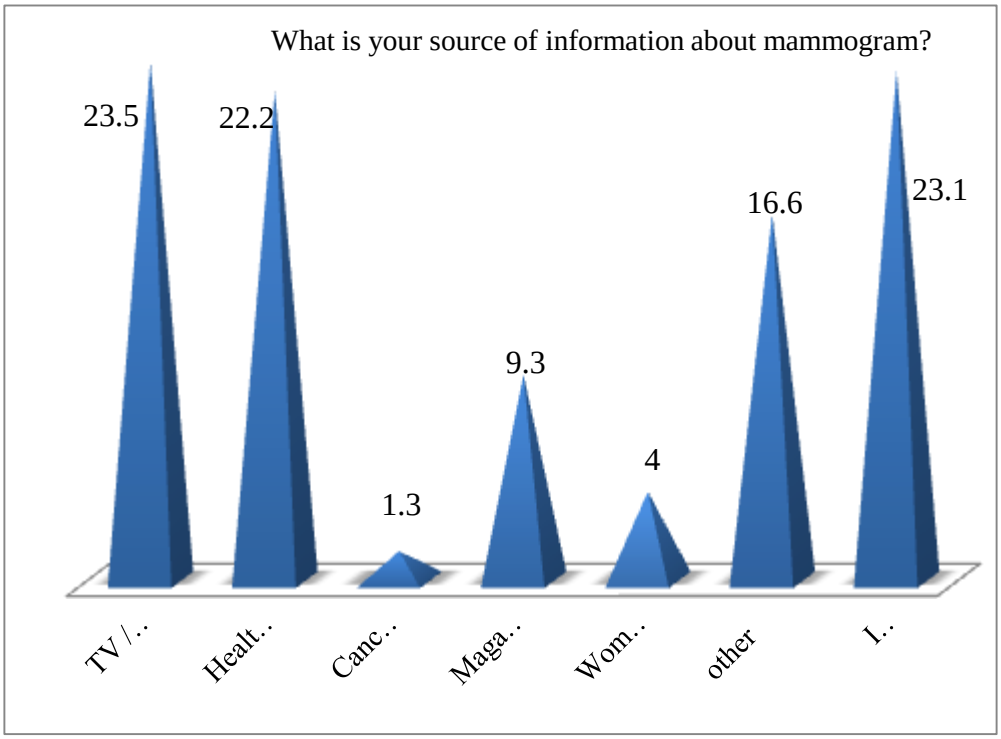


Graph 5.4: Represent the frequencies of the women knowledge about mammogram screening.

TV /Radio formed the major source of information about mammogram as 23.5% as the women said, then Health staff 22.2%, magazines and news represented by 9.3%, women associations formed source of information with 4 %, followed by cancer prevention

associations 1.3% and the remainder (16.6%) represented there were other resources of information, as shown in graph 5.5.

Graph 5.5: The source of information about mammogram.



5.3: Differences between the level of knowledge about mammogram, and the demographic characteristics:

To show if there is relation between the level of knowledge of the women, and the demographic variables, a hypothesis was stated :

- There is no significant differences at $\alpha \leq 0.05$ in the degree of knowledge level and demographic variables (Age, Address, Marital status, Religion, Educational level, Occupation, Income, Family size, Health insurance, Transportation) .

To test this hypothesis, chi-square test used, the results illustrated in the next table (5.3).

Table 5.3: Results of Chi-Square Test of Significance for the Demographic Variables with knowledge about mammogram.

Variable		Value	df	Sig	Significant/ not
Age	Knowledge about BSE	16. 293[a]	8	. 038	Sig
	Heard about mammogram	4. 747[a]	4	. 314	Not
	Read about mammogram	4. 092[a]	4	. 394	Not
	Knowledge about mammogram	18. 104[a]	8	. 020	Sig
	Knowledge about importance to do mammogram for those above 40 years	7. 664[a]	4	. 105	Not
Address	Knowledge about BSE	6. 227[a]	8	. 622	Not
	Heard about mammogram	6. 334[a]	4	. 176	Not
	Read about mammogram	8. 083[a]	4	. 089	Not
	Knowledge about mammogram	7. 558[a]	8	. 478	Not
	Knowledge about importance to do mammogram for those above 40 years	6. 302[a]	4	. 178	Not
Marital Status	Knowledge about BSE	9. 797[a]	12	. 634	Not
	Heard about mammogram	10. 011[a]	6	. 124	Not
	Read about mammogram	13. 059[a]	6	. 042	Sig
	Knowledge about mammogram	13. 295[a]	12	. 348	Not
	Knowledge about importance to do mammogram for those above 40 years	17. 169[a]	6	. 009	Sig
Religion	Knowledge about BSE	2. 773[a]	4	. 597	Not
	Heard about mammogram	11. 765[a]	2	. 003	Sig
	Read about mammogram	15. 362[a]	2	. 000	Sig
	Knowledge about mammogram	7. 335[a]	4	. 119	Not
	Knowledge about importance to do mammogram for those above 40 years	7. 791[a]	2	. 020	Sig
Educational level	Knowledge about BSE	88. 143[a]	24	. 000	Sig
	Heard about mammogram	47. 783[a]	12	. 000	Sig
	Read about mammogram	62. 425[a]	12	. 000	Sig
	Knowledge about mammogram	85. 109[a]	24	. 000	Sig
	Knowledge about importance to do mammogram for those above 40 years	40. 256[a]	12	. 000	Sig
	Knowledge about BSE	37. 989[a]	12	. 000	Sig
	Heard about mammogram	11. 212[a]	6	. 082	Not

Occupation	Read about mammogram	26. 740[a]	6	. 000	Sig
	Knowledge about mammogram	45. 989[a]	12	. 000	Sig
	Knowledge about importance to do mammogram for those above 40 years	13. 095[a]	6	. 042	Sig
Household income	Knowledge about BSE	30. 286[a]	20	. 065	Not
	Heard about mammogram	18. 919[a]	10	. 041	Sig
	Read about mammogram	13. 132[a]	10	. 216	Not
	Knowledge about mammogram	30. 966[a]	20	. 056	Not
	Knowledge about importance to do mammogram for those above 40 years	8. 764[a]	10	. 555	Not
Household size	Knowledge about BSE	25. 959[a]	8	. 001	Sig
	Heard about mammogram	5. 222[a]	4	. 265	Not
	Read about mammogram	17. 891[a]	4	. 001	Sig
	Knowledge about mammogram	17. 693[a]	8	. 024	Sig
	Knowledge about importance to do mammogram for those above 40 years	1. 773[a]	4	. 777	Not
Availability of health insurance	Knowledge about BSE	24. 194[a]	4	. 000	Sig
	Heard about mammogram	2. 521[a]	2	. 283	Not
	Read about mammogram	11. 469[a]	2	. 003	Sig
	Knowledge about mammogram	14. 372[a]	4	. 006	Sig
	Knowledge about importance to do mammogram for those above 40 years	6. 041[a]	2	. 049	Sig
Availability of transportation	Knowledge about BSE	20. 943[a]	8	. 007	Sig
	Heard about mammogram	12. 198[a]	4	. 016	Sig
	Read about mammogram	7. 489[a]	4	. 112	Not
	Knowledge about mammogram	10. 668[a]	8	. 221	Not
	Knowledge about importance to do mammogram for those above 40 years	3. 936[a]	4	. 415	Not

Differences with age:

The results in the previous table, showed there is significant differences in the level of knowledge about BSE, and age variable (p =.038), this differences related to age interval 40-49 years, and those more than 60 years, the mean results revealed those between 40 and 49 years have knowledge about BSE more than those above 60 years.

There is significant differences in knowledge level about mammogram, and age variable with value (p=.020), since the majority have a weak knowledge, or haven't knowledge about mammogram, except those with age 40-49 years have more knowledge about mammogram than other categories of age.

Differences with address:

There is no significant differences between the address of the women and their knowledge about mammogram and BSE.

Differences with marital status:

Significant differences between the marital status of the women and reading about mammogram as a variable (p=.042), this differences between those were single and divorced, means explained those were single have more probability to read about mammogram more than those were divorced.

Also there is differences between the knowledge of importance to do mammogram yearly for those women aged 40 years and more, and marital status, p=.009, where the highest percent of those knowing about that were married.

Differences with religion:

There is significant differences between the religion of the women as a variable and hearing about mammogram p=.003, since the Christian women read about mammogram more than Muslims, also there is significant differences with the reading about mammogram p=.000 radiated to the Christian women which read about mammogram more than Muslims.

Christian women have more Knowledge about importance to do mammogram yearly for those aged 40 years and older, more than Muslims women with significant differences p=.020.

Differences with educational level:

Educational level as a variable has significant differences with the knowledge level about BSE p=.000, most women especially those with illiterate, primary, and secondary school, have low level of knowledge.

Also there is significant differences with hearing about mammogram p=.000, since those with Diploma, PA, Secondary degree have more probability to hear about mammogram, respectively.

The differences also between educational level and reading about mammogram p=.000, since those women with Master, Diploma, PA degree, have more probability to read about mammogram, respectively.

Significant difference also valid between the knowledge about mammogram and educational level with p=.000, the majority have low level of knowledge, accept those women with PA degree have more knowledge.

Also the majority of the women didn't know about important to get mammogram yearly for those women aged 40 years and above with significant difference p=.000 according to the educational level, accept those with Secondary, Diploma, PA degree have more knowledge.

Differences with occupation:

There is significant differences in level of knowledge about BSE and related occupation, p=.000, the majority of the women have low level of knowledge especially those unemployed and housewives women.

Also there is significant differences with reading about mammogram p=.000, women have a job in private sector have more probability to read about mammogram, also those have more knowledge about mammogram than other, p=.000.

Significant differences shown between occupation of the women and knowledge about importance to do mammogram screening for women aged 40 years and older p=.000, since those women worked in the private sector have more knowledge.

Differences with monthly income:

Household income as has significant differences with hearing about mammogram as a part of knowledge p=.041, which mean women those family income between 2500-3499 NIS, and those 3500-4499 NIS have high percentage of hearing about mammogram than other.

Differences with family size:

There is significant difference between household size and the level of knowledge about BSE p=.001, the families generally have low level of knowledge especially those families have more than 9 persons.

Also there is significant differences with reading about mammogram p=.001, the highest percentage of the women didn't read about, except those which family size 1-4

persons have better chance to read, and according to the knowledge about mammogram the significant differences revealed (p=.024), since the majority of the women didn't have the knowledge about mammogram especially those with size more than 9 persons.

Differences with having health insurance:

There is significant differences between the knowledge about mammogram and BSE and having health insurance p=.006, p=.000 respectively, since those haven't health insurance have low level of knowledge than other.

Also differences with reading about mammogram p=.003, those haven't insurance, have less probability to read than other, also about the knowledge about mammogram and necessary to practice it yearly after the age 40 years, results showed significant differences, p=.049, those have not health insurance did not about this statement than other.

Differences with transportation:

Transportation as a variable, has a significant differences with knowledge about BSE p=.007, since the majority of the study population have transportation between their place of residence and health center which offer mammogram, and they have low level of knowledge about BSE, and also read about mammogram.

5.4: Participants Beliefs:

In this part of the results, data about the opinions and agreement of the women toward the breast cancer screening barriers, reviewed.

5-point Likert scale used to measure this belief, entered data were coded as followed:

1. Strongly disagree.
2. Disagree
3. Moderate or neutral.
4. Agree
5. Strongly agree.

Then after analysis those respondents with mean 1-1.80 considered as strongly disagree, and those with mean 1.81–2.60 agree, 2.61–3.40 moderate, 3.41–4.20 agree, 4.21–5.00 strongly agree.

Table 5.4, represented woman's believes, and their agreement toward some aspects related to breast cancer screening, and the barriers prevent that.

The majority of the women, n =309, stated it's not important to get mammogram without any complication and disorder (M=3.6), instead other women reported they don't have the knowledge to do mammogram yearly for those above 40 years old, n=208 (M= 3.1).

Feeling of fear and being diagnosed with breast cancer, took place as women declared, since the most (n=192 /42.3%) agreed with this feeling, and consider that may prevent them to get mammogram (M= 3.0), in the other hand (44.9%) believed it's not a barrier to get mammogram n= 204.

Painful of mammogram procedure represented as a cause for them to not access to mammogram (40.3%, n=183, M=2.9648, Std=1.25847), in the same time the percentage believes there is no pain or its not represented as a barrier (41.9%), n =190.

Women believed it's not necessary to implement the mammogram by female specialist, if they want to make check up and early detection, n=202 ,(44.5%), while the other n=158 consider lack of female specialist prevent them to undergo mammogram, (34.8%), (M=2.9).

The most of women did not believed that the fatalism, prevent them to get mammogram, even they believed in God, it's needed to get any exam for early detection of breast cancer, (51.7%), n=235, (M=2.8), in the contrary (35%), n=159, believed in God, and fore that they stated no need to do any exam.

Most the women had the knowledge about the place to get mammogram, they stated it's not hard to figure out the place (51.5%), n=234, M= 2.8) and they have know the place provide this service, in the other hand (34.4 %) declared it's too hard to figure out these places.

Having religious beliefs is not a barrier, and will not prevent the most of the women to make medical checkup and mammogram, as they stated,(64.8%), n=294, (M= 2.5), whereas (26.5%), n=120, didn't allow for specialist as foreigner to touch their breast, due religious beliefs.

Most of the women did not feeling shamed, even they being diagnosed with breast cancer, and this feeling will not prevent them to get screening as they declared (66.1%), n=300 (M=2.4), while (25.3%), n=115, represented shyness will prevent them, due to the society's perception about breast cancer.

The highest percentage of the women agree with needed of yearly medical checkup to be useful for them (M=2.3), while the minority didn't believed.

The majority of the women trusted with medical provider as they will respect the women privacy,48.7%, (M=2.7), while just 27.8% doubt they will not respect their privacy, and this will prevent them, also 61.3 % of the women trust with the medical team (M=2.4), whereas 14.8% consider this distrust avoid them to get mammogram.

The majority of the women agree that if there is a unit of mammogram in their town, this will encourage them to do mammogram 79.7% (M=4.1), compared to 7.7% consider if this happen, they will not change their decision about doing mammogram.

The highest percentage of the participants agree there lack of medical projects which explain the needed of mammogram and the absence of these project formed a barrier 54.2% (M=3.4), compared to 25.5% only of the women disagree with this saying.

Table 5.4: Participants beliefs toward mammogram screening.

Belief	**Mean**	**Std**	**Level of agreement**
It's not important to do a mammogram without any complication.	3. 6520	1. 14800	Agree
I don't have the knowledge about doing mammogram yearly.	3. 1366	1. 20844	Moderate
I m afraid from the bad result when doing mammogram.	3. 0022	1. 29951	Moderate
I m afraid from the procedure of mammogram.	2. 9648	1. 25847	Moderate
Lack of female specialist to implement the mammogram is a barrier for me.	2. 9119	1. 22562	Moderate
Believing in God make me say, there is no need to do early detection examinations.	2. 8062	1. 41807	Moderate
Too hard to figure out where to go for mammogram.	2. 7665	1. 19533	Moderate
Available of breast cancer in the family feel me afraid to get mammogram.	2. 6454	1. 17169	Moderate
In our Religious beliefs its shame to show or touch my breast even for	2. 5044	1. 39969	Disagree

medical examination.			
Diagnosing with breast cancer, made me feel ashamed, so I avoided to detect it.	2. 4119	1. 42817	Disagree
In our Socials beliefs its shame to show or touch my breast even for medical examination.	2. 3590	1. 29396	Disagree
Society's perception about breast cancer is negatively , which forced me to not going with early detection.	2. 3524	1. 35491	Disagree
Mammogram will not save my life.	2. 3392	1. 11558	Disagree
I don't believe that the yearly medical checkup will be useful for me.	2. 2907	1. 09949	Disagree
Medical provider will not respect my privacy and exam result, this avoid me to get mammogram.	2. 7115	1. 11304	Moderate
I can't trust with the team those executive the mammogram screening.	2. 4031	1. 01993	Disagree
If there is mammogram unit in our town, it's easy for me to get mammogram.	4. 1256	1. 02059	Agree
Lack of medical projects about the importance of mammogram screening, is barrier to access the test.	3. 3877	1. 16779	Moderate

5.5: Previous experience with early detection exams:

Results in the table 5.5, showed women practice of preventive and early detection tests, which decrease the prevalence of diagnosed with breast cancer.

When asked the women "if they practice BSE", 48.7 % of them stated " YES" , while those indicated they had never performed BSE were rated 48%, and 3.3 % say we did remember if we practice BSE or not, among those say YES we practiced BSE, 16.4% defined their practice were once weekly, 29.1% were once monthly, and the majority (54.5%) were once yearly.

Among the participants a large proportion of the women clarified, they practiced BSE (48.5%), but (26.3%) they didn't had any examinations of early detection for cancer, whereas 18.9% had a mammogram, and the remainder 6.2 % had Pap-smear.

Among those had a mammogram, 59.3% determined their attendance were within the past 3-5 years, 31.3% were more than 5 years, and 9.3% of the women did not remember when they get mammogram, 51.1% of the women conducted mammogram said they did it in

the public health center, 26.7%, 16.2% were in the private and special radiology center respectively, 5.8% of them did not remember where they get mammogram .

When we asked the women those utilized with mammogram about who encourage them to do that, 45.3% said the doctor, 12.8% said their family, also12.8% said, nurse advised them, 6.9% of them affected with their friends, and the remainder (22.1%) of them clarified that, they benefit with mammogram alone without any order or encouragement.

Table 5.5: Frequencies of the Previous experience with BSE and mammogram.

Attitude toward practicing early detection measures	Frequency	Percent
Did you visiting the doctor and make the medical checkup constantly?		
Yes	96	21. 1
No	259	56. 9
Not always	100	22
Did you practice breast self examination?		
Yes	221	48. 7
No	218	48. 0
I Don't remember	16	3. 3
If " yes "How many times you did that?		
once weekly	36	16.4
once monthly	64	29.1
once yearly	121	54.5
Did you had any examinations of early detection for cancer?		
Pap-smear	28	6.1
BSE	221	48.5
Mammogram	86	18.9
None of the above	120	26.3
If yes who encourage you to do Mammogram?		
Doctor	39	45.3
Nurse	11	12.8
Family	11	12.8
Friends	6	6.9
Alone	19	22.1
How long ago has it been since you had your last mammogram?		
within the past year	0	0
within the past 1-2 years	0	0

within the past 3-5 years	51	59.3
more than 5 years ago	25	31.3
I don't remember	5	9.3
Where was the last mammogram you did?		
Public health center	44	51.1
Private health center	23	26.7
special radiology center	13	16.2
I don't remember	4	5.8

. 5.5.1 Differences between the previous practical of BSE and mammogram, and demographic characteristics:

After analyzed the frequencies of the variables that represented the previous experience and past practical for BSE and mammogram, and to assess if there is relation between these variables and the demographic variables, a hypothesis was stated:

- There is no significant differences at $\alpha \leq 0.05$ in the degree of past practical for BSE and mammogram and demographic variables (Age, Address, Marital status, Religion, Educational level, Occupation, Income, Family size, Past breast feeding, Health insurance, Transportation).

To test this hypothesis, chi-square used as followed table 5.5.1.

Table 5.5.1: Results of chi-square test for the differences between the previous practical of BSE and mammogram, and demographic characteristics.

Variable		Value	df	Sig	Significant/ not
Age	Make medical checkup constantly	19. 206[a]	4	. 001	Sig
	Practice of BSE	17. 310[a]	4	. 002	Sig
	Had any examinations of early detection	15. 053[a]	8	. 058	Not
	Had a mammogram before	7. 626[a]	2	. 022	Sig
Address	Make medical checkup constantly	3. 625[a]	4	. 459	Not
	Practice of BSE	. 737[a]	4	. 947	Not
	Had any examinations of early detection	16. 339[a]	8	. 038	Sig
	Had a mammogram before	3. 892[a]	2	. 143	Not
	Make medical checkup constantly	12. 066[a]	6	. 061	Not

Marital status	Practice of BSE	9. 061[a]	6	. 170	Not
	Had any examinations of early detection	10. 169[a]	12	. 601	Not
	Had a mammogram before	4. 116[a]	3	. 249	Not
Religion	Make medical checkup constantly	. 184[a]	2	. 912	Not
	Practice of BSE	2. 519[a]	2	. 284	Not
	Had any examinations of early detection	20. 540[a]	4	. 000	Sig
	Had a mammogram before	7. 963[a]	1	. 005	Sig
Educational level	Make medical checkup constantly	11. 269[a]	12	. 506	Not
	Practice of BSE	34. 782[a]	12	. 001	Sig
	Had any examinations of early detection	20. 328[a]	24	. 678	Not
	Had a mammogram before	2. 859[a]	6	. 826	Not
Occupation	Make medical checkup constantly	8. 681[a]	6	. 192	Not
	Practice of BSE	6. 100[a]	6	. 412	Not
	Had any examinations of early detection	19. 012[a]	12	. 088	Not
	Had a mammogram before	1. 976[a]	3	. 577	Not
Household income	Make medical checkup constantly	9. 804[a]	10	. 458	Not
	Practice of BSE	6. 582[a]	10	. 764	Not
	Had any examinations of early detection	15. 727[a]	20	. 733	Not
	Had a mammogram before	1. 747[a]	5	. 883	Not
Household size	Make medical checkup constantly	8. 566[a]	4	. 073	Not
	Practice of BSE	20. 200[a]	4	. 000	Sig
	Had any examinations of early detection	10. 770[a]	8	. 215	Not
	Had a mammogram before	1. 698[a]	2	. 428	Not
Past breast feeding	Make medical checkup constantly	11. 522[a]	4	. 021	Sig
	Practice of BSE	16. 004[a]	4	. 003	Sig
	Had any examinations of early detection	6. 649[a]	8	. 575	Not
	Had a mammogram before	. 930[a]	2	. 628	Not
Availability of health insurance	Make medical checkup constantly	. 793[a]	2	. 673	Not
	Practice of BSE	16. 490[a]	2	. 000	Sig
	Had any examinations of early detection	14. 095[a]	4	. 007	Sig
	Had a mammogram before	4. 521[a]	1	. 033	Sig
Transportation	Make medical checkup constantly	6. 205[a]	4	. 184	Not
	Practice of BSE	36. 535[a]	4	. 000	Sig
	Had any examinations of early detection	11. 174[a]	8	. 192	Sig
	Had a mammogram before	5. 384[a]	2	. 068	Sig

Differences with age:

Results revealed of differences between age variable and visiting of the women for doctors to make medical checkup p=.001 since the majority of the women didn't practice this behavior accept those women aged more than 60 years old, also there is differences between the age and practice BSE p=.002, since the majority of the women practiced this exam especially those with age 40-49 years.

The differences also between doing mammogram and age p=.022, since the majority of the women stated they didn't had a mammogram accept a little percentage of women aged 50-59 year.

Differences with address & religion:

There is significant differences of doing early detection tests of cancer, when assessed with address variable p=.038, refer to those women lived in the city, they have more probability to do these exams.

Also there is differences with religion as a variable p=.000, results revealed those Christian women have more practice to do these exams more than Muslims women, also there is differences with doing mammogram before, p=.005, since the Christian women had previous mammogram more than Muslims women.

Differences with educational level:

Educational level is significantly differenced with had BSE, p=.001, results showed women have a secondary and diploma degree, have more probability to practice this exam more than other women with different degree of studying level.

Differences with family size:

There is significant differences between the household size when assessed with practicing BSE, p= .000, those families have persons 5-9 have more attitude toward BSE than other.

Differences with availability of health insurance:

According to availability of families health insurance, results revealed there is significant different with practicing BSE, p=.000, since the highest percent of women have health insurance and so practicing BSE more than other women without health insurance, also

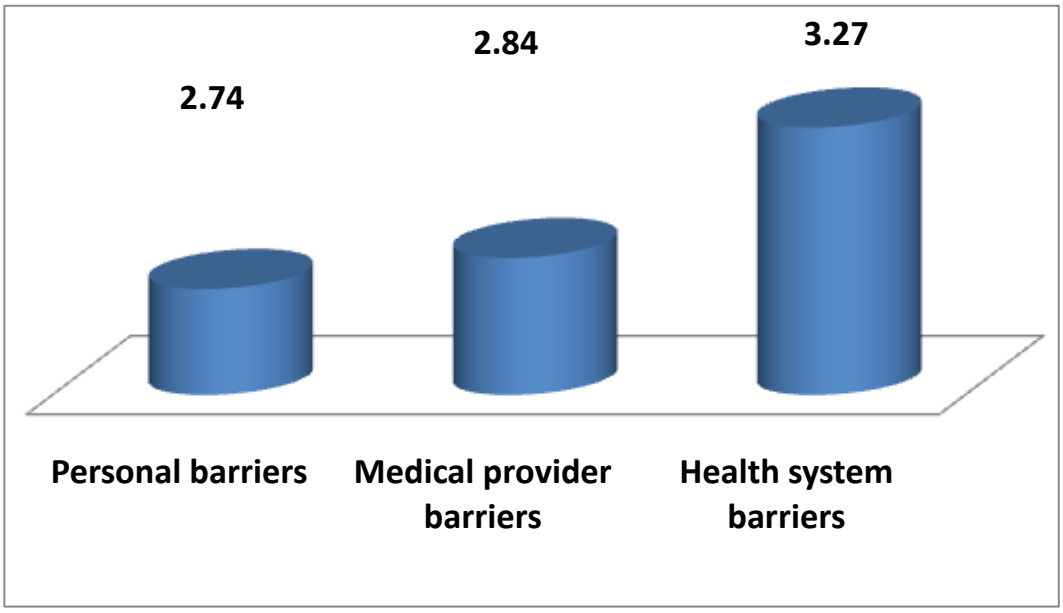
there is differences with doing early detection tests, p=.007, since those women with health insurance have more probability to do early detection tests for cancer.

Having health insurance have significant differences when with doing mammogram before, p=.033, since the results appeared those women with health insurance had undergo mammogram screening more than other.

5.6: Barriers toward getting mammogram screening:

The study's results of descriptive analysis identified the barriers which prevent the women to undergo mammogram screening, this barriers classified for three items personal, health provider, health system barriers, and its total degree of means were 2.88 as followed graph 5.6, which mean the highest degree related to health system barriers with mean 3.27, followed by the medical provider barriers with mean 2.84, then the personal barriers with mean 2.74.

Graph 5.6: Means of the barriers that prevent the women to get mammogram screening.



The health system barriers play basic role to prevent women to get mammogram, and to assess the degree of these barriers, means and standard deviations were calculated as the results followed in table 5.6.1, which clarified that the total degree of this group were 3.27

and standard deviation 0.76, and the highest barrier in this group were “not available of mammogram closet to their location”, and this avoid them, with mean 4.12, followed by “ lack of national medical program advocate them about the importance of mammogram”, this formed as a barrier prevent them, with mean 3.38.

Long waiting time to get mammogram being as other barrier, with mean 3.34, followed by “lack of advertising, media”, that encourage them to do mammogram, with mean 3.33, also “referral actions” being a barrier, with mean 3.24.

The lowest degree of the barriers related to health system were “lack of knowledge about the centers that provide mammogram” with mean 2.94, followed by the “cost of mammogram” which avoid the women to undergo mammogram, with mean 3.0.

Table 5.6.1: Means and standard deviations of the health system barriers.

	Mean	Std	Level of agreement
If there is mammogram unit in our town, it’s easy for me to get mammogram.	4. 1256	1. 02059	Agree
Lack of medical projects about the importance of mammogram screening, is barrier to access the test.	3. 3877	1. 16779	Moderate
Long of time, waiting to do mammogram is barrier for me.	3. 3414	1. 22707	Moderate
Lack of advertising /media /advocacy /national program about the importance of mammogram screening, is barrier to access the test.	3. 3392	1. 21048	Moderate
Referral actions to order the exam avoid me to do mammogram.	3. 2445	1. 24651	Moderate
Miscommunication with the doctor who will advise me to do mammogram is barrier.	3. 0815	1. 12171	Moderate
Not ensure of the government about the cost of early detection is barrier to get the exam.	3. 0374	1. 17963	Moderate
The cost of mammogram avoid me to get mammogram.	3. 0066	1. 24750	Moderate
Lack of knowledge about the centers provide mammogram service avoid me to get it.	2. 9405	1. 26194	Moderate
Total degree	3. 2783	. 76075	Moderate

Medical provider as a barrier, the results illustrated in table 5.6.2, with total degree 2.84 and standard deviation 0.63, and the highest degree among this group were "their doctor did not order them to mammogram, even they were confident to participate " this being as a barrier, with mean 3.8, followed by "no one from the medical staff advice them to do mammogram", with mean 3.04, also "not ordered for mammogram from the heath center which the women the women always visited" represented with mean 2.94.

Privacy, being important point for the women in this aspect, since they believed if the medical providers will not respect their privacy, this will prevent them to get mammogram, with mean 2.71, also they declared that their doctor doesn't explain the mammogram procedure for them, they didn't get it.

The lowest mean for the barriers among this group were "the impression that the provider they perform mammogram don't respect them" with mean 2.35, followed by "distrust of those executive mammogram screening" with mean 2.4.

Table 5.6.2: Means and standard deviations of the medical provider barriers.

	Mean	Std	Level of agreement
I am confident I will participate in regular mammograms, if the doctor order me to do that.	3. 8084	1. 08403	Agree
No one from the medical staff encourage me to do mammogram.	3. 0441	1. 29110	Moderate
The medical center which I'm always visited, not order me to get mammogram.	2. 9405	1. 23363	Moderate
Medical provider will not respect my privacy and exam result, this avoid me to get mammogram.	2. 7115	1. 11304	Moderate
Doctor who advice me to do mammogram, doesn't explain about the procedure for me.	2. 6828	1. 02327	Moderate
I can't trust with the team those executive the mammogram screening	2. 4031	1. 01993	Disagree
People who perform mammography do not treat patients with respect.	2. 3590	1. 02559	Disagree
Total degree	2. 8499	. 63484	Moderate

To assess the degree of personal barriers, means and standard deviations were calculated, and the results were illustrated in table 5.6.3, which showed that the total degree of the personal barrier were 2.47 and standard deviation = 0.6, which represented low degree.

The women represented their personal barriers with highest degree related to their believes " not important to do mammogram without any complication", with mean 3.65 followed by " low level of knowledge to do mammogram yearly", with mean 3.13, and the statement" no one from the family help the women to do mammogram" next with mean 3.03, the next barrier is "a afraid of being diagnosed with breast cancer", with mean 3.0, and "a afraid from the procedure", with mean 2.96.

Lack of female specialist to do mammogram take next place as the results showed, with mean 2.91, but impression of the women about " it's hard to figure where to get mammogram " represented the followed barrier with mean 2.7.

About the financial aspect women said " their financial income" is the next barrier to prevent them to get mammogram, with mean 2.65, followed by " cost of service" as a barrier they faced toward utilize with mammogram screening.

"past family history with breast cancer" being as a barrier prevent women to get mammogram, with mean 2.64, followed by "fearing to expose to radiation dose" with mean 2.63.

The lowest degree of the barriers related to the women outlook were "their believed it's not necessary for yearly medical checkup", with mean 2.29, and their thoughts "the mammogram will not save their life", with mean 2.33, also the shamed impression of the society toward those diagnosed with breast cancer being other barrier, with mean 2.3.

Table 5.6.3: Means and standard deviations of the personal barriers.

	Mean	Std	Level of agreement
It's not important to do a mammogram without any complication.	3. 6520	1. 14800	Agree
I don't have the knowledge about doing mammogram yearly.	3. 1366	1. 20844	Moderate
No one from my family help me to get mammogram.	3. 0330	1. 16280	Moderate
I m afraid from the bad result when doing mammogram.	3. 0022	1. 29951	Moderate
I'm afraid from the procedure of mammogram.	2. 9648	1. 25847	Moderate
Lack of female specialist to implement the mammogram is a barrier for me.	2. 9119	1. 22562	Moderate
Too hard to figure out where to go for mammogram.	2. 7665	1. 19533	Moderate
I don't have time to do mammogram.	2. 7335	1. 08649	Moderate
Our financial income avoid me to get mammogram.	2. 6586	1. 18683	Moderate

Cost is barrier to get mammogram.	2. 6520	1. 25106	Moderate
Available of breast cancer in the family feel me afraid to get mammogram.	2. 6454	1. 17169	Moderate
Having a mammogram Expose me too many X- rays.	2. 6300	1. 11762	Moderate
The mammogram center far from here, which avoid me to do mammogram.	2. 5947	1. 15032	Disagree
Diagnosing with breast cancer, made me feel ashamed, so I avoided to detect it.	2. 4119	1. 42817	Disagree
In our Socials beliefs its shame to show or touch my breast even for medical examination.	2. 3590	1. 29396	Disagree
Society's perception about breast cancer is negatively, which forced me to not going with early detection.	2. 3524	1. 35491	Disagree
Mammogram will not save my life.	2. 3392	1. 11558	Disagree
I don't believe that the yearly medical checkup will be useful for me.	2. 2907	1. 09949	Disagree
Total degree	2. 7480	. 61626	Moderate

5.7: Association Between Barrier Items And Socio-demographic Characteristics :

To assess the association between the difference of barrier items and socio-demographic variables, the following hypothesis was constructed:

5.7.1: Related to religion as a variable, the following hypothesis was constructed:

- There is no significant differences at $\alpha \leq 0.05$ in the degree of barriers that prevent women to undergo mammogram screening, and religion.

To test this hypothesis t-test was used as the following table 5.7.1.

Table 5.7.1: Results of t-test for association between barriers and religion variable.

	Religion	N	Mean	Std. Deviation	t	df	Sig
Persona barriers	Islam	398	2. 7640	. 60163	. 749	453	. 454
	Christian	57	2. 6988	. 70108			
Medical provider barriers	Islam	398	2. 8776	. 63730	1. 417	453	. 157
	Christian	57	2. 7494	. 64978			
Health system barriers	Islam	398	3. 2864	. 73566	-. 386	453	. 700
	Christian	57	3. 3275	. 85150			
Total degree of barriers	Islam	398	2. 9014	. 54172	. 670	453	. 503
	Christian	57	2. 8491	. 61812			

The results showed that there is no significant differences in the degree of barriers that women faced when utilize mammogram and religion.

5.7.2 Related to having medical insurance as a variable the following hypothesis was constructed:

- There is no significant differences at $\alpha \leq 0.05$ in the degree of barriers that prevent women to undergo mammogram screening, and having medical insurance.

To test this hypothesis t-test was used as the following table 5.7.2.

5.7.2: Results of t-test for association between barriers and having health insurance variable.

	Having health insurance	N	Mean	Std. Deviation	T	df	Sig
Persona barriers	Yes	340	2. 6880	. 60377	-4. 122	453	. 000
	No	115	2. 9565	. 60452			
Medical provider barriers	Yes	340	2. 8013	. 65823	-3. 499	453	. 001
	No	115	3. 0398	. 54564			
Health system barriers	Yes	340	3. 2307	. 77023	-3. 001	453	. 003
	No	115	3. 4715	. 65859			
Total degree of barriers	Yes	340	2. 8299	. 55298	-4. 408	453	. 000
	No	115	3. 0870	. 50174			

The results of t-test analysis showed, there is significant differences between having medical insurance and facing barriers to get mammogram, with mean of the total degree = 3.08, and p=.000, since all women they haven't medical insurance have more probability to faced barriers to undergo mammogram screening, even these barriers personal, medical provider or to health system barriers.

5.7.3 Related to Age as a variable, the following hypothesis was estimated:

- There is no significant differences at $\alpha \leq 0.05$ in the degree of barriers that prevent women to undergo mammogram screening, and age.

To test this hypothesis, ANOVA test was used as next table 5.7.3.

Table 5.7.3: Results of A nova test for association between barriers and age variable.

		Sum of Squares	df	Mean Square	F	Sig.
Personal barriers	Between Groups	3. 173	2	1. 586	4. 262	. 015
	Within Groups	168. 263	452	. 372		
	Total	171. 436	454			
Medical provider barriers	Between Groups	. 637	2	. 319	. 778	. 460
	Within Groups	185. 068	452	. 409		
	Total	185. 705	454			
Health system barriers	Between Groups	1. 499	2	. 749	1. 333	. 265
	Within Groups	254. 041	452	. 562		
	Total	255. 540	454			
Total degree	Between Groups	2. 160	2	1. 080	3. 592	. 028
	Within Groups	135. 878	452	. 301		
	Total	138. 037	454			

The above table illustrated results which defined there is significant differences related to the association of getting mammogram screening and age variable, and that's noticed in the total degree, p=0.28, also in personal barriers items, p=0.15, to investigate the source of these differences Tukey test was used as table 5.7.3.1:

Table 5.7.3.1: Results of Tukey test about source of differences between barriers and age.

	Age	40-49	50-59	More than 60
Personal barriers	40- 49	-		
	50-59	0. 12	-	
	More than 60	0. 24 *	0. 11	-
Total degree	40- 49	-		
	50-59	0. 09	-	
	More than 60	0. 21*	0. 11	-

The results of Tukey test revealed, there is differences related to age variable, especially between groups aged 40-49, and those more 60 years, and personal barriers, and according to the total degree there is differences between groups aged 40-49, and those more

60 years also, but its more significant for those aged more than 60 years, which mean women aged more than 60 years, have more personal barriers prevent them to get mammogram.

5.7.4 Related to Address as a variable, the following hypothesis was estimated:

- There is no significant differences at $\alpha \leq 0.05$ in the degree of barriers that prevent women to undergo mammogram screening, and address.

To test this hypothesis a nova test was applied, as table 5.7.4:

Table 5.7.4 : Results of ANOVA test for association between barriers and address variable.

		Sum of Squares	df	Mean Square	F	Sig.
Personal barriers	Between Groups	7. 001	2	3. 500	9. 621	. 000
	Within Groups	164. 435	452	. 364		
	Total	171. 436	454			
Medical provider barriers	Between Groups	2. 296	2	1. 148	2. 829	. 060
	Within Groups	183. 410	452	. 406		
	Total	185. 705	454			
Health system barriers	Between Groups	6. 502	2	3. 251	5. 900	. 003
	Within Groups	249. 038	452	. 551		
	Total	255. 540	454			
Total degree	Between Groups	5. 743	2	2. 871	9. 810	. 000
	Within Groups	132. 295	452	. 293		
	Total	138. 037	454			

The results of a nova analysis showed there is significant differences between barriers that prevent women to get mammogram and address variable, and these differences noticed related to personal barriers and health system barriers, and in total degree, to examine the source of these differences tukey test was used as shown next:

Table 5.7.4.1: Results of Tukey test about source of differences between barrier items and address.

	Address	City	Rural	Refugee camps
Personal barriers	City	-		
	Rural	. 17472*	-	
	Refugee camps	. 32922*	-. 15449	-
Health system barriers	City	-		
	Rural	. 09870	-	
	Refugee camps	. 32831*	. 22961*	-
Total degree	City	-		
	Rural	0. 148*	-	
	Refugee camps	0. 30*	0. 15	-

The results shown in the above table explained that, there is significant differences between barriers and address of the women, and these differences related to personal barriers, since those live in the city faced personal barriers to get mammogram than those live in the rural areas and refugee camps.

Also those from the city have probability to face health system barriers more than those from other areas.

And this results also the same for the total degree.

5.7.5: Related to Marital status as a variable, the following hypothesis was estimated:

- There is no significant differences at $\alpha \leq 0.05$ in the degree of barriers that prevent women to undergo mammogram screening, and marital status.

To test the hypothesis, a nova test, as shown table 5.7.5:

Table 5.7.5: Results of ANOVA test for association between barriers and marital status variable.

		Sum of Squares	df	Mean Square	F	Sig.
Personal barriers	Between Groups	1. 613	3	. 538	1. 428	. 234
	Within Groups	169. 823	451	. 377		
	Total	171. 436	454			
Medical provider	Between Groups	1. 671	3	. 557	1. 365	. 253

barriers	Within Groups	184. 034	451	. 408		
	Total	185. 705	454			
Health system barriers	Between Groups	7. 488	3	2. 496	4. 538	. 004
	Within Groups	248. 052	451	. 550		
	Total	255. 540	454			
Total degree	Between Groups	2. 479	3	. 826	2. 750	. 042
	Within Groups	135. 558	451	. 301		
	Total	138. 037	454			

The results indicated there is significant differences between the barriers to utilize mammogram screening and the marital status as a variable, and these differences noticeable in the health system barriers item and in the total degree, to investigate the source of these differences, tukey test used and the results illustrated table 5.7.5.1:

Table 5.7.5.1: Results of tukey test about source of differences between barriers and marital status.

	Marital status	Single	Married	Widowed	Divorced
Health system barriers	Single	-			
	Married	-. 26970	-		
	Widowed	-. 40577	-. 13607	-	
	Divorced	-. 78058*	-. 51088*	. 37481	-
Total degree	Single	-			
	Married	-. 17511	-		
	Widowed	-. 26946	-. 09435	-	
	Divorced	-. 42113	-. 24602	-. 15167	-

The results revealed that there is significant differences between the barriers and the marital status, this difference can be notice for those women single or divorce, they faced health system barriers more than other, also divorced women have more probability to face health system barriers prevent them to undergo mammogram, more than those single.

5.7.6 Related to Educational level as a variable, the following hypothesis was constructed:

- There is no significant differences at $\alpha \leq 0.05$ in the degree of barriers that prevent women to undergo mammogram screening, and educational level.

  To test this hypothesis a nova test was used as table 5.7.6:

Table 5.7.6: Results of ANOVA test for association between barrier and educational level variable.

		Sum of Squares	df	Mean Square	F	Sig.
Personal barriers	Between Groups	9. 085	6	1. 514	4. 178	. 000
	Within Groups	162. 351	448	. 362		
	Total	171. 436	454			
Medical provider barriers	Between Groups	8. 587	6	1. 431	3. 620	. 002
	Within Groups	177. 119	448	. 395		
	Total	185. 705	454			
Health system barriers	Between Groups	4. 145	6	. 691	1. 231	. 289
	Within Groups	251. 395	448	. 561		
	Total	255. 540	454			
Total degree	Between Groups	7. 231	6	1. 205	4. 127	. 000
	Within Groups	130. 807	448	. 292		
	Total	138. 037	454			

The results revealed there is significant differences between the barriers and educational level variable, and that's noticed in the personal barriers, medical provider barriers, and also in the total degree.

To examine the source of these differences in this items, tukey test was applied as followed:

Table 5.7.6.1: Results of tukey test about source of differences between barriers and educational level.

	Educational level	Illiterate	Primary school	Preparatory school	Secondary school	Diploma	PA	MA
Personal barriers	Illiterate	-						
	Primary school	. 15851	-					
	Preparatory school	. 20021	. 04170	-				
	Secondary school	. 33005	. 17154	. 12984	-			
	Diploma	. 40333	. 24482	. 20312	. 07328	-		
	PA	. 53197*	. 37346*	. 33176*	. 20192	. 12864	-	
	Master	. 34263	. 18413	. 14243	. 01259	-. 06070	-. 18934	-
Medical provider barriers	Illiterate	-						
	Primary school	. 17024	-					
	Preparatory school	. 14694	-. 02329	-				
	Secondary school	. 29303	. 12279	. 14609	-			
	Diploma	. 40530	. 23506	. 25836	. 11227	-		
	PA	. 45859	. 28835	. 31164*	. 16555	. 05328	-	
	Master	. 57908	. 40884	. 43214	. 28605	. 17378	. 12050	-
Total degree	Illiterate	-						
	Primary school	. 05185	-					
	Preparatory school	. 06861	. 01676	-				
	Secondary school	. 04964	-. 00222	-. 01897	-			
	Diploma	. 23485	. 18300	. 16624	. 18521	-		
	PA	. 26418	. 21233	. 19558	. 21455	. 02934	-	
	Master	. 12302	. 07116	. 05441	. 07338	-. 11183	-. 14117	-

Significant differences between those illiterate and those have PA degree demonstrated, and these differences related to personal barriers and to medical provider, but those illiterate women have more probability to face barriers and prevent them to get mammogram more than.

5.7.7 Related to occupation as a variable, the following hypothesis was constructed:

- There is no significant differences at $\alpha \leq 0.05$ in the degree of barriers that prevent women to undergo mammogram screening, and occupation.

  To test the hypothesis, a nova test applied, the results were shown table 5.7.7:

Table 5.7.7: Results of ANOVA test for association between barriers and occupation variable.

		Sum of Squares	df	Mean Square	F	Sig.
Personal barriers	Between Groups	1. 495	3	. 498	1. 323	. 266
	Within Groups	169. 941	451	. 377		
	Total	171. 436	454			
Medical provider barriers	Between Groups	5. 180	3	1. 727	4. 314	. 005
	Within Groups	180. 526	451	. 400		
	Total	185. 705	454			
Health system barriers	Between Groups	2. 523	3	. 841	1. 499	. 214
	Within Groups	253. 017	451	. 561		
	Total	255. 540	454			
Total degree	Between Groups	2. 160	3	. 720	2. 390	. 068
	Within Groups	135. 877	451	. 301		
	Total	138. 037	454			

The findings of the above table revealed that there is significant differences between the medical provider barriers, and the occupation of those women as a variable, to demonstrate the source of this differences tukey test applied and the results in the table 5.7.7.1:

Table 5.7.7.1: Results of tukey test about source of differences between barriers and occupation.

	Educational level	Public sector	Private sector	House wives	Unemployed
Medical provider barriers	Public sector	-			
	Private sector	-. 08319	-		
	House wives	-. 26277*	-. 17958	-	
	Unemployed	-. 20374	-. 12054	. 05904	-

The above findings showed there is significant differences related to medical provider barriers for those women have a work in the public sector and those house wives, and the mean of those house wives more than other, which mean they faced medical provider barriers more than other women.

Chapter Six: Discussion, Conclusion and Recommendation

This chapter aimed to discuss the result about the survey held among those women in Bethlehem district, also highlighted on main results related to the purpose of the study.

Conclusion about the idea from the results, also the recommendation what must do in the future to overcome the study problem, also to continue the research in the field, were illustrated.

6.1: Knowledge about mammogram and BSE:

After analysis, results showed, women in Bethlehem district had a moderate level of knowledge about BSE (40.4%), and those had low level of knowledge were more than those had high level, 35% compared to 24% .

Also results revealed the women, were with a moderate level of knowledge about mammogram (35.6%), and those participants had low level of knowledge were more than those women with high degree of knowledge, 48.7% compared to 13.6%, which means the majority of the sample didn't know the importance and effectiveness of mammogram screening as a tool for early detection, and decrease the complications of breast cancer.

This low level of knowledge about BSE and mammogram depend on the awareness of the women, and the traditional thoughts of the society, even Muslims thoughts which may prevent women to show their bodies for other or to speak about any abnormality in their breasts even for doctors or medical checkup, also our culture which take in consider the privacy of the women especially in the rural areas, or else it will cause shyness.

Also lack of advocacy, national program to support women to practice mammogram, and explained the importance of this exam especially for those above the age 40 years, also it’s not easy for the women in Bethlehem district to participate in workshops and lectures about breast cancer and mammogram if hold, since the social limitations still available, and women feel embarrassment in this issue.

This corresponded with the results of current study about reading and hearing women about mammogram, since 40% of the sample never heard about mammogram, 70% never read about mammogram, that’s explained some thoughts and values which depend on the society,

from that it's important to read about mammogram if there is no need, also women feel with shyness when they speak or discus about their bodies, even with doctors or medical staff, this will force them to deny some complaining and abnormality.

Several previous studies have similar findings, in Turkey (Donnelly et al., 2013) found that 27.9% of women had had no knowledge of mammography, (Elhaj et al., 2010) also reported 3.4% had good knowledge about mammography, in Kuwait (Al- Qattan M et al., 2008) proved Moreover, 28.9% did not know the method of breast self examination.

In Hong Kong (Chua et al., 2005) state that 58% of the participants had never heard about mammography screening.

Whereas other studied show the contrary, in Jordan (Petro-Nustus et al, 2002) declared that the majority of the sample population (67%) had heard/read about BSE, and Al-Naggar et al. ,2012) which stated that the majority of the Malaysian women (85%), knew about mammogram screening, also study done by (Bener et al, . 2009) indicated that the majority of Qatari women demonstrated an adequate knowledge about breast cancer.

A study from Saudi Arabia (Jahan et al. , 2006), found that only 30.3% of the women had heard about BSE, Among Korean American women (Saadi et al. , 2012), only 16. 3% reported they had adequate breast cancer knowledge, an Egyptian study (Donelly et al. , 2013) showed that only 10. 6% and 11. 5% had satisfactory knowledge about breast cancer.

6.2: Knowledge about Mammogram, correlated with socio-demographic characteristics:

Level of knowledge affected by the age, since those elderly women above 60 years have the lowest level compared with those women aged 40-49years, that’s related to interesting and caring of the women about their bodies, and those women with age between 40-49 years, have more knowledge, which mean this group interested more to know about, and have efforts and ability to read and heard about the important mammogram, more than other age group which thought the mammogram will not change anything in their health status due to their age.

This result is similar to one study revealed that the elderly women had insufficient knowledge of breast cancer and screening (Amin et al. , 2009; Beaulieu et al. , 1996; Parsa et al. , 2006; Soskoline et al. , 2007) .

Also (Tejeda et al. 2009) recommended, elderly women have insufficient knowledge of breast cancer and therefore present for screening late and higher risk of breast cancer.

The results of current study reported that the knowledge about BSE and mammogram screening also affected by some socio-demographic characteristics, like level of education, since those women with high degree of educational level, have more possibility to know about BSE and mammogram, and those with illiterate or first years of study have low possibility to know about mammogram and BSE.

Women unemployed or housewives, have less knowledge about mammogram and BSE than those work in the private sector, which mean in the work especially private sector women have a chance to hear or to read about mammogram as a result of interaction with other women, otherwise those stay in the home have less opportunity to know about the importance of mammogram.

Also according to marital status of the women, results showed, single women have more probability to read about mammogram than other, that's due to the time needed to read, while those married and have families and caring didn't have time to care about reading this issue, but those married knew more about necessary to do mammogram yearly, and detect any abnormalities in their breasts, which the changes of the hormones may play role, also her husband may help her or encourage her when needed.

Christians women more likely to heard and read about mammogram, also they knew more about the importance to get mammogram yearly for those above 40 years, than Muslims, which means those Christians women have not the same social limitations, and have more support and advocacy, and take this issue freely and in consideration.

Woman with family size more than 9 persons, less likely to know about mammogram and BSE, than those have less than 9 persons, that’s related to not have time to interest about that, and caring about housekeeping and children caring.

Availability of health insurance affect the knowledge of mammogram and BSE, since the results approved those without health insurance less likely to hear or read about mammogram, and have less knowledge about importance to do mammogram for those above 40 years, than those have insurance.

6.3: Practice and attitude toward BSE and mammogram screening:

Current study revealed that the highest percentage of the women (48%), didn't practice BSE, and the majority of the sample never had a mammogram, so in general it means low level of practicing mammogram and BSE this proportionally related to the knowledge and awareness about the benefits of screening, since the low level of the knowledge could be affected on low practicing.

These results consisted with previous studies (Sadikoglu et al, . 2010) reported 57.3% of the Turkish women had never had a mammogram, 50.6 % of study group reported that they had a clinical breast examination at least once, (Noroozi et al, . 2011) declared that only 7.5% of the Iranian women performed BSE on a regular monthly basis, 14.3% had at least one mammography in their lifetime, which is similar to other study conducted in Turkish sample represented that11% of those women only had mammogram screening (Cam et al, .2009).

This findings of study conducted in the Palestinian Authority (Azaiza F et al, . 2010) reported similar results, since Greater than 70% of the women had never undergone mammography, whereas 62% performed self breast examination.

Yet several other reports in UAE, showed that 12.7% of 1367 women practiced BSE, 10.3% had undergone mammography (Bener et al. , 2001), in Jordan (Petro-Nustas and Mikhail, 2002) reported 7% of 519 Jordanian women practiced BSE regularly, similarity in Lebanon 18% of 1200 women had mammogram (Adib et al. , 2009).

But the current results inconsistent with another study that reported higher rates of participation in BSE and mammogram in Malay and Congo samples (Bancej et al., 2005).

In Israel survey of 1550 women, 66.8% of Arab women and 74.2% of Jewish women had undergone mammography during the past 2 years (Baron-Epel, 2009).

Inconsistent study showed a better screening rates found in the United States that mammography screening rates ranging from 41% to 66% have been reported among Filipino and Korean immigrants (Maxwell et al.1997).

6.4: Relation between socio-demographic characteristics and practicing mammogram and BSE:

The results of chi-square test reported significant differences with age variable and practicing of BSE and mammogram screening, since those were between 40-49 years practice

BSE more than other categories of age, also those with age 50-59 had a mammogram before than other women.

This similarity to the study conducted in Canada (Bancej , . et al 2005) which stated women over the age of 55 years were less likely to initiate mammography.

Study conducted by (Soskoln V , . 2006) among Muslim Arab women in Israel, which reported that age was strongly associated with mammography screening for correct use among the 50–55 and 56–61 age groups.

Our study results inconsistent with these studies, (Sadikoglu , . et al 2010) among Turkish women state, women 45 years of age and older were more likely to be users. In USA, mammography use was most prevalent among women 50-59 years of age, and then decreased inversely with age (CDC, 1990).

In Lebanon study conducted by (Adib , . et al 2009), disagree with our result, since reported, utilization was less so among women aged 40–59 years than among younger or older ones.

Address variable not affected the behavior of the women to practice BSE, and attendance toward mammogram screening, since all women in Bethlehem district with different geographic have the same social conditions and the thoughts about health status and breast cancer and screening the same in the cities, villages, even in the refugee camps.

Compared with (Bancej , . et al 2005) study which reported that Canadian women residing in urban areas were more likely to initiate use mammogram.

Marital status of the participants, occupation, household income of the women's families, as a variables has no significant effect on the practicing of mammogram screening and BSE among those women participate in the survey.

In the contrary (Sadikoglu , . et al 2010) reported Married women used mammography more than single women, a study from Australia showed that women who were widowed, separated, or divorced were more likely than those in a married or divorced relationship to have never had a mammogram (Achat, 2005).

Inconsistent with this results, a study conducted by (Abu Samah & Ahmadian 2012) among Iranian women reported that higher level of income was not an independent predictor for mammography participation, whereas a middle level of income was associated with mammography use.

Christian women more likely to practice BSE and mammogram than Muslims women in Bethlehem, even they live together and have the same social conditions, but related to the religion as a variable Christian women may have more advocacy and support to take their right about the health and know about their bodies, whereas Muslim women still feel with shyness to speak about and abnormalities or changes in their bodies or breasts due to social constrains which available in the Muslims society more than in the Christian society.

Educational level and years of study have effect on the practicing BSE, whereas it's not affecting on uses mammogram screening, result showed women with secondary school, dipoma degree have more possibility to practice BSE more than other women.

This results consistent with (Odeh K , MHPM, 2014), among Palestinian women, when concluded, there was a statistically significant relationship between practicing BSE and educational level.

This findings is similar to the study conducted in Canada (Bancej, et al 2005) which stated women with higher education were less likely to initiate mammography.

Several studies inconsistent with this results and revealed that education level is an important socio-demographic variable linked with mammography use (Straughan and Seow, 2000; Juon et al. , 2002; Finney et al. , 2003) which proves the study result.

Household size, associated with practicing BSE, but not with mammogram screening, since the families with size 5-9 persons have more probability to practice BSE than those have more or less person.

Results revealed the relation between having the women health insurance and practicing BSE and getting mammogram, since those without health insurance less likely to practice BSE and doing mammogram, that’s related to the fear of cost of treatment or medical services, and believes of the women if there is abnormality in their breasts and they need more investigations, so more cost needed in the case of not availability of health insurance, so they thought never know about any disease is better.

This result is similar to one study conducted among Iranian women (Noroozi , . et al 2011), reported women with health insurance were somewhat more likely to have mammography.

6.5: Participants beliefs about utilization of mammogram screening:

Women knowledge and attitude toward mammogram, depend on some behavior and believes of the women about the necessity of this exam, method to apply this procedure, and their outlook toward support and advocacy of the society.

Current study represented the women beliefs toward importance of mammogram, since they thoughts it is not important to do mammogram without any complication, due to lack of awareness about this exam as a tool of early detection not treatment, and they must undergo routinely yearly for those above 40 years, and no need to become sick or have any abnormality.

Thoughts its painful to do this procedure and not comfortable, and being diagnosed and detected with breast cancer, these thoughts formed anxiety and barriers and noncompliant them to undergo screening, health education and health promotion throughout the primary health care system to increase the use of mammography are strongly needed.

This finding is similar to the previous studies which reported women were afraid of having a mammogram (Sadikoglu et al. , 2010), and fear surrounding the detection of cancer (Baron-Epel et al. , 2004; Azaiza and Cohen 2010; Wu et al. , 2006), and this also cited by Arabic women in Jordan (Petro-Nustas, 2001).

Consistent with the results of (Beaulieu et al. ,1996) study, which reported that women who expressed fear of mammography (I fear the x-rays, I fear the results) and time constraints (I do not have the time, I cannot miss work), were more likely than the others to be noncompliant, similar to other study reported fear of radiation was significant among women who never had mammography (Ahmadian & Emby , 2012).

A study conducted by (Kim & Kim, 2008) among Korean women, reported health motivation and breast cancer fear, worrying about bad news, hyperactive response and misunderstanding of breast cancer, were predictive variables of perceived barriers to mammography.

Another study conducted among Iraqi women by (Saadi, Bond, & Percac. 2012) consistent with our results since reported, women defined illness as symptomatic not preventive care ‘‘If I am not sick, why would I go to the doctor?’’ fear of pain during mammography and fear associated with receiving a cancer diagnosis.

Yet several other reports showed that fear of diagnosis, tests as unnecessary, lack of cooperation, and social and cultural beliefs, lack of knowledge represented as prevent women to get mammogram (Kissal et al. , 2007), another study in Iran (Lamyian ,. 2007) reported lack of symptoms was a main reason for not having the mammogram, and women considered fear as an important and critical factor in screening behavior.

Current study revealed that women believed in fatalism, in God, which suggests that people don't have control over their health and no need for any of early detection procedures, fatalism in Islam and social believes still limit the women thinking and may have discourage them from receiving screening.

A study (Ma et al. , 2012; Powe) consistent with identified cancer fatalism as a barrier to cancer screening behaviors, other study showed that religious beliefs discouraged women from having screening (Parsa & Zulkefli, 2006), whereas other studies reported breast cancer fatalism was not associated with perceived barriers to mammography (Kim & Kim , . 2008).

6.6: Barriers of Breast Cancer Screening:

As for the barriers, that noncompliant women to get mammogram in Bethlehem district, women reported the health system barriers formed the most with mean (3.27), next with medical provider barriers (2.84), and personal barriers(2.74).

That's mean we need to form health system care more about this issue, and establish national program advocate the women and support them to access to this service.

Also the necessary for construct the trust and communication between the women and health provider, since the communication between them may encourage the women and facilitate getting mammogram for them.

So, women thought available of mammogram unit in their town will help and encourage them to do mammogram, which demand from the policy maker to establish mammogram unit in the villages and rural areas which far from the cities, or mobile mammogram will help in solving this problem.

Women thought they need more advocacy, workshops, encourage the media to speak about the important and necessary to do mammogram.

Women reported their staying and waiting to get mammogram in the public health centers, prevent them to get mammogram, so we need to make the policy to arrange getting

this procedure and decrease the load of work , also that's the same according to the referral actions, which must explained and facilitated for the women to get the exam, but also this thoughts were not right, because when asked about the appointment in the government clinics which provide mammogram screening, there is no long time of waiting to get screening, which means women in Bethlehem district did not know more about the getting mammogram, where its provide, and how provide it, and what needed to get that, which demand those responsible on health education to increase the awareness about this issue.

Women stated that miscommunication between them and the physician avoid them, so we must make trust with the medical team.

Women reported, the cost of mammogram prevent them to access to mammogram, that's related to the cost in the private sector, even in public sector since 48% didn't know that mammogram is free, which mean more media to encourage women and told them this service is free in the public sector, also related to the private sector we must make contact to facilitate their getting and make medical projects and financial support for the women, to help them.

This consistent with other study (Vanoni et al, . 1997) among Turkish, (Wu & Hergert , 2006), Chinese women reported (The cost of mammography may be a problem), other studies reported women without insurance are significantly less likely to have had mammography (Asadzadeh & Verbeek 2011).

In Turkey, Jordan, Israel, and Iran, cost and lack of health insurance were found to be barriers to participation in breast cancer screening (Petro-Nustas, 2001; Alkhasawneh, 2007; Lamyian et al. , 2007; Cam and Gvmvs, 2009; Azaiza et al. , 2010).

Those women never had mammogram, mentioned the medical staff and health policy must take responsibility and increase the awareness of the women also encourage and ask them to utilize with service, since they reported if their doctor or any from the medical staff ask them to do mammogram, or encourage them, they will not refuse that, which mean needed for national program for all health sector to ask all women above the age 40 years to mammogram yearly as procedure of early detection for breast cancer.

This figure similar to Canadian survey yielded results which showed that physicians had great influence on mammography screening of patients (Beaulieu & Hebert. 1996).

In the contrary, other studies reported the barriers for the women to get mammogram in Jordan, Iran, were the health care providers were found to have inadequate knowledge of breast cancer screening, (Petro-Nustas, 2001; Lamyian et al. , 2007).

A study conducted by (Sadikoglu et al,.2010) supported the current result when reported, Turkish women who never had a mammogram, identified the reason by not suggested by the doctor.

A study by (Ahmadian et al. , 2011) identified barriers that may have an impact on women's adherence to mammography in Iran, embarrassment, lack of doctor or health care provider's advice regarding mammography.

Patient-provider relation, is important to advocate and encourage women for screening, this will be through qualified and professional staff executive mammogram, women reported " we can't trust with the team provide mammogram", "people who perform mammogram don't respect patients", that's order the policy maker to make clear instructions for health provider about how to respect the privacy and confidently of the women.

Personal barriers among participants play essentially role for avoiding women to get mammogram, as they reported (it's not important to do mammogram without any complication) that's related to the knowledge of the women about importance of doing mammogram in early detection, since result showed low level of knowledge which demand more efforts to increase the awareness of those women.

Previous study consistent our result, when stated, an absence of symptoms mean there was no need for a breast examination, fear from x-rays and test results were major barriers against mammography (Adib & Hanna, 2009).

Participant declared (they don't have the knowledge about necessary to do mammogram yearly for those above 40 years).

These studies from other countries agree with our study's results when the following researchers represented the inadequate knowledge of breast cancer and screening activities, reported as a barriers to undergone mammogram for women in Saudi Arabia, Egypt, Jordan, Israel, Yemen, Sudan, Iran, Palestine, UAE, (Amin et al. , 2009; Ahmed, 2010; Azaiza & Cohen, 2010; Bener et al. , 2001, 2000; Soskolne et al. , 2007).

Women stated no support from the family neither society encourage them to get screening, and this being barrier when they stated (no one from the family help me to get mammogram) .

This consistent with literature studies, which defined common barriers to such as: fear of diagnosis, tests as unnecessary, and social and cultural beliefs, lack of knowledge (Lages et al., 2012).

Fear from bad results, and being diagnosed with breast cancer, and painful of the procedure, prevent women to assess to screening, when said (I'm afraid from bad result when doing mammogram, I'm afraid from the procedure), that's mean women didn't have the knowledge about preventive and curative of screening, also they must know the principle of the procedure and it is not painful, the physician or medical staff who order to do the exam may play essential role to explain that.

The findings of this previous studies consistent with current results, highlighted barriers to screening behavior including fear of results, fear of treatment and fear of the test itself. These findings were in Iran (Abu Samah & Ahmadian, 2012), Malaysia (Al-Naggar & Assabri. 2011),United Arab Emirates (Bener et al. , 2002) and Jordan (Petro-Nustas, 2002).

This consistent with other study (Vanoni et al, . 1997) among Turkish women which stated (Mammography-induced pain and discomfort, the effects of the radiation received during mammogram, have been reported as a barrier) and several findings of many studies showed that women were fearful about cancer and death which make them reluctant to participate in breast cancer screening (Benner et al. , 2009).

Previous studies highlighted barriers to screening behavior including fear of results, fear of treatment and fear of the test itself, these studies include countries such as, Iran (Abu Samah & Ahmadian, 2012), Malaysia (Al-Naggar & Assabri. 2011),United Arab Emirates (Bener et al. , 2002) and Jordan (Petro-Nustas, 2002).

The current result consistent with other study conducted among Iraqi women by (Saadi et al, . 2012), identified psychosocial barriers prevent women to get mammogram, which were fear of pain during mammography and fear associated with receiving a cancer diagnosis.

Other studies refuse this reported and results, and reported fear of screening was concern but not strong enough to act as barrier, in Israel (Soskolne et al. , 2007, Azaiza & Cohen, 2008), in Iran (Lamyian et al. , 2007).

Results reported women didn't know the places that provide mammogram screening in Bethlehem district, (it's too hard to figure where to go for mammogram), also they stated (I don't have time to do mammogram), that depend on the number and distribution of the units provide mammogram, which were in the center of the city, and those in the rural areas didn't know about, also employers women need to leave their work to participate in the exam, which demand the ministry of health to establish other unit in the rural areas to assist in providing mammogram, also encourage those have work to take leave and support them.

This figure similar to other study reported, lack of time and costs also were the most frequently reported reasons for Chinese women from Hong Kong reluctance to participate in clinical breast examinations or mammography screenings (Wu & Hergert, 2006), also (Lages et al. , 202) indicated unavailability of mammography services, and lack of time for patients from their jobs are some of the barriers for recommending mammography and screening.

Other studies in Asia conducted by (Bener et al. , 2002; Petro-Nustas and Lamyian et al. , 2007), consisted with current results when reported forgetfulness and lack of time are reported as two of the most common barriers for BC screening among women in Asia.

Lack of females provide mammogram, represented as personal barrier for the women to get mammogram due to shyness to show their breasts for the foreigner even doctors or for treatment, also it's not easy to allow other to touch their bodies due to socially believes, which need to employ female radiographer to provide mammogram service and avoid barriers.

These findings agree with study results (Vanoni et al,. 1997), when reported, (Embarrassment during the mammography or CBE procedures has been reported as an issue for some women, particularly those having a mammogram for the first time and those having a male doctor).

previous experiences, stated about modesty issues, since Korean, Chinese, and Iranian women felt a shamed and humiliated when expose their breasts in the screening procedure, especially if its carried by male physician, (Kim & Kim .2008; Yu & Wu 2005; Lamyian et al ., 2007).

Iraqi women consistent with current study, since they prefered female doctors due to feeling of a bit of an embarrassment as Muslims,(Saadi et al, . 2012).

Arab women in Israel described breast cancer as something shameful that should remain a secret (Cohen et al. , 2005), also they were less comfortable with a male examiner than with a female

In Saudi Arabia, Qatar, UAE, Jordan, Egypt, Israel, Iran (Amin et al. , 2009; Bener et al. , 2009; Bener et al. , 2001; Cohen& Azaiza, 2005; Petro-Nustas, 2001), previous studies there consistent with lack of female physicians was found to be an important barrier to breast cancer screening since women felt with embarrassment.

Otherwise other studies in Turkey, Israel and Iran, inconsistent with these results and reported that the embarrassment due to screening is not enough to act as a barrier, (Cam & Gvmvs, 2009), (Azaiza & Cohen, 2008).

6.7: Conclusion:

The results of current study approved that the women aged 40 years and more in Bethlehem district, had low knowledge about BSE and mammogram screening, that's related to interesting and attention about breast cancer and examinations of early detection, the majority of the women didn't had the attitude toward reading about screening and preventive examination of breast cancer mainly BSE and mammogram.

The participants of the survey revealed low practicing rate of mammogram screening as exam of early detection for breast cancer for women in Bethlehem, our results revealed high percent of women they didn't had mammogram in last two years as including criteria for the sample, that's associated with low level of knowledge among those women about the importance of the screening.

Women declared there were some beliefs that prevent them to access to mammogram screening, these thoughts view low level of support and advocate of the women and families also health provider and society toward this issue.

Among these beliefs, women believed it's not important to do mammogram if the women not sick and has any complaining, also they didn't have the knowledge about the needed to do mammogram yearly or those above 40 years.

Fear from being diagnosed with breast cancer as a result of mammogram, and fear from painful of the procedure formed beliefs avoid the women.

Fatalism women thoughts it's no need to any of early detection examinations, since they believed in God, and no one can avoid anything to happen because of our Islamic society thoughts.

According to the barriers that affect the utilization of mammogram screening, as the results of our survey shown, its related more to the health system, then health provider barriers, and also personal barriers take place to avoid the women.

Women reported these barriers related to lack of mammogram units in their town, lack of support and advocacy projects, long of waiting time to practice this exam, also the referral actions especially to get the mammogram in the public sector, the cost, lack of recommendation and ordering of the doctors to do the exam, lack of family and health provider, society support of the women and encourage them to do mammogram.

Finally, personal barriers which related to women believed it's not important to do mammogram if there isn't any complications, loss of knowledge about needed to do the exam, fear from the result and the procedure.

For these barriers, interventions is needed to increase the awareness of the women and attitude toward the screening, I suggested about that next.

6.8: Limitations:

The following limitations should be considered when interpreting the results of the present study.

There is lack of studies that pay attention to women's knowledge, attitude and practice toward breast cancer and screening tests in Palestine, and define the factors affects this attendance, just some studies carried for the Jewish people also in Jerusalem.

In West Bank there are some attempts to increase the awareness about the breast cancer and the important of early detection in reducing the mortality of breast cancer, nevertheless, to our knowledge, this study is the first reported screening for breast cancer behavior in Bethlehem, in the West Bank and revealed the personal, health provider, and health system barriers.

The limitation of the present study is that early breast screening behaviors might not have been discussed extensively since the women were more eager to talk about their current

problems such as their chronic diseases, and It's not easy for the women in our society to talk about her body even for the research purpose, and still they feel embarrassment due to social constrains and the level of knowledge and awareness about preventive health measures.

This approach made us look for a way to get rid of shyness in the ladies talking through group of female radiologist help me in collecting data when they will met the participants, which mean more effort to explain the purpose of my study and the important of accuracy, and this will need time through some meetings with them, also need some money.

The other difficulties I faced with the serious response of the women with my question, and the possibility to refuse the participant, this need more effort from the interviewers to convinces them about our aim.

6.9: Recommendations:

Further researches should attempt to explore the underlying dynamics behind specific barriers to screening evident among Palestinian women.

The best approach for screening is to use multiple interventions directed to women, physicians, the system and, if possible, to the community.

Since The responsibility for the development and implementation of a breast cancer detection program rests with the Ministry of Health or other relevant organization in Palestine, they must develop the policy of national screening program that includes planning, developing and evaluating breast cancer detection programs, including policy formulation and the identification of priorities, also management process should include outreach and education with the general population, training for medical and technical staff.

Governments are urged to address the health inequalities that result from these obstacles especially for those in the rural areas in Bethlehem district and promote equity, solidarity and fairness through construct portable mammogram unit, which reach all women, and establish massive educational program on breast cancer using multi-media tools and build strategies for the mass media role to advocate and social support.

These campaigns should included street signs, billboards and pink ribbons, television and radio advertisements and television talk shows, also introduce the importance of doing this exam, and explain its free of charge in the public sector via massages to mobile telephones.

Health care providers, breast cancer advocators should find actual ways for communication with women, explain to women the importance of breast cancer screening, to facilitate and encourage women to apply and attend to the screening, for that helping in early diagnosis of breast cancer, this will be through overcome psychological barriers such as beliefs about pain, fear, embarrassment, and modesty of women through public awareness campaigns.

Doctors, medical staff, should educate the women about the BSE, and how they can practice it, increase the awareness of the women toward doing mammogram screening even there is no complaining or other indication to do the exam, and they should apply the recommendation of ACS, through ordering to mammogram annually for those women above 40 years old as early detection procedure.

Health care providers should also be involved in discussion of the issue and in developing programs for the management of the disease.

Social support network, including the employers, colleagues in the workplace, family, and friends, is being improved through appropriate health education campaign, workshops, discussion of the issue freely, to overcome the beliefs of shyness and embarrassment, then it is likely that more positive attitude toward preventive health behavior and screening.

I hope this study will support everyone involved in the battle against breast cancer.

References:

Abu Samah, A. , & Ahmadian, M. (2012) . Socio-demographic correlates of participation in mammography: a survey among women aged between 35-69 in Tehran, Iran. *Asian Pacific Journal of Cancer Prevention, 13,* 2717-2720.

Adib, S. , Sabbah, M. , Hlais, S. , & Hanna, P. (2009) . Research in action: mammography utilization following breast cancer awareness campaigns in Lebanon 2002–05. *Eastern Mediterranean Health Journal, 15*(1) , 6-18.

Ahmad, N. , Fort, J. , Malin, A. , & Hargrgeaves, M. (2009) . Barriers to mammography screening in a managed care population. *Public Administration & Management, 13*(3) , 7-39.

Ahmadian, M. , & Abu Samah, A. (2010) . Instrument Development for Understanding Factors Influencing Mammography Compliance among Iranian Women in Metropolitan Tehran, Iran. *Asian Social Science, 6*(10) , 88-96.

Ahmadian, M. , & Samah, A. A. (2012) . A literature review of factors influencing breast cancer screening in Asian countries. *Life Science Journal, 9*(2) , 585-594.

Ahmadian, M. , Samah, A. A. , Redzuan, M. R. , & Emby, Z. (2011) . Barriers to mammography among women attending gynecologic outpatient clinics in Tehran, Iran. *Scientific Research and Essays, 6*(27) , 5803-11.

Ahmadian, M. , Samah, A. A. , Redzuan, M. R. , & Emby, Z. (2012) . Predictors of Mammography Screening among Iranian Women Attending Outpatient Clinics in Tehran, Iran. *Asian Pacific Journal of Cancer Prevention, 13,* 969-974.

Al-Dubai, S. A. R. , Ganasegeran, K. , Alabsi, A. M. , Manaf, M. R. A. , Ijaz, S. , & Kassim, S. (2012) . Exploration of barriers to breast-self examination among urban women in Shah Alam, Malaysia: a cross sectional study. *Asian Pacific Journal of Cancer Prevention, 13*(4) , 1627-32.

Al-Naggar, R. A. , Al-Naggar, D. H. , Bobryshev, Y. V. , Chen, R. , & Assabri, A. (2011) . Practice and barriers toward breast self-examination among young Malaysian women. *Asian Pacific Journal of Cancer Prevention, 12*(5) , 1173-1178.

Al-Naggar, R. A. , & Bobryshev, Y. V. (2012) . Practice and barriers of mammography among Malaysian women in the general population. *Asian Pacific Journal of Cancer Prevention, 13*, 3595-600.

Al-Qattan, M. , Al Saleh, K. A. , Al-Musallam, S. , & Masoud, G. (2008) . Knowledge and factors affecting breast self examination among Kuwaiti women. *Kuwait Medical Journal, 40*(2) , 103-110.

Amin, T. T. , Al Mulhim, A. R. , & Al Meqihwi, A. (2009) . Breast cancer knowledge, risk factors and screening among adult Saudi women in a primary health care setting. *Asian Pacific Journal of Cancer Prevention, 10*(1) , 133-138.

Asadzadeh, V. F. , Broeders, M. J. , Kiemeney, L. A. , & Verbeek, A. L. (2011) . Opportunity for breast cancer screening in limited resource countries: a literature review and implications for Iran. *Asian Pacific Journal of Cancer Prevention, 12*(10) , 2467-75.

Azaiza, F. , Cohen, M. , Awad, M. , & Daoud, F. (2010) . Factors associated with low screening for breast cancer in the Palestinian authority. *Cancer, 116*(19) , 4646-4655.

Bancej, C. M. , Maxwell, C. J. , Onysko, J. , & Eliasziw, M. (2005) . Mammography utilization in Canadian women aged 50 to 69: identification of factors that predict initiation and adherence. *Canadian journal of public health. Revue canadienne de sante publique, 96*(5) , 364-368.

Baron-Epel, O. , Friedman, N. , & Lernau, O. (2006) . Reducing disparities in mammography-use in a multicultural population in israel. *International Journal for Equity in Health, 8*(19) , doi: 10. 1186/1475-9276-8-19.

Beaulieu, M. D. , Beland, F. , Roy, D. , Falardeau, M. , & Hebert, G. (1996) . Factors determining compliance with screening mammography. *CMAJ: Canadian Medical Association Journal*, *154*(9) , 1335-1343.

Bener, A. , El Ayoubi, H. R. , Moore, M. A. , Basha, B. , Joseph, S. , & Chouchane, L. (2009) . Do we need to maximise the breast cancer screening awareness? Experience with an endogamous society with high fertility. *Asian Pacific Journal of Cancer Prevention*, *10*(4) , 599-604.

Bloom, J. R. , Grazier, K. , Hodge, F. , & Hayes, W. A. (1991) . Factors affecting the use of screening mammography among African American women. *Cancer Epidemiology Biomarkers & Prevention*, *1*(1) , 75-82.

Çam, O. , & Gümüs, A. B. (2009) . Breast cancer screening behavior in Turkish women: Relationships with health beliefs and self-esteem, body perception and hopelessness. *Asian Pacific Journal of Cancer Prevention*, *10*(1) , 49-56.

Donnelly, T. T. , Al Khater, A. , Al-Bader, S. , Al Kuwari, M. , Al-Meer, N. , Malik, M. , Singh, R. , & Christie-de Jong, F. (2013) . Arab women's breast cancer screening practices: A literature review. *Asian Pacific Journal of Cancer Prevention*, *14*(8) , 4519-4528.

El Hajj, M. S. , & Hamid, Y. (2010) . Breast cancer health promotion in Qatar: a survey of community pharmacists' interests and needs. *International journal of clinical pharmacy*, *35*(3) , 376-385.

Feldstein, A. C. , Perrin, N. , Rosales, A. G. , Schneider, J. , Rix, M. M. , & Glasgow, R. E. (2011) . Patient barriers to mammography Identified during a reminder program. *Journal of Women's Health*, *20*(3) , 421-428.

Khokher, S. , Qureshi, W. , Mahmood, S. , Saleem, A. , & Mahmud, S. (2011) . Knowledge, Attitude and Preventive Practices of women for breast cancer in the Educational Institutions of Lahore, Pakistan. *Asian Pacific Journal of Cancer Prevention*, *12*, 2419-2424.

Kim, J. H. , & Kim, O. (2008) . Predictors of perceived barriers to mammography in Korean women. *Asian Nursing Research*, *2*(2) , 74-81.

Kissal, A. , & Beşer, A. (2011) . Knowledge, facilitators and perceived barriers for early detection of breast cancer among elderly Turkish women. *Asian Pac J Cancer Prev*, *12*(4) , 975-984.

Lages, R. B. , Oliveira, G. D. P. , Simeão Filho, V. M. , Nogueira, F. M. , Teles, J. B. M. , & Vieira, S. C. (2012) . Inequalities associated with lack of mammography in Teresina-Piauí-Brazil, 2010-2011. *Revista Brasileira de Epidemiologia*, *15*(4) , 737-747.

Lamyian, M. , Hydarnia, A. , Ahmadi, F. , Faghihzadeh, S. , & Aguilar-Vafaie, M. E. (2007) . Barriers to and factors facilitating breast cancer screening among Iranian women: a qualitative study. *Eastern Mediterranean Health Journal*, *13*(5) , 1160-1169.

Ma, G. X. , Gao, W. , Lee, S. , Wang, M. , Tan, Y. , & Shive, S. E. (2012) . Health seeking behavioral analysis associated with breast cancer screening among Asian American women. *International journal of women's health*, *4*, 235-243.

Maxwell, C. J. , Kozak, J. F. , Desjardins-Denault, S. D. , & Parboosingh, J. (1997) . Factors important in promoting mammography screening among Canadian women. *Canadian journal of public health= Revue canadienne de sante publique*, *88*(5) , 346-350.

Minstry of Health. (2012) . *Annual Health Reprot*. Palestine: Palestinian Health Information Center.

Noroozi, A. , & Tahmasebi, R. (2011) . Factors influencing breast cancer screening behavior among Iranian women. *Asian Pacific Journal of Cancer Prevention*, *12*, 1239-1244.

Odeh K , MHPM, (2014) . Knowledge, Attitude, and Practices toward Breast Cancer & Screening tests among Female Patients MOH Clinics in Ramallah, Jenin and Hebron Districts: A Cross-sectional study.

Parsa, P. , Kandiah, M. , Abdul Rahman, H. , & Zulkefli, N. M. (2006) . Barriers for breast cancer screening among Asian women: a mini literature review. *Asian Pacific journal of cancer prevention*, *7*(4) , 509-514.

Petro-Nustus, W. , & Mikhail, B. I. (2002) . Factors Associated with Breast Self-Examination Among Jordanian Women. *Public Health Nursing*, *19*(4) , 263-271.

Saadi, A. , Bond, B. , & Percac-Lima, S. (2012) . Perspectives on Preventive Health Care and Barriers to Breast Cancer Screening Among Iraqi Women Refugees. *Journal of Immigrant and Minority Health*, *14*(4) , 633-639.

Sadikoglu, G. , Ozcakir, A. , Dogan, F. , Gokgoz, S. , & Bilgel, N. (2010) . Mammography utilization among Turkish women. *Asian Pacific Journal of Cancer Prevention*, *11*, 377-381.

Sheeran, P. Abraham, C. (1996). The health belief model. In *Predicting Health Behavior* (Conner, M. & Norman, P., eds). Open University Press, Buckingham, pp. 23–61.

Soskolne, V. , Marie, S. , & Manor, O. (2007) . Beliefs, recommendations and intentions are important explanatory factors of mammography screening behavior among Muslim Arab women in Israel. *Health education research*, *22*(5) , 665-676.

Tejeda, S. , Thompson, B. , Coronado, G. D. , & Martin, D. P. (2009) . Barriers and facilitators related to mammography use among lower educated Mexican women in the USA. *Social science & medicine*, *68*(5) , 832-839.

Yan, Y. Y. (2009) . Breast cancer: Knowledge and perceptions of Chinese women in Hong Kong. *Global journal of health science*, *1*(2) , 97-105. Retrieved from http://www. ccsenet. org/journal/index. php/gjhs/article/view/1506.

Yu, M. Y. , & Wu, T. Y. (2005) . Factors influencing mammography screening of Chinese American women. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, *34*(3) , 386-394.

Yücel, A. , DEĞİRMENCİ, B. , ACAR, M. , ELLİDOKUZ, H. , ALBAYRAK, R. , & HAKTANIR, A. (2005) . Knowledge about breast cancer and mammography in breast cancer screening among women awaiting mammography. *Turkish Journal of Medical Sciences*, *35*(1) , 35-42.

Wu, T. , Chung, S. , Yeh, M. , Chang, S. , Hsieh, H. , & Ha, S. J. (2011) . Understanding breast cancer screening practices in taiwan: a country with universal health care. *Asian Pacific Journal of Cancer Prevention*, *13*(9) , 4289-4294.

Wu, T. Y. , West, B. , Chen, Y. W. , & Hergert, C. (2006) . Health beliefs and practices related to breast cancer screening in Filipino, Chinese and Asian-Indian women. *Cancer Detection and Prevention*, *30*(1) , 58-66.

Annex A: A letter from al-quds university to PHIC.

بسم الله الرحمن الرحيم

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

التاريخ: 2013/9/29
الرقم: ك ص ع/[illegible]/2013

حضرة السيد رامي الديس المحترم
مدير قسم خدمات الجمهور/ الجهاز الفلسطيني للإحصاء المركزي

الموضوع: مساعدة الطالب عصام عطية الحسنات

تحية طيبة و بعد،

يقوم الطالب عصام عطية الحسنات بإجراء بحث كمتطلب لرسالة الماجستير في برنامج ماجستير السياسات والإدارة الصحية/ كلية الصحة العامة/ جامعة القدس بعنوان:

"Factors affecting utilization of Mammogram Screening among Palestinian women in Bethlehem District".

ويتطلب هذا البحث إلى الحصول على عينة من السيدات اللواتي يزيد أعمارهن عن 40 سنة في مدينة بيت لحم، ومخيماتها، وقرى الريف الشرقي والغربي. نرجو من حضرتكم مساعدة الطالب للحصول على هذه القوائم لاستكمال رسالة الماجستير، علماً بان هذه الدراسة ستكون لأغراض البحث العلمي فقط.

و تقبلوا بقبول فائق الاحترام،،

عميد كلية الصحة العامة

نسخة: الملف

Annex B: Questionnaire in Arabic language

القسم الأول: المعلومات الديموغرافية :

1. العمر : . . . . . عاما

2. نوع / مكان السكن : 1) مدينة 2) قرية 3) مخيم

3. الحالة الاجتماعية : 1) عزباء 2) متزوجة 3) أرملة 4) مطلقة/ منفصلة

4. الديانة: 1) الإسلام 2) المسيحية

5. التحصيل العلمي : 1) أمية 2) الابتدائية 3) الإعدادية 4) الثانوية
5) دبلوم 6) بكالوريوس 7) ماجستير فأعلى

6. العمل / الوظيفة 1) القطاع العام 2) القطاع الخاص 3) ربة منزل 4) بلا عمل 5) غيرذلك حددي. . . . .

7. هل تعرفين وزنك؟ 1) نعم 2) لا 3) تقريبا

8. كم تبلغين من الوزن بالكغم :
1) 40 إلى 49كغم 2) 50 إلى 59كغم 3) 60 إلى 69 كغم 4) 70 إلى 79كغم 5) 80كغم فأكثر ؟

9. هل تدخنين أي نوع من السجائر أو التبغ : 1) نعم 2) لا ؟

17. هل تمارسين الرياضة بشكل منتظم 1) نعم 2) لا

18. إذا كان الجواب نعم . كم مرة تمارسين الرياضة أسبوعيا ؟
1) يوميا 2) مرة بالأسبوع 3) مرتين بالأسبوع 4) أكثر من ذلك

19. دخل أسرتك الشهري بالشيقل :
1) ما دون 1500 شيكل 2) 1500 - 2499 شيكل 3) 2500 - 3499 شيكل
4) 3500 - 4499 شيكل 5) 4500 - 5499 شيكل 6) 5500 شيكل فأعلى

20. عدد أفراد أسرتك . . . . . .

22. عدد حالات الولادة السابقة (جميع الولادات ، الحية وغيرها) . . . . . .

23. هل يوجد للعائلة تامين صحي 1) نعم 2) لا ؟

24. إذا كان للعائلة تامين صحي . فما نوع التامين أو الجهة المؤمن لديها
1) تامين حكومي 2) تامين قطاع خاص 3) تامين وكالة 4) غير ذلك/ حددي. . . . . ؟

25. كم تبلغ المسافة بالكيلو متر ، بين مكان سكنك وأقرب مركز صحي يقدم خدمة التصوير الشعاعي للثدي ؟. . . . . .

26 . هل تتوفر المواصلات ووسائل النقل ،بين مكان سكنك والمركز الصحي الذي يقدم خدمة التصوير الطبي للثدي
1) نعم 2) لا 3) بشكل متقطع

27. هل يغطي تامين العائلة تكاليف عمل التصوير الشعاعي للثدي (الماموغرام)
1) بنسبة كبيرة 2) بنسبة معتدلة 3) بنسبة قليلة 4) لايغطي الفحص 5) لا اعلم ؟

28 . هل تعلمين أن تصوير الثدي يعمل في مستشفيات وزارة الصحة (الحكومة) مجانا
1) نعم 2) لا ؟

- **القسم الثاني : الرجاءأم،جابة عن الأسئلة الآتية ، حيث يهدف هذا القسم إلى قياس مدى المعرفة والوعي عند السيدات حول الفحص الذاتي للثدي ، و التصوير الشعاعي للثدي وإدراك أهميتهما في إطار المساعدة في عملية التشخيص :**

34. هل تقومين بزيارة الطبيب وعمل الفحص الطبي الروتيني (العام) باستمرار ؟
1) نعم 2) لا 3) بشكل متقطع
35. إذا كان الجواب نعم. متى يحصل ذلك ؟
1) كل ستة شهور 2) كل سنة 3) دون وقت محدد 4) عندما أشعر بالمرض
36. هل يوجد في العائلة أي تاريخ مرضي للإصابة بسرطان الثدي ؟
1) نعم 2) لا 3) لا اعلم
37. إذا كانت الإجابة على السؤال السابق نعم . كم عدد الأشخاص المصابين في إطار العائلة ؟ . . . . . .
38. ما هي درجة قرابة الأشخاص المصابين بسرطان الثدي؟ **" وجود اكثر من خيار "**
. الشخص الأول: 1) درجة قرابة أولى) أم، أخت،خالة ،عمة
2) درجة قرابة ثانية (بنت عم بنت خالة)
3) درجة قرابة ثالثة (أقرباء في العائلة بصلة الدم) .
الشخص الثاني : 1) درجة قرابة أولى) أم ، أخت،خالة ،عمة)
2) درجة قرابة ثانية (بنت عم بنت خالة)
3) درجة قرابة ثالثة (أقرباء في العائلة بصلة الدم) .
الشخص الثالث : 1) درجة قرابة أولى) أم ، أخت،خالة ،عمة)
2) درجة قرابة ثانية (بنت عم بنت خالة)
3) درجة قرابة ثالثة (أقرباء في العائلة بصلة الدم) .
39. متى حصلت الإصابة بسرطان الثدي في إطار العائلة ؟. . . . . .
40. ما مستوى معرفتك عن الفحص الذاتي للثدي ؟
1) كبيرة جدا. 2) كبيرة 3) متوسطة 4) ضعيفة 5) لا فكرة لدي إطلاقا
41. من أين تلقيت المعلومة والمعرفة عن الفحص الذاتي للثدي ؟
1) التلفاز 2) الطاقم الطبي 3) الراديو 4) الكتب والمجلات 5) غير ذلك
42. هل سبق أن قمت بإجراء الفحص الذاتي للثدي؟
1) نعم 2) لا 3) لا اذكر
43. إذا كان الجواب نعم . كم مرة تقومين بذلك ؟
1) مرة في الأسبوع 2) مرة بالشهر 3) مرة في السنة
44. هل سبق وان تحسست أو شعرت بأي اختلال أو كتل في أثناء الفحص الذاتي لأي من ثدييك؟
1) نعم 2) لا 3) لا اذكر
45. إذا كان الجواب نعم . متى حصل ذلك ؟
1) هذا العام 2) قبل عام 3) قبل عامين 4) قبل ثلاثة أعوام 5) قبل أكثر من ثلاثة أعوام.
46 . هل سبق وان عملت أي من فحوصات الكشف المبكر عن السرطان :
1) مسحة عنق الرحم 2) الفحص الذاتي للثدي 3 الماموغرام (التصوير الشعاعي للثدي) 4) لا شيء مما ذكر
47. هل بإمكانك أن تحددي متى كان هذا بالسنوات ؟ . . . . . .
48 . هل سمعت من قبل عن فحص الماموغرام ؟ 1) نعم 2) لا 3) لا أتذكر
49. هل قرأت من قبل عن فحص الماموغرام ؟ 1) نعم 2) لا 3) لا أتذكر

50. كيف تقيمين مستوى معرفتك عن التصوير الشعاعي للثدي(الماموغرام) ؟

1) كبيرة جدا 2) كبيرة 3) متوسطة 4) ضعيفة 5) لا أعرف عنه إطلاقا

51. من أين تلقيت المعلومة والمعرفة عن التصوير الشعاعي للثدي ؟

1) التلفاز /الراديو 2) الطاقم الطبي 3) مؤسسات علاج السرطان 4) الكتب والمجلات والجرائد

5) المؤسسات النسوية 6) غير ذلك . . . . . 7) لم أتلقى المعلومة

52. هل سبق وان قمت بعمل التصوير الشعاعي للثدي؟

1) نعم 2) لا

53. إذا كان الجواب نعم الرجاء تحديد من قام بنصحك وتشجيعك لعمل الفحص ؟

1) الطبيب 2) الممرضة 3) العائلة 4) الأصدقاء 5) وحدي

54. متى كانت آخر مرة قمت بعمل الماموغرام ؟

1) خلال السنة الماضية 2) خلال السنتين الماضيتين 3) قبل(3-5) سنوات

4) قبل أكثر من (5) سنوات 5) لا أتذكر الوقت.

55. أين عملت آخر فحص تصوير شعاعي للثدي ؟

1) مركز صحي حكومي 2) مركز طبي خاص 3) مركز أشعة متخصص 4) لا أتذكر

56. هل تعلمين أن القانون الصحي ينص " أن كل سيدة يتجاوز عمرها (40) عاما يتوجب عليها عمل الماموغرام بشكل سنوي "

1) أعلم 2) لا أعلم 3) لا اهتم بهذا

القسم الثالث: الرجاء وضع إشارة x في المربع الذي يتوافق مع رأيك والقضايا المطروحة،

إذا لم تجري الفحص الشعاعي للثدي . . . **إلى أي درجة تنطبق العوامل التالية دورا مع عدم إجراؤك للفحص؟**

	هذا القسم يتعلق بالمعيقات التي تتعلق بالسيدات : / الفقرات	اوافق بشدة	اوافق	محايد	معارض	معارض بشدة
57	الإصابة بسرطان الثدي تشعرني بالخجل ، لذا يجب عدم الكشف عنه					
58	نظرة المجتمع للمصابين بالسرطان بشكل عام ، تدفعني ألا أبادر للكشف المبكر عن سرطان الثدي من خلال عمل الماموغرام					
59	أنا أخاف من طبيعة الفحص الشعاعي					
60	لا يوجد لدي الوقت الكافي من اجل عمل الماموغرام					
61	بعد المركز الطبي الذي يقدم خدمة الماموغرام عن مكان سكني يشكل عائقا					
	الفقرات	**اوافق بشدة**	**اوافق**	**محايد**	**معارض**	**معارض بشدة**

63	لا أرغب بالكشف عن أجزاء خاصة من جسمي في هذا الفحص لأنه يتنافى مع الناحية الدينية.					
64	لا أرغب بالكشف عن أجزاء خاصة من جسمي في هذا الفحص لأنه يتنافى مع الناحية العقائدية والتقاليد المجتمعية .					
65	لم يكن لدي أي عوارض وشكوى تتطلب فحص الماموغرام .					
66	إصابة احد أفراد العائلة بسرطان الثدي، تجعلني أخاف من عمل الماموغرام					
67	عدم وجود سيدة ، عاملة صحية مختصة ،هي التي تقوم بعمل فحص الماموغرام يشكل لي عائقا					
68	لا أعتقد بان الفحص الطبي السنوي سوف يعود علي بالفائدة					
69	لا أشعر بان عمل فحص الماموغرام سوف ينقذ حياتي					
70	لا أستطيع عمل الماموغرام لان وقت عملي لا يتناسب مع وقت إجراء الفحص					
71	تدني دخل الأسرة لا يسمح لي بان اعمل الماموغرام					
72	الخوف من أن تكون نتيجة فحص الماموغرام ايجابية ، يمنعني من عمله					
73	لا أرغب بعمل الماموغرام ، لما يسببه إجراء الفحص من آلام					
74	لا أرغب بعمل الماموغرام خوفا من تعرضي للأشعة التي تضر الجسم					
75	أؤمن أن ما يقدره الله لابد أن يحصل لذا لا داعي لعمل الفحوصات ويجب التوكل على الله في المرض والعلاج					
76	أنا متفائلة اتجاه الحياة ويحدوني الأمل دوما ، لذا أشعر بالحاجة للاطمئنان على صحتي دائما					
77	لا احد من العائلة قام بتشجيعي لعمل الماموغرام					
78	لا توجد عندي المعرفة بضرورة عمل الماموغرام بشكل دوري					
79	لا اعلم أين ممكن أن اعمل فحص الماموغرام					
80	لا احد من الذين اعرفهم تحدث بأنه عمل الماموغرام ونجا من سرطان الثدي					
	هذا القسم يتعلق بمعيقات مرتبطة بمقدمي الخدمات الصحية :	**اوافق بشدة**	**اوافق**	**محايد**	**معارض**	**معارض بشدة**
81	لم يشجعني أحد من العاملين في الخدمات الصحية عمل الماموغرام					
82	لم يرشدني المركز الصحي الذي أتردد عليه ،بضرورة عمل الماموغرام					
83	لا أثق بالطاقم الطبي الذي يقدم فحص الماموغرام					
84	عدم تعاطي مقدمي الخدمة الصحية مع نتائج الفحص الخاص بسرية تامة ، يشكل لي أمرا هاما في عمل الفحص أم لا					
85	الطبيب الذي نصحني بعمل الماموغرام ، لم يشرح لي كيفية التصوير ، لذا لم أقوم بعمل التصوير الطبي الشعاعي للثدي					
86	سأقوم بعمل الماموغرام على الفور ، إذا نصحني أحد من مقدمي الخدمة الصحية بعملها					

87	الذي يقوم بعمل الماموغرام لا يعامل السيدات باحترام وخصوصية					
	هذا القسم يتعلق بالمعيقات التي ترتبط بالنظام الصحي المعمول به في البلد :					
88	وجود وحدة تصوير الثدي في البلد ، سيشجعني على عمل الماموغرام					
89	النقص في الحملات الصحية التي تتحدث عن ضرورة وأهمية الماموغرام في تحدي سرطان الثدي تشكل عائقا امامي					
91	طول الانتظار لإجراء الفحص تشكل عائقا أمامي لإجراء الفحص					
92	عدم تكفل الحكومة بكافة التكاليف التي تساعد في الكشف المبكر عن سرطان الثدي تشكل عائقا أمام عمل الفحص					
93	عدم وجود الإعلانات والدعاية وبرامج التوعية الصحية التي تحث على ضرورة عمل فحص الماموغرام تشكل عائقا أمام إجراء الفحص					
94	عدم القدرة على الاتصال أو التواصل مع الطبيب المختص حتى يساعدني على طلب الماموغرام يمنعني من عمل الماموغرام					
95	الإجراءات التحويلية المتبعة لعمل الماموغرام تشكل عائقا لي					

Annex C: Questionnaire in English language.

First Section : Social demographic:

1. Age :……. Years.
2. Address \ location : 1- City 2- Rural area 3- Camp .
3. Marital status: 1- Single 2- Married 3- Widowed 4-Divorced
4. Religion: 1-Islam 2- Christian .
5. Educational level: 1- Illiterate 2- Primary school 3- Preparatory School 4-Secondary school 5- Diploma 6- PA degree 7- Master degree.
6. Job /occupation: 1- Public sector 2- Private sector 3- House wives 4- Unemployed 5- other.
7. Did you know your Weight: 1- Yes 2- No 3- Not Sure.
8. Your Weight is: 1- 40-49kg 2- 50-59kg 3- 60-69 kg
   4- 70-79kg 5- 80 kg and above.
9. Do you smoke any kind of cigarettes or tobacco : 1- Yes 2- No?
10. Do you play sports on a regular basis? 1- Yes 2- No.
11. If " yes " how many times you play sports? 1- daily 2-weekly
    3-twice weekly 4- more than that.
12. Household Income: 1- up to 1500 NIS 2- 1500-2499 NIS 3- 2500-3499NIS
    4- 3500-4499 NIS 5- 4500-5499 NIS 6- 5500 and more.
13. Household size: ……
14. Past delivery …….
15. Is there health insurance for the family 1- Yes 2- No
16. If yes , what is the type of the insurance: 1- Public insurance 2- Private insurance 3- UNRWA insurance 4- other ……
17. How much is the distance between the place of residence and the nearest health center offers mammograms / Kilometer?. . . . . .
18. Is transportation available between the place of residence and health center which offers mammography? 1- Yes 2- No 3- Not always.
19. Does family insurance cover the cost of access to mammogram?
    1-Great percentage 2- Moderate percentage 3- little percentage
    4- Doesn't cover the exam 5- I don't know.
20. Did you know that the cost of mammogram in the government sector for free?
    1- Yes 2- No.

Section two : knowledge and attitude toward BSE and mammogram:

21. Do you visiting the doctor and make the medical checkup constantly?
    1- Yes 2- No
22. If " yes " when you doing that? 1- every six months 2- every year
    3- Without a specific time 4- when feeling sick
23. Is there past family history with breast cancer? 1- Yes 2-No 3- I don't know
24. If " yes " How many people with cancer ? ……
25. If yes what is the relation: (may be more than one person)
    1- first degree 2- second degree 3- third degree
    1- first degree 2- second degree 3- third degree
    1- first degree 2- second degree 3- third degree
26. When they got breast cancer?. . . . . .
27. What is the level of your knowledge about breast self examination (BSE) ?
    1- Very High level 2- High level 3- Moderate level 4- Weak 5- I don't know about.
28. What is your source of information about BSE ?
    1- Television 2-Medical staff 3- Radio 4- Books and magazines 5- others.
29. Did you practice breast self examination? 1- Yes 2- No 3- I Don't remember
30. If " yes "How many times you did that ? 1-once weekly 2- once monthly 3-once yearly
31. Did you feel or palpate with any breast abnormally or discharge?
    1- Yes 2- No 3- I don't remember
32. If " yes " when this happen? 1- This year 2- A year ago
    3-two years ago 4-three years ago 5-more than five years ago
33. Did you had any examinations of early detection for cancer:
    1- Pap-smear 2- BSE 3- Mammogram 4- None of the above
34. When this test was?. . . . . .
35. Have you ever heard about mammogram? 1- Yes 2- No 3- I don't remember
36. Have you ever read about mammogram? 1- Yes 2- No 3- I don't remember
37. What is your knowledge level about mammogram?
    1- Very large 2- great 3- moderate 4- weak 5- I haven't knowledge
38. What is your source of information about mammogram?

1- TV / Radio 2- Health staff 3- Cancer prevention associations 4- Magazine and news papers 5- Women association 6- other 7- I don't have the idea

39. Did you had a mammogram before? 1- Yes 2- No
40. If yes who encourage you to do the screening:
    1- Doctor 2- Nurse 3- Family 4- Friends 5-Alone
41. How long ago has it been since you had your last mammogram?
    1- within the past year, 2- within the past 1-2 years
    3- within the past 3-5 years, 4- more than 5 years ago.
42. Where was the last mammogram you did?
    1- Public health center 2- Private health center
    4- special radiology center 4- I don't remember
43. Did you know that the health law states " every women aged 40 years and above must do mammogram each year?
    1- I know 2- I don't know 3- I don't care about.

Section three : please put X in the box that agree with the sentence:

If you didn't access to mammogram, for who long these barriers affect with compliance.

	These group relate to the personal barriers	Strongly agree	Agree	Moderate	Disagree	Strongly disagree
57	Diagnosing with breast cancer , made me feel ashamed, so I avoided to detect it.					
58	Society's perception about breast cancer is negatively, which forced me to not going with early detection.					
59	I'm afraid from the procedure of mammogram.					
60	I don't have time to do mammogram.					
61	The mammogram center far from here, which avoid me to do mammogram.					
	These group relate to the personal barriers	Strongly agree	Agree	Moderate	Disagree	Strongly disagree
63	In our Religious beliefs its shame to show or touch my breast even for medical examination.					
64	In our Socials beliefs its shame to show or touch my breast even for medical examination.					
65	It's not important to do a mammogram without any complication.					

66	Available of breast cancer in the family feel me afraid to get mammogram.					
67	Lack of female specialist to implement the mammogram is a barrier for me.					
68	I don't believe that the yearly medical checkup will be useful for me.					
69	Mammogram will not save my life.					
70	Because of my work, it's easy for me to do the mammogram screening.					
71	Our financial income avoid me to get mammogram.					
72	I m afraid from the bad result when doing mammogram.					
73	Painful of mammogram procedure avoid me to get the service.					
74	Having a mammogram Expose me too many X- rays.					
75	I believe in God , so there is no need to do early detection examinations.					
76	Im Optimistic and have hope to live , so its necessary reassures on my health.					
77	No one from my family help me to get mammogram.					
78	I don't have the knowledge about doing mammogram yearly.					
79	Too hard to figure out where to go for mammogram.					
80	No one we know talks about doing mammogram and save her life from breast cancer.					
	These group relate to the medical provider barriers	Strongly agree	Agree	Moderate	Disagree	Strongly disagree
81	No one from the medical staff encourage me to do mammogram.					
82	The medical center which Im always visited , not order me to get mammogram.					
83	I can't trust with the team those executive the mammogram screening.					
84	Medical provider will not respect my privacy and exam result, this avoid me to get mammogram.					
85	Doctor who advice me to do mammogram, doesn't explain about the procedure for me.					
86	I am confident I will participate in regular mammograms, if					

	the doctor order me to do that.					
87	People who perform mammography do not treat patients with respect.					
	These group relate to the health system barriers	Strongly agree	Agree	Moderate	Disagree	Strongly disagree
88	If there is mammogram unit in our town, it's easy for me to get mammogram.					
89	Lack of medical projects about the importance of mammogram screening, is barrier to access the test.					
91	Long of time, waiting to do mammogram is barrier for me.					
92	Not ensure of the government about the cost of early detection is barrier to get the exam.					
93	Lack of advertising /media /advocacy /national program about the importance of mammogram screening, is barrier to access the test.					
94	Miscommunication with the doctor who will advise me to do mammogram is barrier.					
95	Referral actions to order the exam avoid me to do mammogram.					

Annex D: List of specialists approved the questionnaire.

د. أسمى الإمام : كلية الصحة العامة- جامعة القدس

د. محمد شريعة جامعة القدس

د. سعيد سراحنة – التعليم المستمر /وزارة الصحة

د. يوسف عدوي لغة عربية جامعة بيت لحم- جامعة القدس المفتوحة

د. بلال عوض سلامة بحث علمي –جامعة بيت لحم

د. نايف كسابرة أخصائي أورام –بيت لحم

د. نضال سليم أخصائي أورام – مستشفى المطلع

د. نافذ سرجان أخصائي أشعة - بيت لحم

د. نفوذ المسلماني أخصائية في سرطان الثدي – رام الله

رائد الأحمر أخصائي إحصاء / مدير مشاريع بيت لحم

أسامة الجعفري مدير الأبحاث/ شبكة معا

Annex E: Cronbach's Alpha test for reliability of the study tool.

RELIABILITY /VARIABLES=Q48 Q49 Q50 Q51 Q52 Q53 Q54 Q55 Q56 Q57 Q58 Q59 Q60 Q61 Q62 Q63 Q64 Q65 Q66 Q67 Q68 Q69 Q70 Q71 Q72 Q73 Q74 Q75 Q76 Q77 Q78 Q79 Q80 Q81 Q82 Q83 Q84 Q85 Q86 Q87 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA.

Reliability

[DataSet1] C:\SPSS\Issm. sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	21	91. 3
	Excluded[a]	2	8. 7
	Total	23	100. 0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
. 947	40

ملخص الدراسة:

عنوان الدراسة: العوامل المؤثرة في استفادة السيدات من خدمة التصوير الشعاعي للثدي _ الماموغرام ، في محافظة بيت لحم.

اسم المشرف : د. محمد شاهين

اسم الطالب : عصام عبد الرحمن الحسنات

المقدمة : يعتبر سرطان الثدي من أكثر أنواع السرطان شيوعا عند النساء حول العالم، ويمثل ترتيبه ثاني مسبب للوفاة عند السيدات، وهذا القول ينطبق على حال السيدات في المجتمع الفلسطيني.

التصوير الشعاعي للثدي يشكل أداه هامة في الكشف المبكر عن سرطان الثدي، كما انه يساعد في عملية التشخيص الطبي والعلاج وعدم تفاقم الوضع الطبي للإصابة بالسرطان، في فلسطين تعتبر استفادة السيدات من هذا الفحص متدنية وإقبالهن على عمل هذا الفحص قليلة مقارنة بالمجتمعات الأخرى ، كذلك فان قليل من الأبحاث التي هدفت إلى دراسة الأسباب التي تحول إلى عدم استفادة السيدات من هذا الفحص .

الهدف : تهدف الدراسة إلى البحث في الأسباب التي تحد من استفادة السيدات اللواتي أعمارهن 40 سنة فما فوق من سكان محافظة بيت لحم، من الفحص الشعاعي للثدي.
الطريقة : المشاركات في هذه الدراسة الوصفية تم اختيارهن بشكل عشوائي منتظم وكان عددهن 455 لم يقمن بعمل الماموغرام في السنتين الأخيرتين . السيدات اللواتي تم تشخيصهن سابقا بسرطان الثدي تم استثنائهن من العينة.

أداة البحث: الأداة الرئيسية للبحث كانت الاستبانة، حيث اشتملت على متغيرات تتعلق بالجانب الاجتماعي والسكاني، والتاريخ العائلي للإصابة بسرطان الثدي، كذلك ممارسة الفحص الذاتي للثدي والماموغرام، وقياس مدى معرفة السيدات عن هذا الفحص، ومعرفة الأسباب التي حالت دون عمل السيدات لهذا الفحص.

تم تعبئة الاستبانة من خلال لقاء شخصي مع السيدات وطاقم مهني مختص عبر زيارة بيتيه.
استخدمت الاختبارات التالية في تحليل العينة: (الإحصاء الوصفي والتكرارات، اختبار كاي، واختبار التباين الأحادي، واختبار توكي)
النتائج : أشارت إلى وجود معرفة متدنية عند السيدات حول الفحص الذاتي للثدي، كذلك حول الفحص الشعاعي، كذلك بينت النتائج أن ممارسة السيدات للفحص الذاتي أو الماموغرام أو أي من الفحوصات التي تعود للكشف المبكر عن السرطان، هي قليلة.
تحليل الترابط بين مستوى المعرفة والاتجاهات حول الفحص الشعاعي وممارسة هذا الفحص والفحص الذاتي، تم فحصه مع المتغيرات المستقلة الأخرى التي تعود إلى الجانب الشخصي والاجتماعي والاقتصادي، وبينت الدراسة وجود فروق إحصائية ذات دلالة.
وضحت نتائج الدراسة مجموع الأسباب التي تحد من عمل السيدات لفحص الماموغرام ، حيث كان من هذه الأسباب ما يتعلق بالنظام الصحي مثل : (عدم وجود وحدة تصوير قريبة من مكان سكن السيدات، عدم وجود برنامج وطني مناصر لتشجيع السيدات لعمل الماموغرام، طول مدة الانتظار لعمل الفحص، كذلك الإجراءات التحويلية المتبعة من اجل عمل الفحص) .

أما المعيقات التي تتعلق بجانب مقدمي الخدمات الصحية فكانت (عدم طلب الطبيب المعالج للسيدات بعمل الفحص، عدم تشجيع أي من العاملين في القطاع الصحي للسيدات بضرورة عمل الفحص) .

أما الأسباب الشخصية للسيدات فكانت (اعتقادهن بعدم ضرورة عمل الفحص دون وجود أعراض أو شكوى، قلة المعرفة بضرورة عمل الفحص بشكل سنوي، الخوف من الإصابة والنتيجة السيئة للفحص، الخوف من آلام الفحص) .