Deanship of Graduate Studies
Al –Quds University

Awareness, Attitude and practice among Palestinian women regarding breast cancer screening (breast self-examination and mammography)

Sabreen Ali Muhammed Thawabteh

M.Sc. Thesis

Jerusalem-Palestine

1445 / 2024

Awareness, Attitude and practice among Palestinian women regarding breast cancer screening (breast self-examination and mammography)

Prepared By:

Sabreen Ali Muhammed Thawabteh

B. Sc. in Medical Imaging – Palestine Ahliya University / Palestine

Supervisor: Dr. Mohammad Hjouj

Thesis submitted in partial fulfillment of the requirement of The degree of Master of Medical Imaging technology / Faculty of Health Professions / Al-Quds University

1445 / 2024

Al-Quds University

Deanship of Graduate Studies

Faculty of Health Professions

Thesis Approval

Awareness, attitude, and practice among Palestinian women regarding breast Cancer screening (breast self-examination and mammography)

Prepared By: Sabreen Ali Muhammed Thawabteh

Registration No: 2011260

Supervisor: Dr. Mohammad Hjouj

Master thesis submitted and accepted 14/1/2024

The names and signatures of the examining committee members are as follows:

1- Head of Committee:	**Dr. Mohammad Hjouj**	**Signature:**
2- Internal Examiner:	**Dr. Hussein ALMasri**	**Signature:** Hussein ALMasri
3- External Examiner:	**Dr. Haneen Oweineh**	**Signature:**

Jerusalem-Palestine

1445/ 2024

Dedication

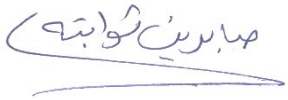
My entire beloved family has my sincere gratitude for all of their help and tolerance during the writing process. I genuinely want to thank my wonderful family for their encouragement, patience, tenacity, and pragmatism as well as for their help and support.

Sabreen Thawabteh

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 this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Name: Sabreen Ali Muhammed Thawabteh

Signed: 

Date:14/1/2024

Acknowledgments

At the outset, I would like to extend my great gratitude and thanks to Dr. Mohammed Hjouj for his abundant knowledge and for his wonderful guidance in completing this work. Thank you from my heart for your permanent gift, my letters are unable to write you everything that I tried to do.

I would like to acknowledge everyone who supported me in my thesis, big thanks to my supervisor Dr. Mohammad Hjouj , for his confidence in me. I am extremely grateful to the college's, technologists, and the statistician, for their help me to achieve this work

Abstract:

Breast cancer, being the most prevalent cancer among women worldwide, leads to about 400,000 deaths yearly. All women should have a basic understanding of breast self-examination (BSE). This study aims at determining Palestinian women's knowledge, behavior and beliefs about BC and BSE. Data were obtained using a structured questionnaire that was distributed 200 female women's Palestinian. The questionnaire evaluated the students' knowledge, behavior, and attitudes about BC and BSE. The study revealed that 70% of the participants had an awareness of BC and 30% were unaware of the term BSE. only 30% had had a mammography screening, compared to 70%. The study participants' participation rates in mammography screening and BSE. According to the results, 63% of participants had never practiced BSE, compared to 37% who had. Furthermore, only 30% had had a mammography screening, compared to 70% who had not. These results highlight the necessity of raising public awareness and promoting BSE and mammography screening in order to enhance early identification and preventative measures for BC. Further efforts need to be done to expand women's knowledge about BC, early detection and treatment.

Keywords: cancer, breast, BSE, knowledge.

List of Contents:

List of Tables

List of Abbreviation

National Cancer Registry (NCR)

Breast self-examination (BSE)

Standardized Incidence Rate (SIR)

Clinical breast examination (CBE)

United States Preventive Services Task Force (USPSTF)

Systematic review (SR)

Magnetic resonance imaging (MRI)

Digital breast tomosynthesis (DBT)

Breast cancer (BC)

Health belief model (HBM)

Ministry of health (MOH)

Chapter One:

Introduction

1.1 Background:

Breast cancer is the most common cancer in women, making up 23% of all female malignancies. It is a significant global health concern. (Parkin & Fernández, 2006). In low-resource countries, it is also the main factor in cancer-related fatalities. According to (Taiwo & Tunde, 2016), women of any age are susceptible to BC, and the risk rises with advancing years. The death rate for BC is still high despite the advancement of cutting-edge technology in the field. According to Alwan et al., for women between the ages of 40 and 44, BC is the primary cause of cancer death(Alwan, Tawfeeq, & Mallah, 2019). In high-income nations, there has been a noticeable improvement in survival rates, although the risk keeps rising. Middle- and low-income nations continue to have low survival rates (Ramathuba, Ratshirumbi, & Mashamba, 2015).

According to data from the National Cancer Registry (NCR), BC is the most common malignancy in women. BSE was found not to be a common practice among female health workers in a study conducted in Turkey (Akpınar, Baykan, Naçar, Gün, & Çetinkaya, 2011); Of those who performed BSE, doctors made up 31.3%, followed by midwives., 21.8%. This shows that although BSE is used by health professionals, a small percentage of them do so often. In order to implement screening programs and create an atmosphere that supports screening habits by providing good role models, women's knowledge and attitudes are crucial determinants. Women's ability to conduct BSE and motivation to undergo

mammography could both be improved by educating them about early detection techniques and the advantages associated with them (Lemlem, Sinishaw, Hailu, Abebe, & Aregay, 2013). Women should be aware of the BC risk factors so that they can make informed screening decisions.

The lives and wellbeing of women are further threatened by a inadequate understanding of the basics and an untrustworthy method of delivering information about BC. Women are dying silently from BC, mostly those who are unaware of the disease's early detection techniques and diagnostic screening methods for the disease (Munyambaraga, 2017). Additionally, Silence and a lack of knowledge about risk factors discourage people from seeking early intervention or even admitting that the symptoms they are experiencing are related to BC. The problem of late detection is further exacerbated by the level of knowledge regarding how to do straightforward but potentially life-saving diagnostic breast exams, such as BSE and Mammography screening. It is crucial to provide women with knowledge about BSE and mammography screening, especially in nations without access to advanced breast cancer screening technology (Munyambaraga, 2017).

Furthermore, according to (Ogunkorode, 2019), cultural differences in health beliefs exist, and cancer fatalism may discourage people from engaging in actions that promote their health. This is because some people adopt a fatalistic viewpoint because they think that diseases or disastrous occurrences occur as a result of a higher force (like God) or because they cannot be stopped because they are destined to happen. Ethnic diversity and cultural values shape health beliefs, which may affect how women react to western medicine, especially for conditions like BC. Some women delay seeking medical attention because they worry about their daughters' perceptions. As it is thought that they may also have BC and won't be looked upon favorably in a marriage. Furthermore, according to (Leong Abdullah et al., 2019), cancer is seen as a death sentence from God.

Our study aims to assess the level of mammography and BSE knowledge among women’s in Palestine.

1.2 Problem statement:

Both industrialized and developing regions are seeing an increase in the prevalence of BC. In high resource countries, an estimated 636,000 incident cases were diagnosed, compared to 514,000 instances in low and moderate resource nations. It is the leading cause of death for females(Francies, Hull, Khanyile, & Dlamini, 2020).

The lack of information availability may be the source of this, as many women miss out on early detection due to their ignorance of BSE and other screening procedures (Dahiya et al., 2018).

Mammography, BSE, and a doctor's clinical examination are the three methods used to identify BC early on. Unfortunately, the majority of BC are only discovered once they are far advanced. BC mortality may be made worse in rural health facilities due to a lack of resources, insufficient preventative screening programs, and access to cutting-edge technologies, which can cause patients to appear late or not at all due to their health-belief system.

1.3 Significant of study:

According to a study of the literature, knowledge on women's attitudes and practices around mammography and BSE is at a low level. Clarifying women's attitudes and practices concerning BSE and mammography may enlighten policy makers, guide clinical practice, focus community education, and encourage a growing awareness of women's attitudes and practices.

For Practice: This study could be useful in figuring out how women feel about and use preventative measures.

Regarding Research: The attitudes and practices of Palestinian women with regard to BC screening are not well studied. This study may contribute to the identification of promising areas for further investigation in order to provide evidence-based remedies for clinical practice, teaching, and policy formation. Policy adjustments and development are influenced by the identification of problem areas in clinical practice. Evidence-based policy can be designed to change women's practices once concerns have been supported by research. In

order to improve women's participation in BC screening, policymakers may find this study's findings useful.

For the formulation of policies: Policy creation and revisions stem from the identification of problem areas in clinical practice. Research-backed concerns can be used to inform the creation of evidence-based policies that change how women practice. The results of this study could provide information to help policymakers improve women's screening rates for BC.

4.1 Aim of the study:

The study's primary goal was to determine the knowledge and screening practices of Palestinian women for BC, including BSE and mammography screening.

1.5 Objectives of study:

1. Determine the extent of women's understanding on BC screening.
2. Examine factors that have an impact on women's knowledge and behavior about BC screening.
3. Define the relationships among demographic factors and women's knowledge, attitudes, and practices related to BC screening.

1.6 Research question:

1. Do the demographic factors (age, education, income, occupation, marital status, and place of residence) and the degree of awareness regarding BC and screening tests have any correlations?

2. Does women's attitude toward screening tests correlate with any of the following demographic variables: age, educational attainment, income, occupation, marital status, place of residence?

3. Do women's screening test practices and the demographic factors (age, education level, income, occupation, marital status, and location of residence) have any correlations?

1.7 Research hypothesis:

1. The association between knowledge and practice is not statistically significant.

2. The association between attitudes and BSE is not statistically significant.

3. Relationships between practice level and attitude are not statistically significant.

1.8 Operational definitions:

1. Knowledge, - In this study, knowledge refers to the subject's level of accurate response to a structured questionnaire question about BC screening. Participants were considered knowledgeable if they correctly answered the question and received a mean score value.

2. Practice, - This study refers to the mammography screenings performed by the women of Palestinian on the topic of BC screening and the women's actions concerning BSE.

1.9 Theoretical framework:

Swanson contends that theories are developed to deepen our understanding of a particular event and provide a framework for further research within predetermined parameters. An explanation of the research conundrum under examination is provided by the theoretical framework (Swanson, 2013)

1.10 Dependent variable:

1.10. A Dependent Variables

Knowledge, attitude and practice of women toward BC screening (BSE & mammography).

1.10. B Independent Variables

Demographic data, educational level, BC family history, health teaching.

Chapter Two:

Literature Review:

2.1 Introduction

An overview of the body of research on women, awareness, and practice surrounding BC screening, including BSE and mammography screening, as well as issues pertaining to women's knowledge, attitudes, and practices, is provided in this chapter.

2.2 Search technique

The researcher in this study of women's knowledge, attitudes, and behaviors around BC screening identified key terms and variables, such as BSE and mammography screening. To conduct a review of the literature. To conduct a literature review, relevant publications and journals were sought out using electronic sources like PubMed and Google Scholar.

2.3 Breast cancer

Breast cancer is the most commonly diagnosed disease worldwide and the leading cause of cancer-related death for women, with an estimated 1.7 million diagnoses and 521,900 deaths in 2012. (Torre, Islami, Siegel, Ward, & Jemal, 2017). 15% of all cancer fatalities among females are attributable to breast cancer, which accounts for 25% of all cancer diagnoses. While rates are high in Northern America, Australia/New Zealand, and Northern and Western Europe, they are low in most of Africa and Asia. The Caribbean, Latin America,

and Central and Eastern Europe all have intermediate rates. According to (DeSantis, Ma, Bryan, & Jemal, 2014), BC accounts for almost one in three cancer diagnoses among women in the United States.

According to data from the National Cancer Registry from 2006, BC is the most frequent malignancy in Malaysian women. In all, 3,525 cases of female BC were documented, with a 39.3 Age Standardized Incidence Rate (ASR) per 100,000 people (Dahlui, Ramli, & Bulgiba, 2011). Compared to one in eight in Europe and one in nine in the US, one in 19 women in this country are at risk. (DeSantis et al., 2014).

2.4 Breast Cancer Screening

Two methods exist for early detection, to enable prompt diagnosis and treatment, the first step is early diagnosis, or recognition of early signs and symptoms in symptomatic populations. The second is screening, which is the systematic use of a screening test in a group that is likely asymptomatic. It seeks to locate those who exhibit a cancer-suggestive anomaly. An early diagnostic program is significantly less difficult than a screening program (WHO, 2007). Targeting women who visit clinics for maternity and child health as well as women's wellness, screening is opportunistic in nature. The public health nurses who work in these clinics also instruct the women who visit in the BSE technique. The women were given the tools they needed to become health-conscious. Mammography, clinical breast examinations (CBE), and BSE are all parts of the BC screening process. The evidence for CBE screening was examined by (Thistlethwaite & Stewart, 2007), who reported that it had a low sensitivity (54%) but a high specificity (94%). There is no data on the effectiveness of screening using BSE, however women aged 50 to 59 had the highest CBE sensitivity, while women aged 40 to 49 had the lowest.

According to the American Cancer Society (Wolf et al., 2010), A mammogram is a kind of breast X-ray that can identify abnormalities in the tissue, including the emergence of cancer. It can detect BC up to two years prior to the appearance of a lump. Diagnostic and screening mammograms are two different types of mammograms. Women who show no symptoms of BC get mammogram screening to look for the disease. Through the discovery of tiny calcifications, which occasionally signify the existence of BC, it can locate breast cancers that cannot be felt. When a lump or other sign or symptom of BC has been discovered, a diagnostic mammography is utilized to look for the illness.

The only screening technique that has been shown to be useful is mammography. When the screening coverage is over 70%, it can cut breast cancer mortality in women over 50 by 20 to 30% in high-income countries (Lim, Lim, Ho, & Li, 2022). There has been no research on the effectiveness of mammography screening in low resource environments because it is a fairly complex procedure that uses a lot of resources. Meta-analyses of randomized controlled studies show that Mammography screening lowers the death rate from BC by 7% to 23% in women aged 40 to 49. The data suggests that while few women 50 years of age or older have such risks, more women between the ages of 40 and 49 appear to have risks from mammography that exceed the benefits. (Armstrong et al., 2007). Women between the ages of 50 and 74 should get biennial screening mammography, according to a recent systematic review(SR) by the United States Preventive Services Task Force (USPSTF)(Nelson et al., 2009). A patient's context, including their values towards certain advantages and hazards, should be taken into consideration when deciding whether to begin routine, biennial screening mammography before the age of 50. In order to evaluate the additional advantages and disadvantages of screening mammography in women 75 years of age or older, insufficient evidence was available (Siu et al., 2016). According to (Nelson et al., 2009), The USPSTF also concludes that, for women with dense breasts but otherwise negative mammogram results, there is not enough data to assess the advantages and disadvantages of adjunctive BC screening with breast ultrasonography, magnetic resonance imaging (MRI), digital breast tomosynthesis (DBT), or other methods.

2.5 Knowledge on Mammogram screening:

Both education and experience can be used to learn about mammography screening. Information can be obtained through advertisements in the media, the internet, health campaigns, pamphlets, and brochures, as well as through health care professionals' lectures or staff consultations. (Al-Naggar & Bobryshev, 2012)found that women with more education had better mammography perception and use. (Al-Dubai et al., 2011)discovered that the majority of women (81.2%) had heard of BC and that (55.2%) of them got their information from books, periodicals, and brochures. According to research (Al-Mousa et al., 2020; Rosmawati, 2010), women in suburban areas have little knowledge of mammography screening for BC. Only 8% of them actually believe that a mammography should be performed only once in a person's lifetime, with the majority of them (45.3% to 61.6%)

unsure of the answer or giving an incorrect response (4.7% to 43.0%). It was correctly stated by nearly half of the respondents (48.8%) that mammograms can identify breast cancer in its early stages. 10.5% of women said that there were no significant side effects or discomforts associated with mammography. They had a severe lack of awareness and understanding about mammograms.(Rosmawati, 2010).

Low-income women may underutilize screening mammograms to a significant extent because to their limited literacy abilities and lack of understanding about the procedure (Davis et al., 1996). According to a study of female university students, they knew too little about BC. Indian students had much less understanding of BC than their Chinese and Malay counterparts, with a mean overall knowledge score of 60.7% (Hadi, Hassali, Shafie, & Awaisu, 2010). Only 7.4% of Brazilian interviewees who were women using local healthcare services had sufficient understanding of mammography (Marinho, Cecatti, Osis, & Gurgel, 2008).

The primary obstacle to mammography is ignorance. The women in that study did not know enough about mammography as a screening method for BC. Thus, a greater uptake of mammogram screening requires awareness of the procedure and access to sufficient information.

2.6 Attitude on mammogram screening:

The attitude of the women themselves is one of several barriers and factors that affect mammography screening uptake (Abu-Helalah, Alshraideh, Al-Serhan, Kawaleet, & Nesheiwat, 2015). Depending on their level of expertise, women have varying attitudes on mammography screening. Poor attitude can be attributed to false beliefs and a lack of understanding about mammography screening (Rosmawati, 2010). Among the other factors impacting the attitude are negative social perception, poverty, cultural and religious customs, and the influence of 12 complementary and alternative medicine(Jamshed, Khan, Ahmad, & Elkalmi, 2016). Mammography is further hampered by humiliation, expense, radiation exposure, and pain. According to a study conducted in Brazil among women who used public health facilities, 97.1% of women had a favorable attitude toward mammography screening. The main barrier (81.8%) to mammogram screening was lack of referral by physicians working at the health center (Marinho et al., 2008).

2.7 Practices on mammogram screening:

Due to a lack of time, expertise, location uncertainty, and test result anxiety, mammography screening is not practiced as frequently as it should be (Al-Naggar and Bobryshev, 2012). However, a survey of medical staff at a tertiary hospital found that 80.3% (95% CI: 76.8%, 83.5%) of 534 respondents had increased mammography screening. According to the study's findings, 20% of employees did not undergo mammography screening even though there is no fee involved and they have complete access to the process (Abdullah et al., 2011). Less than 10.3% of women in the United Arab Emirates and just 25% of Turkish women have mammograms, , which was as a result of inadequate knowledge of screening and insufficient offering of screening by health care workers (Ahmadian and Samah, 2013). However, another study in Brazil revealed a higher proportion of practice on mammogram screening at 35.7% (Marinho et al., 2008).

According to a study conducted in Jordan, 87.6% of women had never had a mammogram and had negative opinions about the procedure. According to (Papadopoulos, Santa Mina, Abu Helal, & Alibhai, 2022), there was a poor participation rate in practices for early identification of BC. According to a study by (Wang, Hossain, & Mackenzie, 2017), Southeast Asian women residing in Sydney have shown low 14 engagement in breast screening because to a lack of understanding about accessible screening procedures and general BC awareness.

Chapter Three:

Methodology

The research approach is described in this chapter. It begins by outlining the research design and methodology, which include the study population and eligibility requirements, sample size, sampling strategy, recruitment procedure, data collection method, data analysis techniques, research instrument validity and reliability, and ethical considerations.

3.1 Study Design and Setting:

This study was conducted as a cross-sectional study among women at primary health care centers in Palestine. The study was designed to investigate the socio-demographic statuses of the participants and their level Awareness, Attitude and practice among Palestinian women regarding BC screening. The study was conducted in the period of Jan and April 2024.

3.2 Study Population:

The women who resided in Palestine were the sample population used in this study. The study included 200 Palestinian women's as participants.

3.3 Target population:

Study participants included women from Palestine who were over the age of twenty.

- Schools.
- Health care clinics.
- University of Hebron, Bethlehem, Ramallah.
- Village.

3.5 The eligibility criteria:

were as listed below:

3.5.1 Inclusion Criteria

- Being able to give informed consent (verbal or written).
- age above 20 years old.

3.5.2 Exclusion Criteria:

- Males.
- Women who are illiterate.
- Un able to give informed consent.

3.7 Validity and Reliability:

The questionnaire was reviewed and validated by a group of 4 experts in health research; they slightly modified and accepted the questionnaire. Internal consistency among the

questionnaire items was calculated to be 0.7 Cronbach's alpha (α) and it was considered acceptable for the study.

3.8 Response rate:

The response rate was around 97% as only 6 participants refused to fill the questionnaire in the selected population and were replaced by other patricians from the same university.

3.9 Pilot Study:

A pilot study was used to test the instrument (Polit & Beck, 2012)defines pilot study as a smaller version of a proposed study conducted to refine the methodology. It is developed much like the proposed study, using similar subjects, the same settings, the same treatment, the same data collection and analysis techniques. A pilot study was conducted with ten participants in the Al-Quds University to determine the clarity of questions, effectiveness of instructions, completeness of response sets, time required to complete the questionnaire and success of data collection technique.

Five percent of the sample size was used for a pilot study, which was not included in the sample size. It was carried out to assess the questionnaire's clarity and gauge how long data collection would take.

3.10 Data collection procedures:

A. Following ethical approval from our supervisor and the dean of the faculty, the researcher presented a separate letter from the dean of the faculty requesting permission to collect data in places where Palestinian women are employed, such as schools and clinics.

B. During an orientation meeting, the researcher met with the head nurses and head masters of each clinic and school in the chosen villages. They explained the purpose of the study, its nature, and the assurances that the responses would be anonymous, voluntary, and confidential. They also requested assistance in distributing the research instruments, a cover letter, and a consent form to the women's organizations.

C. The women's will fill questionnaire in waiting area during their waiting time inside the clinic, and in their room inside the school. While researcher present to answer any question from any women's, an email address and the mobile phone number of the researcher were added in the cover letter in case the participants had questions or any doubts about questionnaires.

3.11 Ethical consideration and accessibility:

The research review committee at the School of Public Health of Al-Quds University Reviewed and approved this research. The Palestinian MOH granted permission to access. They were assured anonymity of participants and confidentiality of the data collected. Several strategies were utilized to protect the participants rights who agreed to participate in this study. First, oral verbal consent of the participant was obtained prior to the administration of the questionnaire. The participant was informed of the purpose of the study, and that they had the right to refuse to participate. Also, the voluntary nature of participation was stressed as well as confidentiality. Furthermore, the participant was told that they can refrain from answering any questions and they can terminate at any time. (Annex)

3.12 Statistical methods and data analysis:

Data entry began using the Statistical Package for Social Science (SPSS) after data collection was finished. The Answers of participants converted to numeric values. The statistical analyzes performed by the SPSS software 23.

The statistical analysis tests used in this study:

- Frequency distribution and percentage were used for categorized data.
- Crosstabulation.
- Chi square.

Chapter Four:

Result:

4.1 Demographics:

In this study, we offered a comprehensive descriptive analysis of our participant demographics, employing measures such as means, frequencies, and percentages. The study comprised 200 women residing in the Palestinian Region, all of whom actively participated by completing questionnaires, thus enriching our data collection endeavors.

The distribution of demographic variables is presented in the table 1 below. Notably, the majority of participants were aged over 40 years. Regarding marital status, 75% of participants reported being married, while 55% indicated full-time employment. The highest proportion of participants, accounting for 60%, reported a monthly income falling within the NIS 2500-5000 range. These demographic insights provide valuable context for understanding the composition of our study population and offer important considerations for subsequent analyses and interpretations.

Table 1: Demographic Characteristics of Study Participants

Factor	Categories	Frequency	Percentage
Place of residence	Urban	100	50%
	Rural	100	50%
	Total	200	100%
Age	20-30 years	35	17.5%
	31-40 years	80	40%
	more than 40 years	85	42.5%
	Total	200	100%
Marital status	Married	150	75%
	Divorced	20	10%
	Widow	30	15%
	Total	200	100%
Level of education	Uneducated	30	15%
	Preparatory	40	20%
	secondary	50	25%
	university level	71	35.5%
	graduate studies	9	4.5%
	Total	200	100%
Job	Worker	110	55%
	Not worker	90	45%
	Total	200	100%
Monthly income (in NIS)	Less than 2500 Nis	35	17.5%
	2500 - 5000 Nis	120	60%
	More than 5000 Nis	45	22.5%
	Total	200	100%

Table 2 illustrates the distribution of responses regarding the presence of a family history of BC among the participants. A significant majority, comprising 70.0% of the respondents, indicated that they did not have any known cases of BC in their family lineage. Conversely, 30.0% of participants reported a positive family history, signifying that they had relatives who had been diagnosed with BC in the past.

Table 2: History of Breast Cancer in Family among Participants

		Frequency	Percent
History of breast cancer	Yes	60	30%
	No	140	70%
	Total	200	100%

Table 3 provides insights into the utilization of BC screening practices among Palestinian women. The distribution indicates that 30% of research participants reported being unaware of early BC screening, while 70% affirmed their awareness of it.

Furthermore, approximately 66% of participants had previously received education and guidance from medical professionals on BSE. Sources of such information included television (19%), radio (6%), and other channels (9%). Similarly, nearly 76% had received information about mammograms from medical staff, with sources including television (5%), radio (4%), and other platforms (15%). Regarding awareness of national cancer screening programs, 63% of participants acknowledged their knowledge of such initiatives. However, only 20% were unaware of the National Mammography Screening Program specifically, and a mere 17% expressed indifference towards screening.

Table 3: Factors Influencing Knowledge and Awareness of Breast Cancer Screening Practices

Factor	Categories	Frequency	Percentage
Early screening for breast cancer	Yes	140	70%
	No	60	30%
	Total	200	100%
Source of Knowledge about Breast Self-Examination	Medical staff	132	66%
	The TV	38	19%
	The radio	12	6%
	Other	18	9%
	Total	200	100%
Source of Knowledge about Mammograms	Medical staff	152	76%
	The TV	10	5%
	The radio	8	4%
	Other	30	15%
	Total	200	100%
Knowledge of Statutory Requirement for Mammograms in Women Over 40	Yes	126	63%
	No	40	20%
	I don't care	34	17%
	Total	200	100%

Table 4 shows the proportion of women who took part in the survey and indicated their degree of knowledge of BSE: not at all (14%), weak (14%), medium (37%), good (22%), and excellent (13%). Regarding those who are aware of mammography, their findings were as follows: Of the participants, 60% responded in the affirmative, while 40% said in the

negative. Considering your degree of mammography knowledge, the findings were as follows: (10%) no idea; (13.5%), weak; (42.5%); medium; (20%) good; and (14%), excellent.

Table 4: Factors Pertaining to Knowledge of Breast Cancer Screening Methods

Factor	Categories	Frequency	Percentage
Self-Rated Knowledge Level of Breast Self-Examination	I have no idea	28	14%
	Weak	28	14%
	Medium	74	37%
	Good	44	22%
	Excellent	26	13%
	Total	200	100%
Knowledge of Mammography	Yes	120	60%
	No	80	40%
	Total	200	100%
Mammography Knowledge Level	I have no idea	20	10%
	Weak	27	13.5%
	Medium	85	42.5%
	Good	40	20%
	Excellent	28	14%
	Total	200	100%

Data on the attitude of female participants about mammography and BSE as part of BC screening are shown in Table 5. It demonstrates that 60% of the study's female participants had a favorable attitude about BC screening, indicating that they are likely to see screening tests like BSE and mammography as essential components of their overall health and are eager to engage in them. But 40% of the women had a negative attitude, suggesting that they could be reluctant or anxious to get a BC screening.

Table 5: Attitudes towards Breast Cancer Screening (BSE & Mammography) Among Female Participants

Factor	Categories	Frequency	Percentage
Attitudes toward Breast cancer screening (BSE & mammography)	Positive	120	60%
	Negative	80	40%
	Total	200	100%

The study participants' participation rates in mammography screening and BSE are shown in Table 6. According to the results, 63% of participants had never practiced BSE, compared

to 37% who had. Furthermore, only 30% had had a mammography screening, compared to 70% who had not. These results highlight the necessity of raising public awareness and promoting BSE and mammography screening in order to enhance early identification and preventative measures for BC.

Table 6: Breast Cancer Screening Practices among Participants, Including BSE and Mammography Participation

Factor	Categories	Frequency	Percentage
Engagement in BSE Practice	Yes	74	37%
	No	126	63%
	Total	200	100%
Participation in Mammography Screening	Yes	60	30%
	No	140	70%
	Total	200	100%

4.2 Correlation between BSE, Attitude, practice

In table 7, the Pearson chi-square test, the relationship between attitudes about routine check-up visit participation, BC screening, and knowledge of BSE is assessed. In this instance, the p-value that correlated with the calculated chi-square value of 0.985 was 0.371.

It seems from this that research participants' views regarding routine check-up visits and BC screening are not significantly influenced by their knowledge of BSE. Therefore, it appears that knowledge about BSE has little impact on people's attitudes on routine checks and screenings for BC.

Table 7: Analysis of the Relationship between Knowledge of BSE and Attitudes Using Pearson Chi-square Test

			Attitudes			Pearson Chi-square	p-value
			Negative	Positive	Total		
	Excellent	Count	10	16	26		

		% of Total	5.0%	8%	13%		
	Good	Count	18	26	44		
		% of Total	9.0%	13.0%	22.0%		
Knowledge of BSE	I have no idea	Count	11	17	28	0.371	0.985
		% of Total	5.5%	8.5%	14.0%		
	Medium	Count	31	43	74		
		% of Total	5.0%	21.5%	37%		
	Weak	Count	10	18	28		
		% of Total	15.5%	9%	14%		
Total		Count	80	120	200		
		% of Total	40.0%	60.0%	100.0%		

The Pearson chi-square test was utilized in Table 8's study to examine at the association between attitudes attitude of female participants about mammography and BSE and knowledge about mammography. The test revealed a chi-square value of 0.012 and a matching p-value of 0.98.

The p-value of 0.98 suggests that the results are significant above the standard 0.05 level. As a result, there is no significant association between attitudes and BC screening and knowledge about mammography.

Table 8: Analysis of the Relationship between Knowledge about Mammography and Attitudes Using Pearson Chi-square Test

			Attitudes		Total	Pearson Chi-square	p-value
			Negative	Positive			
Knowledge about mammography	Excellent	Count	11	17	28	0.012	0.98
		% of Total	5.5%	8.5%	14.0%		
	Good	Count	16	24	40		
		% of Total	8.0%	12.0%	20.0%		
	I have no idea	Count	8	12	20		
		% of Total	4.0%	6.0%	10.0%		
	Medium	Count	34	51	85		
		% of Total	17%	25.5%	42.5%		
	Weak	Count	11	16	27		
		% of Total	5.5%	8.0%	13.5%		
Total		Count	80	120	200		
		% of Total	40.0%	60.0%	100.0%		

The Pearson chi-square test findings, which evaluate the relationship between BSE knowledge and practice, are shown in Table 9. The test yielded a chi-square value of 7.29 and a matching p-value of 0.042.

The interpretation of these results indicates a significant relationship between the knowledge of BSE among study participants and their actual practice of it, as supported by the p-value of 0.042, which is below the significance limits of 0.05.

Table 9: Pearson Chi-square Test of Association Between Knowledge of BSE and BSE Practice

			Practice self-examination		Total	Pearson Chi-square	p-value
			yes	No			
Knowledge of BSE	Excellent	Count	11	15	26	7.29	0.042
		% of Total	5.5%	7.5%	13.0%		
	Good	Count	20	24	44		
		% of Total	10.0%	12%	22%		
	I have no idea	Count	11	17	28		
		% of Total	5.5%	8.5%	14.0%		
	Medium	Count	20	54	74		
		% of Total	10%	27.0%	37%		
	Weak	Count	12	16	28		
		% of Total	6%	8%	14.0%		
Total		Count	74	126	200		
		% of Total	36%	64%	100.0%		

The relationship between mammography knowledge and actual mammography screening practice can be observed in Table 10. A chi-square value of 0.043 and a matching p-value of 0.98 were determined using the Pearson chi-square test.

According on how these data are interpreted, the p-value of 0.98 is more than the typical significance threshold of 0.05, suggesting that there is no significant relationship between research participants' actual mammography screening practices and their knowledge of the process. In simpler terms, individuals' knowledge about mammography does not appear to influence their likelihood of undergoing mammography screening.

Table 10: Pearson Chi-square Test of Association between Knowledge About Mammography and Mammography Screening Practice

			Practice mammography			Pearson Chi-square	p-value
			yes	No	Total		
Knowledge about mammography	Excellent	Count	8	20	28	0.043	0.98
		% of Total	4.0%	10.0%	14%		
	Good	Count	12	28	40		
		% of Total	6.0%	14%	20%		
	I have no idea	Count	6	14	20		
		% of Total	3.0%	7.0%	10.0%		
	Medium	Count	26	59	85		
		% of Total	13%	29.5%	42.5%		
	Weak	Count	8	19	27		
		% of Total	4.0%	9.5%	13.5%		
Total		Count	60	140	200		
		% of Total	30%	70%	100.0%		

Table 11 presents the association between individuals' attitude of participants toward mammography and BSE and their actual BSE practices. The results of the chi-square test show a strong association (p-value less than 0.001) between the participants' actual BSE activity and their perceptions about BSE. Put alternatively, attitudes about BSE have considerable influence.

Table 11: Association between Attitudes and BSE Practice

			practice self-examination		Total	Pearson Chi-square	p-value
			yes	no			
Attitudes	Negative	Count	20	60	80	82.6	0.001
		% of Total	10.0%	30.0%	40.0%		
	Positive	Count	106	14	120		
		% of Total	53.0%	7.0%	60.0%		
Total		Count	126	74	200		
		% of Total	63.0%	37.0%	100.0%		

The relationship between the attitudes of individuals toward mammography screening and whether or not they actually get the screening is examined in Table 12. The significant relate found by the chi-square test was shown by the p-value less than 0.001. This implies that those who have favorable opinions of mammography screening are more likely to actually be screened for the disease.

Table 12: Pearson Chi-square Test of Association between Attitudes and Mammography Screening Practice

			Practice self-examination			Pearson Chi-square	p-value
			Yes	No	Total		
Attitudes	Negative	Count	35	45	80	12.004	0.001
		% of Total	17.5%	22.5%	40%		
	Positive	Count	25	95	120		
		% of Total	12.5%	47.5%	60%		
Total		Count	60	140	200		
		% of Total	30.0%	70.0%	100.0%		

Chapter Five:

Discussion:

5.1 Levels of Knowledge and Practice on Breast Cancer

Low cancer awareness leads to late presentation to the hospital, which affects the survival rate. In the current survey, only whereas 63% were unaware if they had ever performed a BSE. The WHO emphasizes the need of raising community awareness and promoting early BC detection, especially in women between the ages of 40 and 69 who are visiting hospitals or primary care facilities for other purposes, by providing CBEs(Prates, Freitas-Junior, Prates, Veloso, & Barros, 2017).Due to ease access to BC information, the majority of respondents reported fair understanding. The medical staff was the main source of information(Ramathuba et al., 2015). According to previous research, the majority of respondents learned about BSE from the media, followed by literature and the hospital(Gulhan, ÜNALAN, & ÖZTÜRK, 2013).

Similar to earlier research, the majority of respondents had fair awareness owing to easy access to BC information and had reached a restricted degree of understanding (Dandash & Al-Mohaimeed, 2007). According to the distribution, 70% of study participants had heard about early BC screening, whereas 30% had never heard of early BC screening. Here were most respondents agreed that a useful technique for early detection of BC was BSE. Many respondents recognized that BSE should be done monthly, and the majority of respondents knew when BSE should begin. The majority of responders agree that the individual

performed BSE. Based on the findings, the researcher concluded that the majority of the respondents had a basic understanding of BC.

In contrast to earlier studies, (Alshahrani et al., 2019) found that nearly half of the respondents had a poor understanding of BC. Furthermore, respondents may have adequate understanding about BC awareness, but their degree of practice revealed otherwise.

According to the findings, the majority of respondents had inadequate level of practices on BC detection and BSE in the recommended manner. Similar to prior findings, this study found that many respondents had little or no experience with BSE (Birhane et al., 2017). According to(Birhane et al., 2017), the most prevalent barrier to practicing BSE is that respondents may not know how to complete BSE correctly. According to the findings of Parsa et al., the most prevalent reason for quitting BSE is a lack of understanding in executing BSE appropriately(Parsa, Kandiah, & Parsa, 2011).

5.2 level of knowledge of breast self-examination:

Our findings 63% of participants had never practiced BSE, compared to 37% who had. Furthermore, only 30% had had a mammography screening, compared to 70% who had not. These results highlight the necessity of raising public awareness and promoting BSE and mammography screening in order to enhance early identification and preventative measures for BC.

However, in other regions, the right answer ratio was frequently less than (Dandash & Al-Mohaimeed, 2007). The medical team was the primary source of information about BSE in this study, followed by social media, which was similar to a previous study. (Salem, Al Shazly, Ibrahem, Kasemy, & Abd El-Roaf, 2020). While the sources differed in another research among Saudi women, the leading source of knowledge regarding BSE was radio or TV, followed by doctor or nurse, with the internet accounting for less than a tenth of the information) (González-Timoneda, Ruiz Ros, González-Timoneda, & Cano Sánchez, 2018). This might be because medical practitioners trusted people to receive information among females, and in the same vein, social media is appealing and available at all times for all populations as a source.

This study conducted in Palestine and focus to knowledge of BSE, did not have idea (14%), weak (14%), medium (37%), and good (22%), (13%) excellent. Although, Women's lack of

awareness and incorrect views about BC prevention are to blame for a negative opinion of the curability of a cancer diagnosed early and the usefulness of screening procedures (Dey et al., 2016). Because BC is a progressive illness, tiny tumors are more likely to be detected early, and early identification is associated with a better prognosis and more effective treatment (Dey et al., 2016).

Although the American Cancer Society suggested in 2003 that women in their 20s be informed about the benefits and limits of BSE, this exam is not regarded the best approach for early detection but the greatest alternative for interval screening among women of all ages(Smith et al., 2003)

Another study was a master thesis study done in Gaza to analyze the knowledge and practice of BSE among nurses working at basic healthcare clinics, which revealed that while they had strong understanding about BC early detection tools, CBE, and mammography, their mammography practices were poor (Shallouf, 2020).

5.3 Correlation between knowledge, attitude, and practice

This is due to a number of factors, popular culture, which permits the sexualization of the breasts, and social stigma and societal standards, which make it difficult for women to talk about, understand, and be familiar with their own bodies, are some of the most significant causes. There is often an unspoken, inexplicable communication gap between parents and spouses in most homes. Kalliguddi, Sharma, reported the statistical evidence showed that fear, ignorance, and a carefree attitude are all contributing factors: Knowledge and attitude do not correlate well, as shown by the Spearman's rank correlation coefficient of 0.087 (P = 0.102). Spearman's rank correlation coefficient between attitude and practice is 0.243 (P 0.001), suggesting a correlation between the two.(Kalliguddi, Sharma, & Gore, 2019).

Kalliguddi et al, reported that, the mean scores for knowledge, attitude, and practice fields were 18.17 ± 2.90, 27.07 ± 8.14, and 19.11 ± 5.08, respectively, The Spearman's rank correlation coefficient demonstrated that knowledge and attitude were not correlated, nor were attitude and practice. However, knowledge and practice were significantly correlated.(Kalliguddi et al., 2019).

Although, study found a statistically significant association between correctly applying BSE steps and regular practicing, with 52.6% of students with a good practicing score practicing BSE consistently and 74.6% of those with a bad practicing score not practicing BSE regularly. Furthermore, a favorable tendency in the link between general understanding of BC and regular practice of BSE was seen; nevertheless, the relationship is not statistically significant. However, neither the students' awareness of signs and symptoms nor the BC signs (value >0.05) are associated with the current study's findings(Abo Al-Shiekh, Ibrahim, & Alajerami, 2021). Our study agreed, and sometimes conflicted, with other studies, as were the results of our study there was a strong association between BSE and attitudes (P 0.001). There was also a strong link between practice and knowledge level (P 0.001). Furthermore, there was a strong link between attitude and practice level. although, BSE, on the other hand, was not linked with any of the attitudinal factors on breast cancer curability or screening(Dandash & Al-Mohaimeed, 2007). However, according to (Kalliguddi et al., 2019)study in India's Silicon Valley, knowledge and attitude were not connected, attitude and practice were not correlated, but knowledge and practice were significantly correlated.

Sanad Alqarni, et al indicated a significant link between attitude and knowledge level. P 0.001 was also shown to be a significant association between practice and knowledge level. Furthermore, there was a significant association between attitude and practice level, and shows the link between total attitude level and total practice level; there was a significant relationship between attitude level and practice level. Agreed with previous study(Sanad Alqarni et al., 2023). A thorough examination of the data indicated a substantial association between attitude and knowledge level, as well as a significant relationship between attitude level and practice level. The current study's findings were congruent with the findings of (Asmare, Birhanu, & Wako, 2022), who indicated that were strongly linked with knowledge, attitudes, and behaviors concerning BSE. However, according to Kalliguddi, Sharma, and Gore's study in India's Silicon Valley, knowledge and attitude were not connected, attitude and practice were not correlated, but knowledge and practice were significantly correlated(Kalliguddi et al., 2019).

This study aimed to evaluated Palestine women’s knowledge, attitudes, and practices about BC and BSE.

Chapter six:

Conclusion and Recommendations:

6.1 Conclusion:

The researcher provides insight on Palestinian women's awareness of BSE and BC. Women are well-informed about BC, including its risk factors and associated variables. Women's attitudes on learning about BC, getting health advice, and participating in BSE, on the other hand, were all positive. The general public's lack of understanding affects BC prevention and early detection. The necessity of the hour is to raise public awareness about BC through educational initiatives delivered via mass media. BC education resulted in an increase in BSE and mammography practice.

In general, knowledge of BC illness and associated issues is good. However, there is still a knowledge gap about BC early identification and management techniques. Furthermore, the pupils have not been advised of the frequency and timing of BSE practice. Women's regular practice of BC will rise if we teach and tell them about the processes of performing BSE. This highlights the necessity of implementing a training program to raise knowledge about BC and practice BSE as part of the local and international efforts to combat this terrible illness.

6.2 Recommendations

1. Additional effort is being made by health care providers to raise female BSE awareness.

2. More research is needed to uncover the deep-seated obstacles and facilitators of BSE.

3. Additional efforts are being made by health care providers to launch a campaign program at primary health care facilities and universities to raise female knowledge about BSE.

6.3 limitation

1. The researcher was unable to expand the sample size due to the circumstances of the country and the difficulty of movement in the Palestine.

2. The researcher focused on isolated communities, where getting around was challenging while gathering data.

3. The MOH strikes, which caused a delay in the researcher's data collection.

4. Women found the subject uninteresting and considered it forbidden, particularly at the qualitative stage.

References

Abo Al-Shiekh, S. S., Ibrahim, M. A., & Alajerami, Y. S. (2021). Breast cancer knowledge and practice of breast self-examination among female university students, Gaza. *The Scientific World Journal, 2021*.

Abu-Helalah, M. A., Alshraideh, H. A., Al-Serhan, A.-A. A., Kawaleet, M., & Nesheiwat, A. I. (2015). Knowledge, barriers and attitudes towards breast cancer mammography screening in Jordan. *Asian Pacific Journal of Cancer Prevention, 16*(9), 3981-3990.

Akpınar, Y. Y., Baykan, Z., Naçar, M., Gün, İ., & Çetinkaya, F. (2011). Knowledge, attitude about breast cancer and practice of breast cancer screening among female health care professionals: a study from Turkey. *Asian Pac J Cancer Prev, 12*(11), 3063-3068.

Al-Dubai, S., Qureshi, A. M., Saif-Ali, R., Ganasegeran, K., Alwan, M. R., & Hadi, J. (2011). Awareness and knowledge of breast cancer and mammography among a group of Malaysian women in Shah Alam. *Asian Pac J Cancer Prev, 12*(10), 2531-2538.

Al-Mousa, D. S., Alakhras, M., Hossain, S. Z., Al-Sa'di, A. G., Al Hasan, M., Al-Hayek, Y., & Brennan, P. C. (2020). Knowledge, Attitude and Practice Around Breast Cancer and Mammography Screening Among Jordanian Women. *Breast Cancer (Dove Med Press), 12*, 231-242. doi:10.2147/bctt.S275445

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*(8), 3595-3600.

Alshahrani, M., Alhammam, S. Y. M., Al Munyif, H. A. S., Alwadei, A. M. A., Alwadei, A. M. A., Alzamanan, S. S. M., & Aljohani, N. S. M. (2019). Knowledge, attitudes, and practices of breast cancer screening methods among female patients in primary healthcare centers in Najran, Saudi Arabia. *Journal of Cancer Education, 34*, 1167-1172.

Alwan, N. A., Tawfeeq, F. N., & Mallah, N. A. (2019). Demographic and clinical profiles of female patients diagnosed with breast cancer in Iraq. *Journal of Contemporary Medical Sciences, 5*(1).

Armstrong, L. E., Casa, D. J., Millard-Stafford, M., Moran, D. S., Pyne, S. W., & Roberts, W. O. (2007). American College of Sports Medicine position stand. Exertional heat illness during training and competition. *Medicine and science in sports and exercise, 39*(3), 556-572.

Asmare, K., Birhanu, Y., & Wako, Z. (2022). Knowledge, attitude, practice towards breast self-examination and associated factors among women in Gondar town, Northwest Ethiopia, 2021: a community-based study. *BMC Women's Health, 22*(1), 174.

Birhane, K., Alemayehu, M., Anawte, B., Gebremariyam, G., Daniel, R., Addis, S., . . . Negash, W. (2017). Practices of breast self-examination and associated factors among female debre berhan university students. *International journal of breast cancer, 2017*.

Dahiya, N., Basu, S., Singh, M. C., Garg, S., Kumar, R., & Kohli, C. (2018). Knowledge and practices related to screening for breast cancer among women in Delhi, India. *Asian Pacific journal of cancer prevention: APJCP, 19*(1), 155.

Dahlui, M., Ramli, S., & Bulgiba, A. M. (2011). Breast cancer prevention and control programs in Malaysia. *Asian Pacific Journal of Cancer Prevention, 12*(6), 1631-1634.

Dandash, K. F., & Al-Mohaimeed, A. (2007). Knowledge, attitudes, and practices surrounding breast cancer and screening in female teachers of Buraidah, Saudi Arabia. *International journal of health sciences, 1*(1), 61.

Davis, T. C., Arnold, C., Berkel, H. J., Nandy, I., Jackson, R. H., & Glass, J. (1996). Knowledge and attitude on screening mammography among low-literate, low-income women. *Cancer, 78*(9), 1912-1920. doi:10.1002/(sici)1097-0142(19961101)78:9<1912::aid-cncr11>3.0.co;2-0

DeSantis, C., Ma, J., Bryan, L., & Jemal, A. (2014). Breast cancer statistics, 2013. *CA: a cancer journal for clinicians, 64*(1), 52-62.

Dey, S., Sharma, S., Mishra, A., Krishnan, S., Govil, J., & Dhillon, P. K. (2016). Breast Cancer Awareness and Prevention Behavior Among Women of Delhi, India: Identifying Barriers to Early Detection. *Breast Cancer (Auckl), 10*, 147-156. doi:10.4137/bcbcr.S40358

Francies, F. Z., Hull, R., Khanyile, R., & Dlamini, Z. (2020). Breast cancer in low-middle income countries: abnormality in splicing and lack of targeted treatment options. *Am J Cancer Res, 10*(5), 1568-1591.

González-Timoneda, A., Ruiz Ros, V., González-Timoneda, M., & Cano Sánchez, A. (2018). Knowledge, attitudes and practices of primary healthcare professionals to female genital mutilation in Valencia, Spain: are we ready for this challenge? *BMC Health Services Research, 18*(1), 1-13.

Gulhan, Y., ÜNALAN, D., & ÖZTÜRK, A. (2013). Knowledge, attitudes and behaviour of women working in government hospitals regarding breast self examination. *Asian Pacific Journal of Cancer Prevention, 14*(8).

Hadi, M. A., Hassali, M. A., Shafie, A. A., & Awaisu, A. (2010). Evaluation of breast cancer awareness among female university students in Malaysia. *Pharmacy practice, 8*(1), 29.

Jamshed, S. Q., Khan, M. U., Ahmad, A., & Elkalmi, R. M. (2016). Knowledge, perceptions, and attitudes toward complementary and alternative medicines among pharmacy students of a Malaysian Public University. *J Pharm Bioallied Sci, 8*(1), 34-38. doi:10.4103/0975-7406.171686

Kalliguddi, S., Sharma, S., & Gore, C. A. (2019). Knowledge, attitude, and practice of breast self-examination amongst female IT professionals in Silicon Valley of India. *Journal of Family Medicine and Primary Care, 8*(2), 568.

Lemlem, S. B., Sinishaw, W., Hailu, M., Abebe, M., & Aregay, A. (2013). Assessment of knowledge of breast cancer and screening methods among nurses in university hospitals in Addis Ababa, Ethiopia, 2011. *International Scholarly Research Notices, 2013*.

Leong Abdullah, M. F. I., Hami, R., Appalanaido, G. K., Azman, N., Mohd Shariff, N., & Md Sharif, S. S. (2019). Diagnosis of cancer is not a death sentence: examining posttraumatic growth and its associated factors in cancer patients. *Journal of Psychosocial Oncology, 37*(5), 636-651.

Lim, Y. X., Lim, Z. L., Ho, P. J., & Li, J. (2022). Breast Cancer in Asia: Incidence, Mortality, Early Detection, Mammography Programs, and Risk-Based Screening Initiatives. *Cancers (Basel), 14*(17). doi:10.3390/cancers14174218

Marinho, L. A. B., Cecatti, J. G., Osis, M. J. D., & Gurgel, M. S. C. (2008). Knowledge, attitude and practice of mammography among women users of public health services. *Revista de Saúde Pública, 42*, 200-207.

Munyambaraga, E. (2017). *Knowledge and practice towards breast cancer screening among adult women in Gicumbi health district, Rwanda.* University of Rwanda,

Nelson, H. D., Tyne, K., Naik, A., Bougatsos, C., Chan, B. K., & Humphrey, L. (2009). Screening for breast cancer: an update for the US Preventive Services Task Force. *Annals of internal medicine, 151*(10), 727-737.

Ogunkorode, A. (2019). *Health-seeking behaviors of women with advanced breast cancer in southwestern Nigeria.* University of Saskatchewan,

Papadopoulos, E., Santa Mina, D., Abu Helal, A., & Alibhai, S. M. (2022). The relationship between objective measures of physical function and serum lactate dehydrogenase in older adults with cancer prior to treatment. *Plos one, 17*(10), e0275782.

Parkin, D. M., & Fernández, L. M. (2006). Use of statistics to assess the global burden of breast cancer. *The breast journal, 12*, S70-S80.

Parsa, P., Kandiah, M., & Parsa, N. (2011). Factors associated with breast self-examination among Malaysian women teachers. *East Mediterr Health J, 17*(6), 509-516.

Polit, D. F., & Beck, C. T. (2012). Gender bias undermines evidence on gender and health. *Qualitative health research, 22*(9), 1298.

Prates, A. C. L., Freitas-Junior, R., Prates, M. F. O., Veloso, M. d. F., & Barros, N. d. M. (2017). Influence of body image in women undergoing treatment for breast cancer. *Revista Brasileira de Ginecologia e Obstetrícia, 39*, 175-183.

Ramathuba, D. U., Ratshirumbi, C. T., & Mashamba, T. M. (2015). Knowledge, attitudes and practices toward breast cancer screening in a rural South African community. *Curationis, 38*(1), 1-8.

Rosmawati, N. (2010). Knowledge, attitudes and practice of breast self-examination among women in a suburban area in Terengganu, Malaysia. *Asian Pac J Cancer Prev, 11*(6), 1503-1508.

Salem, M. A. A., Al Shazly, H. A., Ibrahem, R. A., Kasemy, Z. A., & Abd El-Roaf, S. Y. (2020). Knowledge, attitude, and practice of breast self-examination among women attending primary health care facility, Menoufia Governorate, Egypt. *Menoufia Medical Journal, 33*(1), 44.

Sanad Alqarni, A., Abd Elrahman Elhanafey, S., Eltayeb Ahmad, K., Mohammed Abojameelah, S., A Algharib, D., & Elmashad, A. M. (2023). Knowledge, Attitude and Practice of Female toward Breast Self-Examination at Abha City. *Egyptian Journal of Health Care, 14*(2), 466-475.

Shallouf, F. A. A. (2020). *Knowledge and Practices of Breast Cancer Early Detection among Female Nurses at Governmental Primary Health Clinics in Gaza Strip-Palestine.* Al-Quds University,

Siu, R., Bukhari, W., Todd, A., Gunn, W., Huang, Q. S., & Timmings, P. (2016). Acute Zika infection with concurrent onset of Guillain-Barré Syndrome. *Neurology, 87*(15), 1623-1624.

Smith, R. A., Saslow, D., Sawyer, K. A., Burke, W., Costanza, M. E., Evans III, W. P., . . . Sener, S. (2003). American Cancer Society guidelines for breast cancer screening: update 2003. *CA: a cancer journal for clinicians, 53*(3), 141-169.

Taiwo, O., & Tunde, O. (2016). Breast cancer awareness, attitude and screening practices in Nigeria: a systematic review. *Clinical Reviews and Opinions, 7*(2), 11-25.

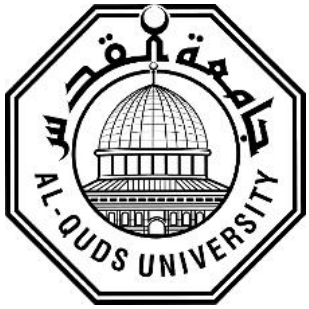
Thistlethwaite, J., & Stewart, R. A. (2007). Clinical breast examination for asymptomatic women: exploring the evidence. *Australian family physician, 36*, 145-149.

Torre, L. A., Islami, F., Siegel, R. L., Ward, E. M., & Jemal, A. (2017). Global cancer in women: burden and trends. *Cancer epidemiology, biomarkers & prevention, 26*(4), 444-457.

Wang, L., Hossain, S. Z., & Mackenzie, L. (2017). Breast Cancer Screening Practices and Associated Factors among Chinese-Australian Women Living in Sydney.

Wolf, A. M., Wender, R. C., Etzioni, R. B., Thompson, I. M., D'Amico, A. V., Volk, R. J., . . . Andrews, K. (2010). American Cancer Society guideline for the early detection of prostate cancer: update 2010. *CA: a cancer journal for clinicians, 60*(2), 70-98.

Annex I: The questionnaire



جامعه القدس - قسم التصوير الطبي

الأخت المواطنة :

يهدف هذا البحث إلى معرفة مدى وعي النساء حول التصوير الإشعاعي للثدي (الماموغرافي) وممارسات المرأة فيما يتعلق بالكشف المبكر عن سرطان الثدي في فلسطين لذا نحن مهتمون بمعرفه آرائكم.

الإجابات التي سوف يتم الحصول عليها ستساعدنا في تحديد معرفة وممارسة النساء حول الكشف المبكر عن سرطان الثدي . وستعامل هذه الإجابات بشكل يضمن سرية وخصوصية المشاركين في هذه الدراسة وسوف تستخدم هذه المعلومات لأغراض البحث العلمي فقط وعليه لا داعي لكتابة الاسم أو أي معلومات تدل على شخصكم الكريم .

الباحثة : صابرين ثوابته

إشراف الدكتور : محمد حجوج

شاكرين لكم حسن تعاونكم

القسم الأول :

البيانات الشخصية :يحتوي هذا القسم على معلومات مرجعية عامة

الرجاء وضع ✓ في المكان الذي يناسبك:

1. **مكان السكن:** ☐مدينة ☐قرية ☐غير ذلك, حددي ----------
2. **العمر الحالي:** ☐اقل من20 ☐30-20 ☐40-31 ☐اكبر من 40
3. **الحالة الاجتماعية :** ☐متزوجة ☐مطلقة ☐ارملة
4. **مستوى التعليم:** ☐غير متعلمة. ☐إعدادي ☐ثانوي ☐جامعي ☐دراسات عليا
5. **العمل الحالي:** ☐ تعمل ☐ لا تعمل ☐غير ذلك

6. **الدخل الشهري(بالشيكل) لجميع أفراد الأسرة الذين يعيشون في المنزل:**

☐5000 فما فوق اقل من 2500 ☐5000-2500☐

7. **العمل الحالي للزوج: .....**
8. **مستوى تعليم الزوج:.....**
9. **عدد أفراد الأسرة الذين يعيشون معك في نفس المنزل:.....**

10.هل تقومي بزيارة الطبيب وعمل الفحص الطبي الروتيني باستمرار ☐ نعم ☐ لا

11.اذا كان الجواب نعم، متى يحصل ذلك:

☐ **كل ستة شهور** ☐ **كل سنة** ☐ **دون وقت محدد** ☐ **عندما اشعر بالمرض**

12.هل تعرفين عن الفحص المبكر لسرطان الثدي ؟ ☐ نعم ☐ لا

13.هل تعرفين عن احد أصيب بسرطان الثدي؟ ☐ نعم ☐ لا

14.هل يوجد في العائلة تاريخ مرضي بسرطان الثدي؟ ☐ نعم ☐ لا

15.اذا كانت الاجابة نعم ... كم عدد الافراد المصابين .....

16.ما هي درجة القرابة :

☐ درجة قرابة اولى (ام، اخت ، خالة ، عمه)

☐ درجة قرابة ثانية (بنت عم، بنت خال)

☐ درجة قرابة ثالثة (اقرباء في العائلة بصلة الدم)

☐ متى حصلت الاصابة بسرطان الثدي في اطار العائلة :

17.ما مستوى معرفتك بالفحص الذاتي لسرطان الثدي

لا فكرة لدي إطلاقا ☐ **ضعيفة** ☐ **متوسطة** ☐ **كبيرة** ☐ **كبيرة جدا**☐

18.من اين تلقيت المعلومة والمعرفة عن الفحص الذاتي للثدي؟

الطاقم الطبي ☐ **التلفاز** ☐ **الراديو** ☐ **الكتب والمجلات** ☐ **غير ذلك**

.....

19.هل سبق وقمتي بعمل الفحص الذاتي للثدي: ☐ نعم ☐ لا

20.هل سبق وان تحسست او شعرت باي اختلال او كتل في اثناء الفحص الذاتي للثدي؟

☐ نعم ☐ لا

21.اذا كان الجواب نعم، متى تحسستي ذلك ؟

هذا العام ☐ قبل عام ☐ قبل عامين ☐ قبل ثلاثة اعوام ☐ قبل اكثر من ☐ ثلاثة اعوام

22.هل سمعتي عن التصوير الإشعاعي لتشخيص سرطان الثدي (الماموغرافي)؟ ☐ نعم

☐ لا

23.ما مستوى معرفتك عن التصوير الإشعاعي (الماموغرام)

لا فكرة لدي إطلاقا ☐ ضعيفة ☐ متوسطة ☐ كبيرة ☐ كبيرة جدا☐

24.من اين تلقيت المعلومة والمعرفة عن التصوير الإشعاعي (الماموغرام)؟

الطاقم الطبي ☐ التلفاز ☐ الراديو ☐ الكتب والمجلات ☐ غير ذلك ☐

.....

25.هل تعتقدين ان التصوير الإشعاعي (الماموغرام) وسيلة مناسبة لتشخيص سرطان الثدي؟ ☐ نعم

☐ لا

26.حسب معرفتك ما هو العمر الذي يتوجب على المرأة البدء بالتصوير الإشعاعي (الماموغرام)؟.....

27.حسب معرفتك كم مرة يجب عمل التصوير الإشعاعي (الماموغرام) للنساء ؟.....

28.هل قمتي بعمل التصوير الإشعاعي (الماموغرام) من قبل؟

☐ نعم ☐ لا

29.كم مرة قمتي بعمله من قبل:.....

30.متى كانت اخر مرة قمتي فيها بعمل التصوير الإشعاعي (الماموغرام)؟

هذا العام ☐ **قبل عام** ☐ **قبل عامين** ☐ **قبل ثلاثة اعوام** ☐ **قبل اكثر من ثلاثة اعوام**

31.من قام بنصحك بعمل التصوير الإشعاعي (الماموغرام):

☐ **الطبيب** ☐ **الممرضة** ☐ **العائلة** ☐ **الاصدقاء** ☐ **لوحدي**

32.أين أجريت هذا فحص التصوير الإشعاعي (الماموغرام)؟

مركز طبي حكومي ☐ **مركز طبي خاص** ☐ **مركز اشعة متخصص** ☐ **لا اذكر**☐

33.هل تعلمي ان القانون الصحي ينص على ان كل سيدة يتجاوز عمرها ال 40 عاما يتوجب عليها عمل التصوير الإشعاعي (الماموغرام) كل سنة ؟ ☐ نعم ☐ لا ☐ لا اهتم بذلك

شكرا لتعاونكم

Annex I: The questionnaire

Citizen sister:

This research aims to know the extent of women's awareness about mammography and maternal practices regarding early detection of breast cancer in the West Bank Governorate, so we are interested in knowing your opinions.

The answers that will be obtained will help us determine the knowledge and practice of women about early detection of breast cancer. These answers will be treated in a way that guarantees the confidentiality and privacy of the participants in this study, and this information will be used for scientific research purposes only. Therefore, there is no need to write your name or any information that indicates your honorable person

Thank you for your cooperation.

First section:

Demographic data: This section contains your general demographic information. Please indicate your response with a checkmark (✓) next to the answer that best represents you.

1- Place of residence: ☐ City ☐ Village ☐ etc., specify ----------

2- Age: ☐ less than20 ☐ 20-30 ☐ 31-40 ☐ older than 40

3- Marital status: ☐ married ☐ divorced ☐ widowed

4- Education level: ☐ uneducated ☐ Secondary ☐ Bachelor ☐ Postgraduate studies

5- Current work: ☐ working ☐ does not work ☐ etc

6- Total monthly household income (in shekels): ☐ Less than 2500 ☐ 2500-5000 ☐ 5000 and above

7- The husband's current career: .....

8- The level of education of the husband: .....

9- The number of family members living with you at the house: .....

10- Do you visit the doctor and do a routine medical check-up constantly:

☐ yes ☐ No

11- If the answer is yes, when will it happen: ☐ Every six months ☐ every year ☐ year without a specific time ☐ when I feel sick

Section two:

This section assesses your knowledge, attitudes, and practices toward self-breast examination and mammography screening, so please indicate your response with a checkmark (✓) next to the answer that best represents you.

12- Do you know about early screening for breast cancer? ☐ Yes ☐ No

13- Do you know of anyone who has had breast cancer? ☐ Yes ☐ No

14- Is there a history of breast cancer in your family? ☐ Yes ☐ No

15- If the answer is yes, please specify the number of individuals who are infected

.....

16- Degrees of kinship:

☐ 1st degree (mother, sister, aunt, uncle)

☐ 2nd degree (cousin)

☐ 3rd degree (blood relatives in the family)

17- When did breast cancer occur in the family? ----------

18- What is your level of knowledge regarding breast cancer self-examination?

☐ no idea ☐ weak ☐ medium ☐ big ☐ very ☐ big

19- Where did you acquire knowledge about breast self-examination? ☐ medical ☐ staff ☐ TV ☐ radio ☐ books ☐ magazines ect:----------

20- Have you ever performed a breast self-examination? ☐ Yes ☐ No

21- Have you ever felt any abnormality or lumps during a breast self-examination?

☐ Yes ☐ No

22- If you answered yes, when did you feel that it? ☐ this year ☐ a year ago ☐ two years ago ☐ three years ago ☐ more than three years ago

23- Have you heard about mammography for the diagnosis of breast cancer?

☐ Yes ☐ No

24- What is the level of your knowledge about mammography? ☐ no idea at all ☐ weak ☐ Medium ☐ Big ☐ very big

25- What is the source of your information and knowledge about mammography?

☐ Medical staff ☐ TV ☐ radio ☐ books ☐ magazines ☐

etc.....

26- Do you think that mammography is a suitable method for diagnosing breast cancer? ☐ Yes ☐ No

27- According to your knowledge, which age do you think is recommended for women to start getting radiography? ----------

28- How often should women get a mammogram in your opinion? ----------

29- Have you ever had a mammogram before? ☐ Yes ☐ No

30- How many times have you done it before? .....

31- When was the last time you had a mammogram? ☐ this year ☐ a year ago ☐ two years ago ☐ three years ago ☐ more than three years ago

32- Who advised you to do mammography? ☐ Doctor ☐ nurse ☐ family ☐ friends ☐ alone

33- Where did you have the mammogram scan done? ☐ Government Medical Center ☐ Private Medical Center ☐ Specialized Radiology Center ☐ I don't remember.

34- Did you know that the health law determines that every woman over 40 must have a yearly mammogram? ☐ Yes ☐ No ☐ I am not interested.

"Thank you for your cooperation."

Annex II: Facilation Letter:

Al Quds University
Faculty of Health Professions
Medical Imaging Department
Jerusalem –Abu Dies

جامعة القدس
كلية المهن الصحية
دائرة التصوير الطبي
القدس– أبوديس

التاريخ :21\NOV\2023

حضرة د. اسامة النجار المحترم \ الوكيل المساعد للمهن الطبية - وزارة الصحة الفلسطينية وبنوك الدم،

تحية طيبة وبعد،

الموضوع : تسهيل مهمة باحثة من جامعة القدس – ابو ديس

ايمانا منا بدوركم في خدمة وتطوير المجتمع الفلسطيني واستنادا لمعرفتنا بالدور الهام الذي تقومون به في دعم التعليم والبحث العلمي،

نتوجه لحضرتكم التكرم بالايعاز للمعنيين المساعدة بتسهيل مهمة الباحثة صابرين ثوابتة من برنامج ماجستير تكنولوجيا التصوير الطبي – كلية المهن الصحية \جامعة القدس في جمع المعلومات اللازمة من المراكز الصحية والمستشفيات لدراسة وتقييم "الوعي والتوجه والممارسة لدى النساء الفلسطينيات تجاه فحص سرطان الثدي (الفحص الذاتي للثدي والتصوير الشعاعي للثدي)" في النظام الصحي الفلسطيني.

ستقوم الطالبة بعمل بحث بعنوان:

Awareness, attitude, and practice among Palestinian women towards breast cancer screening (breast self-examination and mammography)

وسيتم اطلاعكم على نتائج البحث.

وتفضلوا بقبول فائق الاحترام والتقدير،،،

د.محمد حجوج
المشرف الاكاديمي

Tel: 02 2799753 + 022799234 Email: hp@hpf.alquds.edu تلفون: 02 2799234 + 022799753
Tel. Fax: 02 2791243 تلفاكس: 02 2791243

الملخص:

الوعي والاتجاه والممارسة لدى النساء الفلسطينيات تجاه فحص سرطان الثدي (الفحص الذاتي للثدي والتصوير الشعاعي للثدي).

اعداد : صابرين علي محمد ثوابته

اشراف : د. محمد حجوج

سرطان الثدي هو أكثر أنواع السرطان انتشاراً بين النساء في جميع أنحاء العالم، يؤدي إلى حوالي 400ألف حالة وفاة سنوياً. يجب أن يكون لدى جميع النساء فهم أساسي للفحص الذاتي للثدي. تهدف هذه الدراسة الى تحديد معرفة وسلوكيات ومعتقدات المرأة الفلسطينية حول سرطان الثدي والفحص الذاتي للثدي. تم الحصول على البيانات باستخدام استبيان منظم تم توزيعه على 200 امرأة فلسطينية. تم تقييم معرفة المشاركات وسلوكهن ومواقفهن حول سرطان الثدي والفحص الذاتي للثدي باستخدام الاستبيان. وكشفت الدراسة أن 70% من المشاركات لديهن وعي بسرطان الثدي و30% لم يكن لديهن علم بمصطلح الفحص الذاتي للثدي. كشفت الدراسة أن معدلات المشاركة في الدراسة في فحص التصوير الشعاعي للثدي والفحص الذاتي للثدي. ووفقا للنتائج، فإن 63% من المشاركات لم يمارسن الفحص الذاتي للثدي على الإطلاق، مقارنة بـ 37% ممن مارسن هذا الفحص. علاوة على ذلك، فإن 30% فقط خضعن لفحص التصوير الشعاعي للثدي، مقارنة بـ 70% لم يفعلن ذلك. تسلط هذه النتائج الضوء على ضرورة رفع مستوى الوعي العام وتعزيز الفحص الذاتي للثدي والتصوير الشعاعي للثدي من أجل تعزيز الكشف المبكر والتدابير الوقائية اللازمة لمرض سرطان الثدي. ويجب بذل المزيد من الجهود لتوسيع معارف النساء حول سرطان الثدي والكشف المبكر والعلاج.

التوصيات: يجب بذل مزيد من الجهود لتوسيع معرفة النساء بسرطان الثدي والكشف المبكر عنه وعلاجه.

الكلمات المفتاحية: سرطان الثدي، الفحص الذاتي للثدي، المعرفة، السلوك.