Republic of Iraq

Ministry of Higher Education

And Scientific Research

University of Babylon

College of Nursing

Effectiveness of an Educational Program on women's Awareness and Attitude Concerning Breast Cancer

A Dissertation Submitted to

The Council of College of Nursing، University of Babylon

in partial fulfillment of the Requirements for the Degree

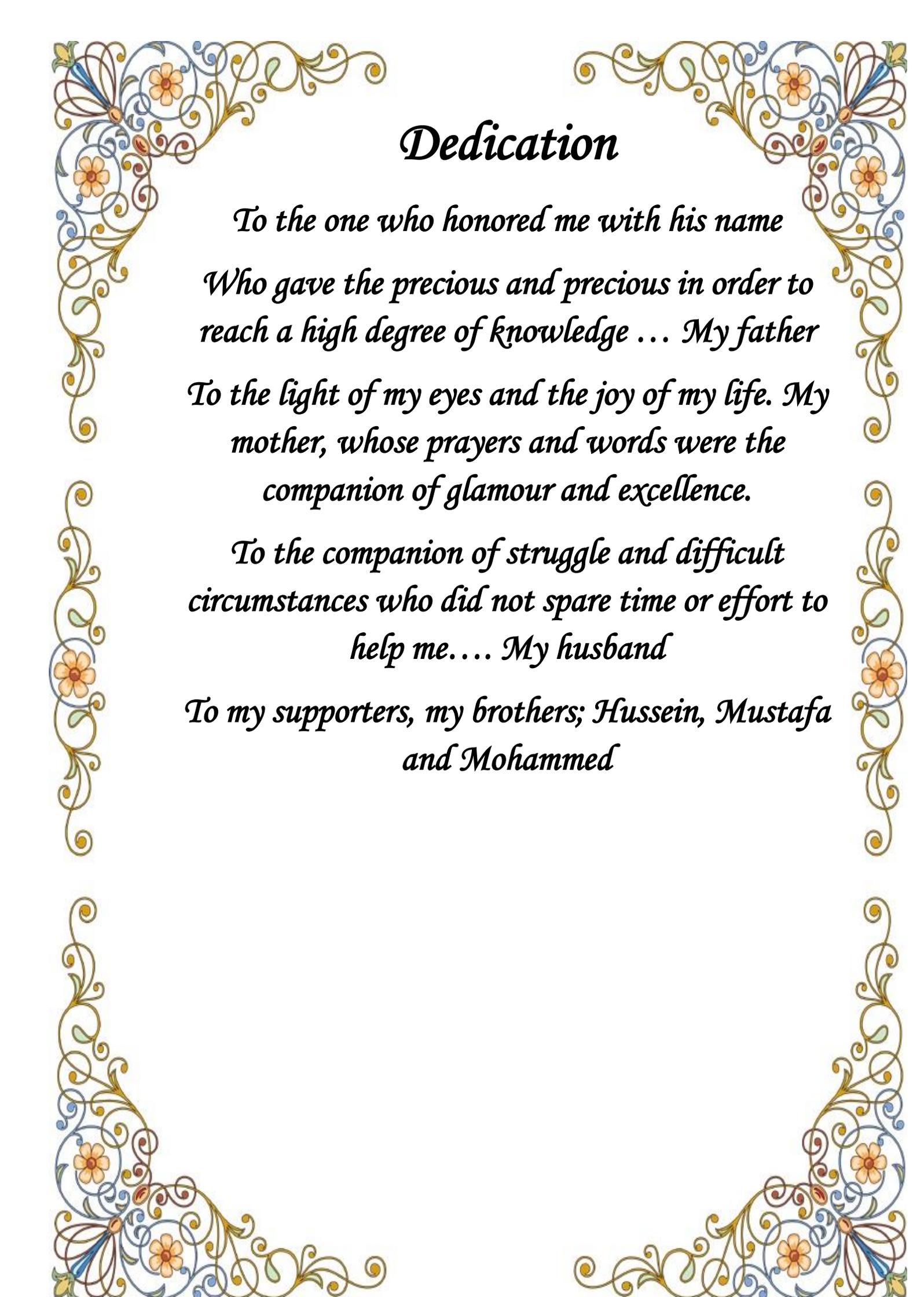Doctorate of philosophy in Nursing

By

Hiba Jassim Hafidh

Supervised by

Prof. Dr. Fakhria Jaber Muaibes

Assist Prof. Dr. Mays hadi jebur

May/ 2023 A.D   Shaban/ 1444 A.H

Dedication

To the one who honored me with his name

Who gave the precious and precious in order to reach a high degree of knowledge … My father

To the light of my eyes and the joy of my life. My mother, whose prayers and words were the companion of glamour and excellence.

To the companion of struggle and difficult circumstances who did not spare time or effort to help me…. My husband

To my supporters, my brothers; Hussein, Mustafa and Mohammed

Supervisors Certification

*We certify that this thesis, entitled (**Effectiveness of an Educational Program on Women's Awareness and Attitude Concerning Breast Cancer**), submitted by **Hiba Jassim Hafidh** was prepared under our supervision and guidance at the Department of Adult Nursing, College of Nursing, University of Babylon as a partial fulfillment of the requirement for the Doctorate degree in Nursing Philosophy.*

Supervisor

Prof. Dr. Fakhria Jaber Muaibes

College of Nursing/ University of Babylon

Date: /   / 2023

Supervisor

Assist. Prof. Dr. Mays hadi jebur

College of Nursing/ University of Babylon

Date: /   / 2023

Certification

We, the examining committee, certify that we have read this dissertation (*Effectiveness of an Educational Program on Women's Awareness and Attitude Concerning Breast Cancer*), which is submitted by (**Hiba Jassim Hafidh**) from the department of Adult Nursing, and we have examined the student in its contents, and what is related to it and we decide that it is adequate for awarding the degree of Doctorate degree in Nursing Philosophy.

Signature   Signature

Prof . Dr. Salma K. Jihad   **Prof. Dr. Shatha Saadi Mohammed**

Date: /   / 2023   Date: /   / 2023

Signature   Signature

Assist Prof . Dr. Heba jassim Hamza   **Assist Prof. Dr. Wafaa Ahmed Ameen**

Date: /   / 2023   Date: /   / 2023

Signature

Prof. Dr. Rajha Abdulhassan Hamza

Chairman

Date: /   / 2023

Approved by the council of the College of Nursing/ University of Babylon

Prof. Dr. Amean Ajil Yasir

Dean of College of Nursing/ University of Babylon

Date: /   / 2023

Acknowledgements

Abstract

Background: The effectiveness of an educational program on women's awareness and attitude concerning breast cancer refers to the impact and outcomes of a targeted initiative aimed at enhancing women's understanding of breast cancer, its risks, detection methods, and treatment options. Such programs are designed to increase awareness and positive attitudes among women, ultimately leading to improved early detection, increased willingness to seek medical advice, and better adherence to recommended screening practices.

Methods: This study employed a pre-experimental approach to investigate the impact of an intervention program on breast cancer awareness and attitudes among residents of Diwaniyah city, spanning the period from October 20th 2021 to May 15th 2023. The study involved a sample of 60 individuals, with data collected through pre-post-tests I and II. Rigorous validation by professionals ensured the questionnaire's validity, and a pilot study established its reliability. Data were gathered through interviews and analyzed using both inferential and descriptive statistical techniques.

Results: The results show the average age of 31 years, predominantly comprising married women residing in urban areas and unemployed. The initial assessment before the intervention revealed that a substantial proportion (85% and 50%) of women exhibited inadequate knowledge of breast cancer and held unfavorable attitudes toward it. Following the implementation of the intervention program, post-test I results indicated a notable enhancement in both knowledge and positive attitudes among women (approximately 85% and 66.7%). These gains were sustained in the responses observed after a month.

Conclusion: collaborative implementation of such programs alongside nursing professionals, featuring targeted interventions for nursing mothers,

proves instrumental in cultivating awareness and fostering positive attitudes. Furthermore, emphasizing the significance of breast cancer prevention through diverse screening approaches remains pivotal. The study underscores the urgency of community initiatives and public awareness campaigns to address prevalent knowledge gaps, advocating for multifaceted channels such as informative sessions and media outlets.

Table of Contents

Subject	Page

List of Tables

List of Figures

List of Appendices

Appendix	Appendices
A1	Approval of the study by the University of Babylon/College of Nursing Council
A2	Official licenses were sought from the AL-Diwaniyha Health Directorate
B١	Questionnaire
B2	Program
C	List of Experts
D	Languish Checker

List of Abbreviations

Item	Meaning
ACS	American Cancer Society
BBDs	benign breast diseases
BRCA1	breast cancer 1
BSE	breast self examination
CBE	clinical breast examinations
CBE	Clinical Breast Exam
CNB	Core needle biopsy
FDA	Food and Drug Administration
FNAC	fine needle aspiration cytology
HRT	hormone replacement therapy
LDL	low-density lipoprotein
M.S	Mean of score
PHCC	Primary Health Care Centre
PPV	positive predictive value
S	Significant
S.D	Standard Deviation
SERM	selective estrogen receptor modifier
WHO	World Health Organization

Symbol Table

Symbol	Meaning
%	Percentage
$	Dollar
β	Beta
±	Plus minus
>	More than
<	Less than
≥	More or equal to
≤	Less or equal to

Chapter One

Introduction

Chapter One

Introduction

1.1.Introduction

Breast cancer is a complex ailment characterized by the emergence of malignant tumors within the breast tissues. The specific cells affected within the breast determine the type of breast cancer, which can manifest in diverse areas of the breast. The most common form of invasive breast cancer is ductal carcinoma, originating outside the ductal regions of the breast tissue. A secondary prevalent variant is lobular carcinoma, where malignancy spreads from the breast lobes to adjacent tissues (CDC, 2021).

Recognized as a significant global health concern for women beyond adolescence, breast cancer holds prominence according to the World Health Organization (WHO) (Alenezi et al., 2022). This condition arises when breast tissue undergoes malign transformation, resulting in cancerous cell growth. Its heterogeneity is evident, influenced by factors such as the individual, age group, and the cellular composition of the tumors. Facing a breast cancer diagnosis can be daunting, but it's essential to remember that this news does not equate to the end of life. Navigating through information and embracing hope are pivotal initial strides in charting a path towards resilience and recovery (Alzabaidey, 2012).

It laid the groundwork for Iraq's nationwide early breast cancer identification program, launched in 2001 to destigmatize the disease from its inception. Since then, major hospitals across provinces have established specialized facilities and clinics for early breast cancer detection. Early diagnosis significantly enhances prognosis, curtailing the progression of consequences and impairments, thus elevating both longevity and quality of life. Timely detection also simplifies breast cancer treatment. Many medical professionals recommend women over 20 to conduct monthly breast self-examinations (BSE) to detect any new lumps or changes (Ebrahim, 2014).

In all nations, an imperative public health strategy involves early detection of breast cancer, which heightens the chances of discovering cases early and achieving positive outcomes. This leads to improved survival rates and quality of life for women. Nonetheless, research underscores that women's knowledge, awareness, and perceptions about the condition substantially influence their healthcare-seeking behavior (Black and Richmond, 2019).

Breast-Self Examination (BSE) proves valuable, particularly in resource-limited nations, allowing women to familiarize themselves with their breasts and promptly report any anomalies. However, while mammography remains the most effective tool for early breast cancer detection (Birhane et al., 2021), BSE and Clinical Breast Examination (CBE) hold significance in resource-constrained settings due to their cost-effectiveness. Such techniques are promoted in areas like Ghana, where comprehensive screening guidelines and literacy programs are lacking, and advanced diagnostic equipment is scarce (Osei et al., 2021; Bevers et al., 2020).

Moreover, early breast cancer detection is correlated with age-adjusted mortality rates. Screening facilitates the early identification of cancers, enabling swifter treatment and boosting survival rates. Just as awareness drives people to seek medical help at the onset of symptoms, delays in seeking medical attention often stem from a mix of sociodemographic factors and inadequate understanding. Therefore, assessing women's knowledge about breast cancer and identifying barriers to immediate medical assistance is crucial (Hamed et al., 2022).

The World Health Organization and national cancer control centers endorse mammography-based screening programs for early breast cancer diagnosis. While mammography doesn't provide a definitive diagnosis, it serves as an imaging tool to assess breast health. Radiologists aid surgeons by interpreting results, enabling informed decisions for each patient.

Mammography's sensitivity in diagnosing clinically occult breast cancer has led to reduced breast cancer-related deaths. Al-Hawwaz et al. (2021; Ginsburg et al., 2020) highlight mammography's high sensitivity as a screening test, with a positive predictive value (PPV) of 15% to 30% for diagnosing malignancy in non-palpable lesions.

The Primary Health Care Center (PHCC) has undertaken several initiatives to enhance early detection, screening, and health education. Notably, they focus on identifying women eligible for mammography and executing oncotic cytology, including the Clinical Breast Exam (CBE). This involves active efforts to track defaulting patients and devising targeted interventions based on findings (de Oliveira et al., 2018).

A successful early diagnosis hinges on adequate information and awareness. Women within the medical community possess the ability to profoundly influence their female patients' perceptions of screening procedures, fostering positive attitudes and outlooks. They serve as primary sources of advice for cancer detection and screenings, extending their guidance not only to patients but also to female friends and family, regardless of their specialization. Tackling the hesitation that women often feel discussing these matters with male doctors is vital, underscoring the need to equip female healthcare professionals with knowledge to empower their patients, loved ones, and friends (Heena et al., 2019).

Insufficient information and awareness about cancer detection, breast self-examination (BSE), and clinical breast inspection contribute to delayed diagnoses of breast cancer in Saudi women. Knowledge and awareness play pivotal roles in women's decision to seek medical help, and inadequate information leads to advanced-stage presentations with limited therapeutic benefits. Societal obstacles, unhealthy habits, stigma, lack of education, and limited access to screening further compound the issue (Sarker et al., 2022).

Breast cancer risk factors have been widely reported across global literature. While some risk factors are shared among nations, variations exist. Natural and pharmaceutical estrogens, weight gain, physical inactivity, and alcohol consumption are recognized risk factors (Argenal et al., 2019). Genetic susceptibility and family history also contribute.

Late menopause, early menarche, delayed first childbirth, oral contraceptive use, hormone replacement therapy, overweight status, excessive alcohol consumption, and radiation exposure are factors associated with breast cancer development (AL-Behadily & Al-Tukmagi, 2017). Similarly, a number of variables have been linked to breast cancer occurrence, including increasing age, healthy family history, early menarche, inactivity, excess weight, late menopause, history of benign tumors, malignancy in the other breast, high saturated fat diet, excessive alcohol use, oral contraceptive use, hormone replacement therapy, and smoking (Ghalib et al., 2019; Sindi et al., 2019; Di Sibio et al., 2016).

Menstruation and reproductive factors significantly influence breast cancer risk (Butt et al., 2012; Zangana et al., 2012). Factors such as age at menstruation, null parity, age at first childbirth, and lack of breastfeeding impact risk. Menopause leads to significant hormonal shifts, affecting a woman's susceptibility to breast cancer.

Menopausal transition alters hormone-related breast cancer risks, as hormonal factors shape the disease's development. Investigations have explored this topic to varying degrees (Sojewska, 2021). Endogenous progesterone and estrogen exposure, originating from the ovaries, increase breast cancer risk. Reproductive factors influencing hormone exposure include nulliparity, late pregnancy, delayed menopause, and early menarche. Breastfeeding and pregnancy decrease a woman's hormone exposure (Altaha & Haifa, 2013).

Age remains a primary breast cancer risk factor, as in many cancers (Osei-Afriyie et al., 2021). Breast tissue exposure to reproductive

hormones is influenced by various factors, including weight gain, long-term post-menopausal hormone use, alcohol consumption, and sedentary lifestyle. Personal health history and genetic susceptibility also contribute to risk.

Inadequate dissemination of basic information about breast cancer endangers women's lives and well-being. Effective information sharing must involve doctors, medical students, nurses, and health professionals, addressing the silent toll of breast cancer in unaware women (Darre et al., 2020).

Timely diagnosis significantly impacts quality of life and survival rates, with detection stages closely tied to cancer outcomes (Izanloo et al., 2018). Beyond breast cancer's prevalence, Iraq and other developing nations face distinct challenges such as increasing incidence rates, younger age at diagnosis, advanced disease stages, and aggressive tumor types (Alwan et al., 2012).

While a third of women believed in immunity to breast cancer, a majority recognized its universal risk. Women with secondary and higher education equally understood breast cancer risk factors, including breastfeeding, genetics, lifestyle, and nutrition (Bhatt et al., 2011).

Risk factors for breast cancer span familial susceptibility, reproductive history, hormone exposure, lifestyle, and even work-related factors (Rakhshani et al., 2022). Early diagnosis's impact on survival underscores its significance.

Higher survival rates in developed nations can be attributed to early detection, proper treatment, and palliative care. Ethnic disparities and challenges among vulnerable populations must be addressed (Isaak, 2015).

1.2. Importance of the study:

Breast cancer stands as a formidable global health concern, disproportionately affecting women. While it constitutes a mere five percent of cases in women under forty, an alarming seventy percent of instances arise in those above fifty. Annually, the world witnesses around 700,000 new cases, with a staggering fifty-seven percent concentrated in underdeveloped nations. Astonishingly, breast cancer's prevalence is escalating globally, particularly in economically disadvantaged regions that once experienced lower rates (Suleiman, 2014).

This rising trend is largely attributed to increased lifespans, economic progress, and the adoption of Western lifestyles in developing countries. Notably, recent research by the World Health Organization predicts a significant surge in cancer rates, especially in the Middle East, over the next fifteen years (Francies et al., 2020).

In the Middle East, the overall cancer mortality rate currently stands at seventy percent, a stark contrast to the 40-55% range in Western countries. Predictions indicate a concerning forty percent rise in annual newly diagnosed cancer cases by 2020. Addressing this challenge necessitates a concerted effort to promote early detection and effective treatments, underscoring the urgent need for awareness campaigns and comprehensive understanding of all forms of malignancies in this region (Siddiqui et al., 2021).

Iraq, specifically, has faced a significant gap in knowledge and practices related to breast cancer. A survey targeting educated individuals affiliated with prominent Iraqi universities revealed a concerning fifty percent of participants with low knowledge scores about breast cancer and breast self-examination (BSE) (Salman, 2015). Despite awareness levels of BSE reaching 90.9 percent, actual adoption of the practice stood at 48.3 percent.

These factors collectively position breast cancer as the most prevalent malignancy among Iraqi women. Current data from the Iraqi Cancer Registry (Al-Fadhli et al., 2016) underscores that breast cancer constitutes a striking one-third of all reported female cancer cases.

Within Iraq, female breast cancer commands attention as it accounts for a substantial 34.4 percent of the total cancer cases, significantly affecting the female population. Remarkably, a surge in breast cancer rates has been noted in Iraq, particularly among women aged 60 to 69 (Al-Saigh et al., 2020).

A case study in Dhi-Qar Province, where breast cancer was most prevalent, illuminated a concerning situation with 115 cases, a 12.3 percent higher mortality rate, and an incidence rate of 6.34 per 100,000 women. Breast self-examination (BSE), a critical tool for early detection, is often underutilized in developing nations due to various barriers. Mammography, the gold standard for breast cancer detection, is rarely employed in Iraq due to limited awareness, high costs, technological constraints, and specialized expertise requirements. Additionally, the likelihood of false-negative mammograms increases among young patients in Iraq where the prevalence of cases in younger women is notable (Ewaid et al., 2018).

Given these compelling circumstances, breast cancer firmly retains its status as the foremost cancer among Iraqi women, contributing to almost one-third of reported female cancer cases and over one-quarter of female cancer-related fatalities. Over the past two decades, the incidence of breast cancer has surged, presenting a significant threat to the well-being of Iraqi women. Notably, the impact is most pronounced among middle-aged women who often face advanced diagnoses, resulting in a higher mortality rate due to delayed intervention (Alwan, 2010).

According to the latest data from the Iraqi cancer registry, there is a notable trend indicating that the disease is affecting younger women. The most common malignancies among the entire population comprise

approximately 34.44 percent of recorded female cancer cases. In Iraq, the incidence rate of breast cancer among women of all ages has been on the rise, with a significant growth rate observed in the 60-69 age range. This increase in breast cancer prevalence is believed to be linked to higher occurrences of risk factors in most countries. Unfortunately, breast cancer often goes undetected until it reaches stage two, emphasizing the importance of early diagnosis through breast cancer screening for better treatment outcomes (Alwan, 2016).

However, recent research by Sung et al. (2021) highlights that breast cancer stands as the most prevalent form of cancer and ranks as the sixth leading cause of death among women globally. Shockingly, 2.3 million new cases of breast cancer are now diagnosed annually, accounting for one out of every eight cancer diagnoses. It overwhelmingly dominated cancer cases in women in 2020, representing a quarter of all female cancer incidences. This burden continues to escalate worldwide, particularly in transitioning countries, as noted by Arnold et al. (2022).

The highest incidence rates are found in regions such as "Australia/New Zealand (95.5/100,000), Western Europe (90.7/100,000), Northern America (89.4/100,000), and Northern Europe (86.4/100,000)," while lower rates are observed in "South-Eastern Asia (41.2/100,000), Central America (39.5/100,000), Eastern Africa (33.0/100,000), Middle Africa (32.7/100,000), and South Central Asia (26.2/100,000)."

In contrast, within Iraq, the frequency of new cancer cases has surged from 52.00/100,000 in 2000 to 91.66/100,000 in 2019. Breast cancer constitutes the primary cause of death among women in Iraq, accounting for nearly one-third of all cancer-related deaths in the country in 2019 (Iraqi Cancer Board, 2019). Breast cancer emerges as the predominant malignancy in terms of prevalence (34.08 percent, 35.95/100,000), incidence rate (6.22/100,000), and mortality (22.58

percent, 6.22/100,000), all reaching their peak in 2019 (Iraqi Cancer Board, 2019).

Moreover, while breast cancer rates remained relatively stable in Iraq between 2000 and 2009, the latest data from the Iraqi Cancer Registry indicates a dangerous uptick in incidence rates, particularly among women over 50, since 2009. In 2013, breast cancer constituted 19.4 percent of all detected cancers, roughly 34.7 percent of malignancies in women, and 22.5 percent of female cancer-related fatalities in Iraq. Studies conducted in the country reveal that over forty percent of breast cancer cases are diagnosed at advanced stages, with middle-aged women experiencing the highest incidence (Alwan et al., 2018).

Furthermore, the most recent annual report of the Iraqi Cancer Registry, published in 2018, revealed 31,502 new cases of cancer out of an estimated population of 38 million. The total number of cancer-related deaths amounted to 10,293. Referencing Table 1, breast cancer exhibits the highest prevalence among the top ten most common malignancies in Iraq.

Table 1-1. Prevalence of cancers in Iraq with greater incidence and fatality rates(2018).

Higher incidence rate	No.	%	Higher mortality rate	No.	%
Breast	6,206	19.70	Bronchus and lung	1,628	15.82
Bronchus and lung	2,529	8.19	Breast	1,198	11.64
Colorectal	1,936	6.15	Leukemia	865	8.40
Leukemia	1,899	6.03	Brain and CNS	830	8.06
Urinary bladder	1,542	4.89	Colorectal	637	6.19
Brain and CNS	1,541	4.89	Stomach	554	5.38
Thyroid gland	1,413	4.49	Liver	535	5.20
Non-Hodgkin lymphoma	1,268	4.03	Pancreas	479	4.65
Skin and other	1,142	3.63	Urinary bladder	417	4.05
Prostate	1,023	3.25	Non-Hodgkin lymphoma	343	3.33
Total top 10	**20,549**	**65.23**	**Total top 10**	**7,486**	**72.73**
Total cancers of other sites	**10,953**	**34.77**	**Total cancers of other sites**	**2,807**	**27.27**
Total	**31,502**	**100**	**Total**	**10,293**	**100**

(Alrawi, 2022)

The incidence of breast cancer is on a continuous upward trajectory, comprising 6,094 cases (making up 34.06% of all cancer types) and resulting in 1,166 deaths (accounting for 23.02% of all cancer-related deaths). Particularly concerning is the higher mortality rate among women aged 70 and above. As indicated in Table 2, among the top 10 prevalent malignancies in women, breast cancer exhibits the highest rates of both incidence and mortality, while stomach and uterine nonspecific cancers exhibit the lowest rates (Alrawi, 2022).

Cancer incidence and mortality rates have witnessed a rapid escalation globally over the past decade. In 2018 alone, an estimated 9.6 million cancer-related deaths occurred alongside an additional 18.1 million new cases worldwide. According to the GLOBOCAN 2018 study, breast cancer constitutes 2.08 million new cases annually, leading to 630,000 fatalities. These statistics underscore that breast cancer constitutes 24.2 percent of all cancer diagnoses in women, positioning it as the most prevalent cancer among women globally (Bray et al., 2018).

Breast cancer survival rates exhibit significant disparities worldwide, ranging from more than 80% in regions like North America, Sweden, and Japan, to slightly above 60% in middle-income areas, and dropping below 40% in low-income countries. The prevailing low survival rates in less developed countries primarily stem from insufficient early detection capabilities and inadequate multi-modality care. This deficiency in program awareness leads to a substantial proportion of late-stage disease identification (Ahmed et al., 2022).

Breast cancer stands as a paramount global public health concern, affecting women across different socio-economic backgrounds in both industrialized and developing nations. Roughly one in eight women face the risk of developing breast cancer in their lifetime. Annually, over a million women across the world receive a breast cancer diagnosis, with more than 410,000 succumbing to the illness. Breast cancer's prevalence as

the most widespread cancer type in women worldwide is evident, with an estimated mortality rate of 6 to 29 per 100,000 (Sun et al., 2017).

Notably, breast cancer ranks as the second most common cancer worldwide, affecting approximately 1.4 million individuals annually and taking the lead as the most frequent cancer in women. In 2018, there were 2.1 million newly diagnosed cases of breast cancer, comprising around 12% of all cancer cases, with an estimated 627,000 global fatalities. Following lung cancer, breast cancer holds the position of the second most prevalent disease overall. The higher incidence in developed nations compared to developing ones might be attributed to specific lifestyle choices and reproductive factors that are more prevalent in these regions. It is important to acknowledge that the rapid rise in rates observed in many developing countries might be partially attributed to the lack of knowledge, screening measures, and diagnostic resources in these regions (Ferlay et al., 2021).

The Breast Health Global Initiative Summit Guidelines recommend CBE (Clinical Breast Examination) as the preferred screening method for early detection of breast cancer in resource-limited nations. A study conducted in Mumbai, utilizing an adjusted model, demonstrated that implementing biannual CBE for women aged forty to sixty led to improved cost-efficiency and reduced mortality (Mualla and Al-Alwan, 2014).

1.3. Statement of the Problem:

Breast cancer is a significant global health concern and a leading cause of mortality among women. Early detection and awareness play a crucial role in improving treatment outcomes and reducing mortality rates associated with breast cancer. In Al-Diwaniyah City, like in many other regions, there is a need to enhance the level of awareness and positive attitudes towards breast cancer among women who utilize primary health care centers. Despite the availability of medical resources, limited

awareness about breast cancer and its importance for early detection and prevention remains a challenge.

The primary health care centers in Al-Diwaniyah City are essential points of contact for women seeking medical assistance and information. However, the existing level of knowledge and attitude concerning breast cancer among women attending these centers is not well-documented, and there is a lack of targeted educational programs focused on improving awareness and attitudes related to breast cancer. This gap in knowledge and awareness may result in delayed diagnoses, reduced treatment effectiveness, and increased mortality rates among women diagnosed with breast cancer.

The proposed study aims to address this gap by evaluating the effectiveness of an educational program designed to enhance awareness and foster positive attitudes regarding breast cancer among women who visit primary health care centers in Al-Diwaniyah City. The study will assess the baseline knowledge and attitudes of women towards breast cancer, and subsequently, measure the impact of the educational program on their awareness and attitudes. The program's effectiveness will be determined by comparing pre-intervention and post-intervention data to identify any significant changes in knowledge acquisition, attitude transformation, and intention to engage in breast cancer screening practices.

By investigating the effectiveness of the educational program, this study seeks to contribute valuable insights into the design and implementation of targeted health education initiatives within primary health care settings. The results of this study could potentially lead to improved breast cancer awareness, earlier detection, and ultimately, enhanced survival rates among women in Al-Diwaniyah City.

1.4. The Objectives of the study are to:

1. To assess women's awareness and attitudes towards breast cancer.

2. Investigate the effectiveness of a breast cancer education program on awareness and attitudes

3. Find out the relationship between women's awareness, attitudes regarding breast cancer, and demographic characteristics.

1.5. Hypotheses

Null Hypothesis:

The program has no statistically significant positive impact on women's awareness and attitude towards breast cancer.

Alternative Hypothesis:

The instructional program significantly and positively enhances women's awareness and attitude towards breast cancer.

1.6. Definitions of terms:

1.6.1. Effectiveness:

a. Theoretical Definition:

Effectiveness is the capacity to achieve success and yield the intended outcomes (Cambridge Dictionary, 2022).

b. Operational Definitions:

Effectiveness is gauged by the extent to which a breast cancer training program has achieved its intended impact, as evidenced by measurable increases in knowledge scores and shifts in attitude scores.

1.6.2. Awareness:

a. Theoretical Definition:

Awareness pertains to recognizing the existence of something or grasping the current understanding of a situation or subject, influenced by prior experience or knowledge (Cambridge Dictionary, 2022).

b. Operational Definition:

Awareness is represented by the accurate responses provided by women in response to a structured questionnaire on breast cancer. This information is quantified as an awareness score.

1.6.3. Attitudes:

a. Theoretical Definition:

Attitudes encompass one's emotional disposition toward something or someone, encapsulating specific sentiments or opinions (Cambridge Dictionary, 2022).

b. Operational Definition:

An attitude is expressed when a woman shares a belief, emotion, or opinion about breast cancer. These attitudes are evaluated using an attitude scale and quantified as attitude scores.

1.6.4. Breast Cancer Teaching Program:

a. Theoretical Definition:

A teaching program constitutes a systematically organized set of instructions designed to facilitate learning among individuals (Kurt, 2017).

b. Operational Definition:

This refers to a methodically designed educational resource on breast cancer developed by the researcher for women. The awareness campaign encompasses comprehensive information about the definition, risk factors, symptoms, diagnostic tests, breast self-examination, and management of breast cancer.

Chapter Two

Review of Literature

Chapter Two

Review of Literature

This chapter provides a comprehensive overview of the existing literature in the field. A thorough search was undertaken across multiple databases to identify studies published within the most recent five years. The search encompassed prominent databases such as the Cumulative Index of Nursing and Allied Health Literature (CINAHL), the Cochrane Database, and Google Scholar. A combination of relevant terms was employed to ensure a comprehensive exploration of the available literature.

2.1. History of breast cancer

The historical journey of breast cancer traces back to 377 B.C. when Hippocrates first discussed its effects. Democedes achieved a notable cure in 525 B.C., and the ancient Ebers Papyrus around 1600 B.C. suggested treatments like fire drills and surgical excision. Progress continued through the years. In 1714 A.D., Petit proposed that swollen lymph nodes caused cancer and advocated their removal, along with other tissues. Cruikshank's 1786 work explained the breast's lymphatic system, followed by Cooper's ligament identification in 1845.

The late 19th century marked significant advances. Halsted refined radical mastectomy from 1882 to 1907 (Lakhtakia, 2014). Sappey identified lymph nodes in 1885, while Tansini achieved rapid breast reconstruction in 1896. Gocht experimented with radiation in 1897, and Rotter noted tumor metastasis along the lymphatic system in 1899.

Mid-20th century progress included Dyson and Patey's modified mastectomy in 1943. Urban's 1952 efforts focused on node removal, and Olivari pioneered flap-based reconstruction with silicone prostheses in 1974. Contrasting with Olivari, Veronesi in 1981 showed that breast conservation treatments equaled radical mastectomy in survival rates (Jeevan Prakash, 2016).

Breast cancer has a historical presence in the Middle East, dating back to ancient times when even the ancient Egyptians recognized it around 3000-1500 BC. This type of cancer originates from the breast's cells and is commonly associated with women, although men can also be affected. The female breast comprises various components including milk-producing glands (lobules), milk-carrying ducts, fatty and connective tissues, blood vessels, and lymphatic vessels. While most breast cancers emerge in the lobules (lobular cancer), a minority originate in other tissues (Salem et al., 2010).

2.2. Overview of Breast Disease

Breast cancer is the most prevalent malignancy in women, and its impact is significant. Statistics from the National Cancer Institute (2013) reveal that 1 in 8 women in the US faces a lifetime risk of developing breast cancer. This disease is particularly feared among women and holds a prominent place in cancer concerns.

Among various ethnic groups, African American women experience the highest mortality rate related to breast cancer. While breast cancer incidence is generally lower in younger women, it tends to spread rapidly once it manifests. Unfortunately, due to apprehensions, many women avoid breast examinations and screenings, either out of fear of diagnosis or concerns about the screening process itself. Consequently, fostering awareness about breast cancer and emphasizing early detection through screening are essential priorities (Power et al., 2018).

Breast cancer originates from the uncontrolled growth of malignant cells in the breast's ductal or lobular cells, spurred by DNA damage. The most noticeable physical manifestation of breast cancer is usually an unnoticed, painless lump. Occasionally, the disease advances to the lymph nodes under the arms before the primary tumor in the breast becomes palpable. Symptoms also encompass sensations of discomfort, changes in breast tissue texture like swelling or hardness, alterations in skin coloration,

and less commonly, nipple abnormalities such as discharge (particularly if it's bloody), erosion, or irritation (Williams et al., 2016).

It's important to note that the absence of discomfort does not indicate the absence of breast cancer, as small and manageable tumors often remain asymptomatic. Adhering to recommended guidelines for early breast cancer detection is crucial for women's health (Ruddy et al., 2014).

In 2013, the American Cancer Society (ACS) provided age-specific guidelines for early breast cancer detection. Women aged 20 to 39 are recommended to undergo clinical breast exams (CBE) every three years, while those above 40 should have yearly mammograms and CBEs, with optional breast self-exams (BSE). High-risk women are advised to use MRI alongside mammograms for screening (Oeffinger et al., 2016).

Breasts, auxiliary to the female reproductive system, consist of stromal tissues (fatty and fibrous connective tissue) and glandular tissues producing milk. The shape is maintained by ligaments and connective tissue (Khan and Sajjad, 2019).

The breast is divided into lobes, each containing smaller structures producing milk, which then travels through ducts to the nipple. The areola surrounds the nipple. Blood vessels, lymphatics, nodes, and nerves provide sensation to the breast (Cleveland Clinic, 2020).

Understanding breast anatomy helps in detecting benign breast issues. Benign breast diseases (BBDs) are non-cancerous and more common than malignant problems. While benign issues are more frequent, they receive less attention. Around 30% of women with BBDs might require treatment, and nearly 50% experience symptoms in their lifetime. Given their potential link to cancer risk, investigating benign breast lesions is crucial (Santen 2018).

2.3. Pathology and Pathophysiology

Breast cancer risk factors include being female, age over 50, family history, BRCA1/BRCA2 gene mutations, radiation exposure in early life,

prior cancer, certain medical histories, alcohol use, early menarche, late menopause, obesity, and childbirth delay. African American women have higher risk but white women face greater mortality. Most diagnosed women lack known risk factors. Breast anatomy comprises lobes connected by ducts; common cancers are ductal and infiltrating lobular carcinomas. Hormone-dependent types involve estrogen/progesterone. Untreated cancer can spread via axillary lymph nodes (Sun et al., 2017; Makki, 2015).

Various factors contribute to an increased risk of breast cancer. Prominent risk factors include being female, age exceeding 50, and having a family history of the disease. Inherited faulty genes like BRCA1 and BRCA2 heighten risk among relatives of breast cancer patients. Additional risks include exposure to ionizing radiation during youth, previous breast cancer, histories of colon or endometrial cancer, chronic alcohol consumption, early menstruation, late menopause, obesity, and delaying childbirth until after 30. While African American women face a higher likelihood of breast cancer, White women have a greater fatality rate. It's noteworthy that the majority of diagnosed women lack typical risk factors (Sun et al., 2017).

The breast comprises 15 to 20 lobes, interconnected by ducts and smaller lobules. Predominant breast cancers are ductal carcinoma (80%) and infiltrating lobular carcinoma (10%). Other types include medullary, mucinous, and tubular carcinomas, along with aggressive inflammatory breast cancers. Some breast cancers depend on hormones like estrogen and progesterone for growth. If left untreated, breast cancer can metastasize through axillary lymph nodes, irrespective of its origin (Makki, 2015).

The mammary system consists of a network of minute ducts that interconnect the lobes, lobules, and bulbs within the breast. Milk, generated in the bulbs, is conveyed through these ducts, eventually reaching the areola – a darker patch at the breast's center. These ducts merge into larger conduits that culminate at the nipple, the source of milk for nursing infants.

Surrounding the lobes and ducts, there are ligaments, connective tissue (stroma), and fatty deposits. The volume of the breasts primarily hinges on their adipose content. While the milk-producing structures are fundamentally uniform among females, the breasts are distinguished by their fatty composition, as muscular tissue is absent. Notably, muscles do separate the breasts from the underlying ribs (National Cancer Institute, 2014).

The anterior chest wall's superficial fascia houses the mature female breast, extending from the sternal border to the midaxillary line laterally, and spanning from the second rib superiorly to the sixth or seventh rib inferiorly. The breast's base partially overlays the serratus anterior muscle and predominantly rests upon the pectoralis major muscle. In this arrangement, a small segment covers the external oblique aponeurosis (Rivard et al., 2021).

Below the deep fascia, the only identified region of breast tissue is the tail (of Spence), which is a continuation of the upper lateral quadrant's breast tissue. This tail extends through a Langer gap in the medial axillary wall (John & Panajiotis, 2014).

The distinctive pink tone of the areola and nipple's epidermis stems from the superficial blood vessels within lengthy dermal papillae. During puberty and pregnancy, increased melanin content in basal cells leads to darkening of the area. The dermis blends with the superficial fascia of the breast parenchyma (Garijo et al., 2009).

2.4. The anatomy and physiology of the breast

A woman should have a clear understanding of her breast's healthy appearance before conducting a Breast Self-Examination (BSE). It is crucial for every woman to recognize how her breasts typically appear, as outlined by the American Cancer Society and the International Agency for Research on Cancer (IARC), enabling her to promptly identify any unusual

changes. In the context of BSE, having a grasp of breast physiology and anatomical structure is essential (Dadzi and Adam, 2019).

The breast is a part of the female reproductive system and appears in rudimentary form in males. Prior to puberty, both males and females possess similar breast structures. After the onset of puberty, a female's breasts start developing, situated beneath the pectoralis muscles within the anterior superficial fascia of the chest. Extending from the second rib level superiorly to the seventh rib level inferiorly on the front chest wall, the breast encompasses a vertical span (Stone and Wheeler, 2015).

Horizontally, the breast reaches out to the mid-axillary line and is bordered medially by the lateral aspect of the sternum. The upper region of the breast features a teardrop-shaped projection oriented towards the axilla. This anatomical detail is clinically significant, as it can harbor abnormal breast masses. Posteriorly, the breast lies against the retromammary region, allowing for some mobility along the chest wall. The breast's supportive framework is composed of the suspensory tendons shaped by breast fascia, radiating in a radial pattern. Particularly robust suspensory ligaments in the upper breast provide the necessary support for its weight. The fibrous rim, known as the inframammary ridge, serves as a protective boundary for the lower aspect of the breast, as noted by Clemenceau et al. (2020).

2.5. Risk factors for breast disease

Risk factors for breast disease can vary widely and play a significant role in determining an individual's susceptibility to such conditions. These risk factors encompass a combination of genetic, lifestyle, hormonal, and environmental elements. Family history of breast cancer or certain genetic mutations, such as BRCA1 and BRCA2, are strong indicators of increased risk. Hormone-related factors like early onset of menstruation, late menopause, or hormone replacement therapy can also influence breast disease risk due to their impact on estrogen exposure.

Prolonged exposure to estrogen over a woman's lifetime can potentially heighten susceptibility (McVeigh et al., 2021; Sun et al., 2017).

Other lifestyle factors include excessive alcohol consumption, obesity, and a sedentary lifestyle. These elements contribute to an altered hormonal environment and increased levels of inflammation, potentially fostering an environment conducive to breast disease development. Moreover, being physically inactive can influence weight gain and hormone levels, further compounding risk (Cyr et al., 2011).

Certain reproductive factors, such as nulliparity (not having given birth), having a first child at an older age, and not breastfeeding, can also elevate the risk. These factors are intertwined with hormonal dynamics and the cumulative lifetime exposure to estrogen (Ellington et al., 2022).

Environmental influences cannot be disregarded either. Prolonged exposure to ionizing radiation, such as through medical procedures or occupational settings, has been associated with a higher risk of breast disease. Additionally, exposure to certain endocrine-disrupting chemicals found in everyday products might have a role in altering hormone balance and impacting breast health (Khalis et al., 2018).

Risk factors for breast disease involve a complex interplay of genetic predisposition, hormonal influences, lifestyle choices, reproductive history, and environmental exposures. Acknowledging and understanding these factors can empower individuals to make informed decisions about their health, undergo appropriate screenings, and adopt healthier lifestyles to potentially mitigate their risk of developing breast diseases (Braithwaite et al., 2018).

Thompson (2012) highlights that women with a prior history of breast cancer face an increased risk of developing new cancer in the opposite breast, especially if they carry BRCA mutations. The risk rise ranges from 10% to 30% for those with lobular carcinoma in situ and 30% to 50% for those with ductal carcinoma in situ.

Fretcher (2016) proposes a connection between a woman's lifetime exposure to estrogens and her menstruation cycle count with breast cancer development. Risk escalates with late menopause (at age 55 or older) and decreases with early menarche (before age 11).

Korde et al. (2014) suggest that never giving birth elevates breast cancer risk post-menopause compared to those with multiple childbirths. Starting a first full-term pregnancy at or after age 30 heightens risk. However, having a first child at a younger age might lower risk, despite not always being a lifestyle choice.

The risk of breast cancer is influenced by various factors. Women who have previously undergone a breast biopsy with findings of proliferative anomalies, especially atypical hyperplasia, are at a higher risk. Benign breast conditions that aren't proliferative, like fibrocystic changes, don't increase the risk. Understanding biopsy results is crucial for determining screening frequency (Hartmann et al., 2015).

Certain lifestyle factors play a significant role in breast cancer risk. In postmenopausal women, obesity, especially around the waist, can increase the risk up to 2.5 times. Minimizing red meat consumption, particularly fatty cuts, is advised. Conversely, obesity seems to offer protection for pre-menopausal women due to reduced estrogen levels from anovulatory cycles (Shepherd & Mclnerney 2016).

Physical activity is associated with lower breast cancer risk. Consistent exercise is emphasized to decrease the risk. Conversely, regular and heavy alcohol consumption significantly raises breast cancer risk. Reducing alcohol intake can help lower this risk, and folic acid supplementation might mitigate risk for drinkers (Korde et al. 2014).

Smoking is a known breast cancer risk factor; smokers have a 25% higher risk of death from breast cancer. Understanding these risk factors empowers women for early detection and signifies effective communication (Shepherd & Mclnerney, 2016).

2.5.1. Risk Modulators - Lifestyle Factors:

1. Postmenopausal Hormone Use:

Using combined estrogen and progestin hormone therapy (HT) after menopause increases breast cancer risk and mortality, especially with prolonged use. Starting treatment immediately after menopause carries higher risk. This risk diminishes after five years of treatment cessation (Chen, 2011).

2. Obesity and Weight Gain:

After menopause, breast cancer risk rises with obesity. Overweight women have about 1.5 times higher risk, and obese women have roughly double the risk due to elevated estrogen from excess adipose tissue (Picon-Ruiz et al., 2017).

3. Physical Activity:

Regular physical exercise reduces breast cancer risk by 10%–20%, particularly among postmenopausal women. Increased activity post-menopause lowers risk by about 10%, likely due to effects on hormones, energy balance, and body mass (Eliassen et al., 2010).

4. Diet:

Despite extensive research, diet's impact on breast cancer risk is inconclusive. No clear connection exists between various foods (including fat, soy, meat, dairy, fruits, and vegetables) and risk. High-fat diets in adolescence may slightly elevate premenopausal risk (Park et al., 2021).

5. Alcohol:

Alcohol consumption raises breast cancer risk 7%–12% for each daily 10g intake (approximately one drink). The risk is dose-dependent regardless of alcohol type, driven by higher estrogen and androgen levels (McDonald et al., 2013).

6. Tobacco:

Although limited evidence links smoking to breast cancer, recent smoking increases risk by 12%. Smoking before first pregnancy could heighten risk further (Terry et al., 2011).

7. Oral Contraceptives:

Current research on low-dose oral contraceptives is limited. Earlier high-dose formulations may increase risk by 10%–30%. Long-term non-use aligns risk with those who never used them (Beaber et al., 2014).

8. Age and Breast Cancer Risk:

Breast cancer risk increases with age. About 77% of cases occur after age 50, with 50% above age 65. Risk statistics per age range:

a) 20–34: 2%

b) 35–44: 10%

c) 45–54: 23%

d) 55–64: 24%

e) 65–74: 20%

f) 75–84: 16%

g) 85 and older: 6% (White et al., 2014, CDC, 2014, Siegel RL. et al., 2017).

2.5.1.8. Family History:

Individuals with a family history of breast cancer face an elevated risk, particularly if the disease occurred in a mother or sister before menopause (Brewer et al., 2017).

2.5.1.9. Parity:

The timing of a woman's first childbirth is intricately linked to the occurrence of breast cancer, as underscored by McMahon et al. (2019) in their comprehensive global case management study. Those who delay their initial pregnancy until their late thirties face a higher risk, in contrast to women with multiple childbirth experiences. Unmarried women also exhibit higher breast enlargement tendencies compared to their married

counterparts. Nulliparous women share a similar risk profile. Conversely, an early, full-term pregnancy demonstrates a protective influence.

2.5.1.10. Genetic Risk Factors:

Mehrgou and Akouchekian (2016) reported that around 5% to 10% of breast cancer cases stem from hereditary factors, arising from specific gene mutations inherited from parents. Predominantly, mutations in the BRCA1 and BRCA2 genes drive hereditary breast cancer. These genes normally prevent abnormal cell growth, but inheriting mutated copies increases the lifetime risk of breast cancer. Roughly one in 200 women carry these genes, which predisposes them to breast cancer but does not guarantee its development. The risk linked with a positive family history is markedly influenced by the number of affected first-degree female relatives. For instance, an aggregated analysis encompassing data from over 50,000 breast cancer patients and 100,000 controls revealed a nearly twofold risk increase with one affected first-degree relative and a threefold increase with two such relatives (Zhou et al., 2014).

Moreover, the age at which the affected first-degree relative was diagnosed further shapes breast cancer risk. A relative's diagnosis before age 30 raises a threefold risk, while diagnosis after age 60 corresponds to a 1.5-fold increase (Phipps et al., 2011).

2.5.1.11. Hormonal Factors:

The intricate connection between breast cancer and early menarche and late menopause suggests the pivotal role of the ovary in breast cancer growth. Recent research highlights high estrogen levels and prostaglandin E1 as substantial risk factors. In essence, hormones emerge as key factors in unraveling the complexities of breast cancer (Yang et al., 2022).

2.6. Breast Cancer Diagnosis:

2.6.1. Comprehensive History and Physical Examination:

The clinical history plays a pivotal role in assessing cancer risk and identifying indications of breast disease. It encompasses several essential factors such as age at menarche, menopausal status, prior pregnancies, use of oral contraceptives, and hormone replacement therapy during post-menopausal years. It is crucial to gather information regarding personal breast cancer history, including age at diagnosis and any prior radiation treatments for other malignancies. Additionally, documenting a first-degree relative's history of breast or ovarian cancer is essential. A detailed account of past breast history, including previous biopsy findings, is required. The patient's presenting symptoms, encompassing breast soreness, nipple discharge, fatigue, bone pain, and weight loss, should be thoroughly evaluated. During the physical examination, the patient should be seated upright for an in-depth visual assessment, taking careful note of subtle changes, asymmetry, and evident masses (Shah et al., 2014).

Special attention should be paid to skin alterations like dimpling, erythema, and peau d'orange (associated with locally advanced or inflammatory breast cancer). A systematic palpation of the cervical, supraclavicular, and axillary lymph nodes should be performed while the patient is in a seated position. The size, number, and mobility of these nodes should be determined. Transitioning to a supine position with the ipsilateral arm raised, a palpation of the breast parenchyma is conducted. Sequentially, all quadrants of both breasts, including the subareolar (central) quadrant, are meticulously examined. This assessment captures details about mass size, shape, location, texture, and mobility (Van Uden et al., 2015).

2.6.2. Mammography Guidelines and Controversies:

Since the establishment of the United States Preventive Services Task Force (USPSTF) guidelines in 2009, the topic of mammographic

screening has sparked substantial medical debate and scrutiny. These guidelines recommend biennial screening for women aged 50 to 74, suggest shared decision-making for women aged 40 to 49, and point to insufficient evidence to support screening for women over 75 (1911 Warner). This ongoing debate has heightened awareness surrounding mammographic screening practices and their appropriateness within different age groups.
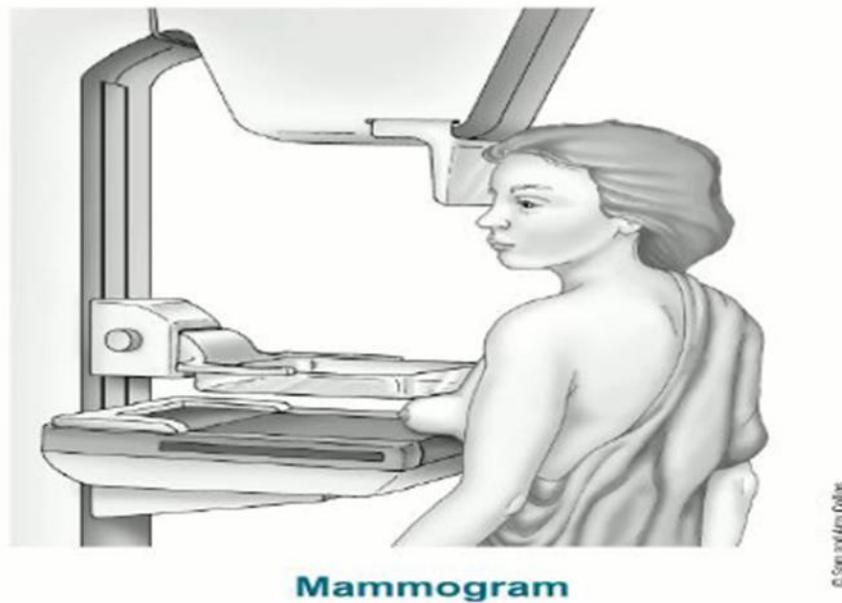
Figure 2.1. Mammogram

2.6.3 Ultrasound Imaging for Breast Disorders

Breast ultrasonography (US) stands as a fundamental tool in the quartet of breast disorder detection, alongside mammography, MRI, and image-guided needle biopsies. The choice between unilateral, focused breast US or bilateral total breast US hinges on factors like indications, mammographic breast density, and local regulations. Axillary scanning is reserved for women with clinical or radiological anomalies, particularly those with a personal history of breast cancer (Evans et al., 2018).

2.6.4 Enhancing Breast Biopsy for Accurate Diagnosis

Within the array of breast diagnostic techniques, the breast biopsy reigns supreme for unveiling breast cancer. Employing the triple test, which combines Breast MRI, clinical breast examination, and biopsy, is a

strategy to elevate diagnostic accuracy and mitigate false negatives (Bick et al., 2020).

2.6.5 Precise Needle Biopsy Techniques

Diagnosing breast cancer is refined through two distinct needle biopsy methods: core needle biopsy (CNB) and fine needle aspiration cytology (FNAC). FNAC, a minimally invasive approach, involves extracting cells from a suspicious tumor for laboratory analysis. Quick smears are used to assess sample adequacy, making FNAC swift and straightforward (Mitra and Dey, 2016). On the other hand, CNB captures small cylindrical tissue cores for examination, usually around the size of a rice grain. A pathologist examines these core samples for cancerous cells (Chakrabarti, 2018).

Vacuum-Assisted Stereotactic Core Biopsy

This technique retrieves multiple tissue samples through a minute incision using a suction-based device. The procedure, carried out under local anesthesia, is guided by mammography, MRI, or ultrasound. While discomfort might be experienced, the procedure offers valuable diagnostic insights (Akram et al., 2017).

Surgical Biopsy for Comprehensive Insight

When the abnormal area is petite or biopsy results are inconclusive, a surgical biopsy comes into play. Guiding wires are occasionally used in conjunction with local anesthesia and imaging techniques like MRI, ultrasound, or mammography to pinpoint the suspicious tissue. The subsequent biopsy, performed under general anesthesia, entails the removal of both the targeted tissue and a small portion of the guiding wire (Rollins et al., 2022).

2.7. Clinical Presentation of Breast Cancer:

Breast cancer can often be asymptomatic, particularly in the early stages when tumors are small, as highlighted by the American Cancer Society in 2013. The most common location for breast cancer development

is the outer region of the breast, with thirteen percent of cases affecting the left breast, as noted by Oeffinger et al. in 2015.

Characteristic signs and symptoms of breast cancer typically involve the detection of a mass or tumor anywhere within the breast. These growths are commonly solid and can be palpated, varying in size and shape, as discussed by Zhang et al. in 2012. Additionally, certain indicators encompass breast enlargement, changes in skin texture such as wrinkling, stippling, or convexity, and discomfort in the breast or even nipple pain, as described by various sources (Zhang et al., 2012; Sankaranarayanan et al., 2011).

Manifestations may also encompass skin changes, like thickening and redness, and the potential spread to the underarm lymph nodes, leading to swelling and sometimes bloody nipple discharge (Sankaranarayanan et al., 2011). However, breast discomfort is less often a direct precursor of breast cancer, as outlined by the American Cancer Society in 2012, as it can often be attributed to benign conditions. It's crucial to acknowledge that the presence of one or multiple symptoms doesn't necessarily confirm breast cancer; a comprehensive examination is essential (Monticciolo et al., 2018).

While early-stage warning signs of breast cancer are infrequent, specific symptoms may emerge as the disease progresses. Among the most common signs is the appearance of a new lump or mass, which can be either soft or firm, typically displaying irregular borders. However, benign conditions might also cause inflammation or itching due to hormonal changes, underscoring the importance of medical evaluation (Feng et al., 2018).

Furthermore, indications such as the presence of a lump ranging from marble to tennis ball size, resulting from cancer obstructing lymphatic pathways, are noteworthy. This can lead to lymphedema and breast swelling. An enlargement of only one breast may signal cancer if it's

recent, while long-standing enlargement since adolescence or breastfeeding is often benign (Fu, 2014).

Cancer impacting breast ligaments can induce malignant fibrosis, causing the ligaments to contract and the skin to dimple. This is evident in cases of breast skin dimpling. Nipple discharge can also provide clues; while crimson, black, or brown discharge may indicate blood and a potential connection to breast cancer, clear or green discharge is usually harmless. Congenital inverted nipples and retraction can be present since birth without significant consequences (Munyambaraga, 2017).

It's important to note that the advancement of early detection methods, particularly screening mammography, has increased the identification of asymptomatic breast cancers. However, even with optimal conditions, mammography may not identify all breast cancer types, as highlighted by Mann in 2022.

Breast cancer commonly presents as a novel growth or mass in the breast. These breast malignancies can exhibit various characteristics, such as tenderness, softness, or roundness. When assessing the potential malignancy of breast lumps, specific features become important: painless, firm masses with irregular borders are more indicative of malignancy. Consequently, it is imperative to promptly seek evaluation from a medical professional skilled in diagnosing breast disorders for any new masses, lumps, or alterations in the breast, as this assessment process can be uncomfortable (Arevian et al., 2011).

Furthermore, the following additional indicators should also raise concerns for potential breast cancer:

1. Generalized swelling or persistent back pain, even without apparent lumps.
2. Skin dimpling or inflammation.
3. Unexplained discomfort in the breast or nipple area.
4. Nipple retraction or inward tuning.

5. Changes in the appearance of the nipple or breast skin, including redness, visible veins, or thickening.

6. Nipple discharge not related to breastfeeding (Ruddy et al., 2014).

2.8. Types of Breast Cancer

Breast cancer manifests in various forms, each with distinct characteristics and implications. This section outlines key types of breast cancer, shedding light on their behaviors and impacts on patients.

1. Non-Invasive Breast Cancer

Non-invasive breast cancer, as the name suggests, remains confined within the ducts and does not infiltrate surrounding adipose and connective tissues. The prevalent form of this cancer is Ductal Carcinoma In Situ (DCIS), accounting for approximately 90% of cases. Lobular Carcinoma In Situ (LCIS) is less common but serves as a marker for heightened breast cancer risk (Ganesh N Sharma, 2010).

2. Mucinous Carcinoma (Colloid Carcinoma)

Mucinous carcinoma, also known as colloid carcinoma, is a rare variant characterized by mucus-producing cancer cells. Women diagnosed with mucinous carcinoma often exhibit a more favorable prognosis compared to those with more typical invasive carcinoma types (Ganesh N Sharma, 2010).

3. Invasive Ductal Carcinoma

Among breast cancers, Invasive Ductal Carcinoma stands as the most prevalent. Originating within milk ducts, this cancer breaches the duct walls and infiltrates breast tissue. Its potential to metastasize to other body parts underscores its significance. Roughly 8 out of 10 invasive breast cancers fall under this category (Joseph, 2016).

Invasive Lobular Carcinoma

Invasive Lobular Carcinoma arises in milk glands and possesses the ability to metastasize. Approximately 1 out of 10 invasive breast cancers are classified as this type (Feng et al., 2018).

4. **Inflammatory Breast Cancer (IBC)**

Inflammatory Breast Cancer, though rare, comprises 1% to 3% of all breast cancers. Unlike traditional tumor formations, IBC manifests by reddening and warming the breast skin. The skin's texture may resemble an orange peel—thick and pitted. Swelling, hardness, tenderness, and itchiness are common symptoms. Specific risk factors include a family history of breast cancer, BRCA1 or BRCA2 gene presence, and high-fat diets. Although screenings like self-breast exams and mammography (particularly digital) are helpful, biopsies remain the sole means of definitive diagnosis (Temitope and Joseph, 2016).

2.9. Early detection of breast cancer:

Early detection of breast cancer is crucial for improving the chances of successful treatment and reducing mortality rates. According to Birnbaum et al. (2018), there are several methods and techniques used for early detection of breast cancer:

1. **Breast Self-Exams (BSE):** Women can perform regular self-exams to become familiar with the normal look and feel of their breasts. Any changes, such as lumps, skin changes, or nipple discharge, should be promptly reported to a healthcare professional.

2. **Clinical Breast Exams (CBE):** Regular clinical exams by a healthcare provider can help identify any abnormalities or changes in the breasts that may require further investigation.

3. **Mammograms:** Mammography is the most common screening method for breast cancer. It involves using low-dose X-rays to create images of the breast tissue. Mammograms can detect tumors that are too small to be felt and can identify changes in breast tissue that may indicate early stages of cancer.

4. **Breast Ultrasound:** Ultrasound uses sound waves to create images of the breast tissue. It is often used to further evaluate abnormalities detected during mammography or to differentiate between solid masses and fluid-filled cysts.

5. **Breast Magnetic Resonance Imaging (MRI)**: MRI scans can provide detailed images of the breast tissue and are often used in conjunction with mammography for high-risk individuals or when additional information is needed.

6. **Genetic Testing**: Genetic testing can identify specific mutations in genes (such as BRCA1 and BRCA2) that are associated with an increased risk of breast cancer. This information can guide screening and preventive measures for individuals at higher risk.

7. **Clinical History and Risk Assessment**: A person's medical history, family history of breast cancer, and other risk factors are considered when determining appropriate screening methods and frequencies.

It's important to note that guidelines for breast cancer screening may vary based on factors such as age, family history, and personal risk factors. It's recommended to discuss your individual situation with a healthcare provider to determine the best approach for early detection and screening. Regular screenings, along with maintaining a healthy lifestyle and being aware of any changes in breasts, can significantly contribute to the early detection of breast cancer.

2.10. Breast Cancer Epidemiology Overview:

1. A 1 in 8 US women develop breast cancer during their lifetime (Howlader et al., 2020), the most common cancer among women.

2. Second leading cause of cancer death in women after skin cancers (ACS, 2020a).

3. Similar trends in Canada (CCS, 2020).

4. Early detection crucial for treatment success. 5-year survival: 99% localized, 86% regional, 27% metastatic (ACS, 2020d).

5. Global concern: SEER estimates 192,370 US cases and 40,170 deaths in 2009, 1% in men (Alwan, 2016).

6. Incidence and death rates rise with age. Median diagnosis/death ages: 61/68 (2002-2006).

7. US prevalence on Jan 1, 2006: ~2,533,193 with history of breast cancer.

8. Survival rates: Overall 89.1%, 90.3% white, 77.9% black (ACS, 2009).

9. Worldwide impact: Globocan - 2,088,849 new cases, 626,679 deaths annually (WHO).

10. Varies by region: Incidence 27-96 per 100,000 people, high death rate in underdeveloped areas.

11. Iraqi scenario: High prevalence (12.90/100,000), 40% cases late-stage despite early detection initiative (Ewaid et al., 2018; Al-Alwan, 2019).

The survival outlook for individuals with breast cancer is significantly influenced by the stage of the disease. Women with advanced stages experience lower five-year relative survival rates. Research by Trewin et al. (2020) reveals that the five-year relative survival rate stands at an impressive 98% for localized breast cancer, 84% for regional cases (involving regional lymph nodes or adjacent breast tissue), and a more concerning 23% for distant metastases.

Breast cancer is the leading form of cancer in women, constituting 29% of all female cancer cases. However, it's a rarity among male cancers, accounting for less than 1%. Disturbingly, breast cancer is also a significant contributor to cancer-related deaths in women, causing 14% of all female cancer fatalities. This sobering statistic places it as the second most common cause of cancer-related death. In the year 2014 alone, the United States anticipated diagnosing around 232,670 new cases of breast cancer in men and projected 40,000 women and 430 men to succumb to this disease.

Remarkably, as of 2013, approximately 2.8 million women in the United States had bravely fought and survived breast cancer (AIHW, 2012).

Global trends highlight a rising burden of cancers in developing countries undergoing swift social and economic transformations. These changes lead to lifestyles resembling those of industrialized nations, giving rise to cancers linked to reproductive, dietary, and hormonal risk factors (Newman, 2014).

While Asian countries generally exhibit a lower incidence of breast cancer compared to Western nations, a paradox exists in the form of higher cause-specific death rates. Intriguingly, up to a quarter of breast cancer patients in developing Asian nations are under the age of forty, a notably higher proportion than in other developing regions. The prevalence of younger breast cancer patients in Asia serves as an indicator of a less favorable prognosis. Unfortunately, most instances of breast cancer in Asian countries are identified at advanced stages of the disease, which significantly impacts treatment outcomes (Sung et al., 2015).

2.11. Factors Contributing to Reduced Breast Cancer Incidence

The intersection of exercise and cancer research is a field that has gained prominence recently. Emerging studies underscore the significance of vigorous exercise during adolescence and moderate to vigorous physical activity in adulthood as potential mitigators of breast cancer risk. Multiple independent investigations corroborate these findings (Brown et al., 2012).

Breastfeeding, another crucial aspect, exhibits a nuanced impact on breast cancer incidence. Research suggests a modest reduction in the likelihood of breast cancer, particularly when breastfeeding is sustained for approximately 1.5 to 2 years (Anstey et al., 2017). Conversely, other studies present contradictory evidence, indicating negligible effects on breast cancer risk.

A plausible rationale for these diverse outcomes lies in the association between breastfeeding and altered menstrual cycle patterns. The cumulative effect of pregnancy and breastfeeding results in fewer lifetime menstrual cycles, akin to the risk reduction seen with delayed menarche or early menopause. A pertinent study by Al-Sahab et al. (2011) underscores that a greater number of childbirths and an extended duration of breastfeeding can halve the risk of breast cancer.

2.12. Theoretical framework

A concept is a intricate cognitive construct derived from individual perception and experience, encompassing objects, properties, or events. A framework stands as the abstract, logical scaffold of meaning that steers the study's development and the knowledge it builds. When the framework adopts a theoretical approach rooted in scientific principles, it accentuates the selection, arrangement, and classification of its concepts. This study aims to assess the impact of an awareness program on knowledge and attitudes related to breast cancer among women in rural communities. The study's foundation rests upon Ludving von Bertalanffy's General System Theory of 1968, which underscores that systems possess a cyclical nature, sustaining as long as input, process, output, and feedback interact (Collins and Stockton, 2018).

In this theoretical framework, energy, matter, and information serve as inputs, undergoing processing within the system before being released as outputs. Feedback, whether positive, negative, or neutral, supplies information to the system or environment, thereby maintaining the system's function. In this study's context, these concepts are expounded as follows (Turner and Baker, 2019).

INPUT:

Inputs denote the means by which the system receives energy and information from its environment. These inputs encompass various factors such as individuals, resources, and time. They encompass the energy,

information, and matter entering the system through its boundaries. In the study, women are considered the system, with inputs stemming from both their own attributes and environmental sources. These inputs involve factors like age, educational background, information sources, number of live births, and marital status.

PROCESS:

Process entails the sequence of actions through which the system transforms its energy inputs from the environment into products and services necessary for accomplishing intended tasks. Inputs absorbed by the system are processed to yield outputs. The system modifies the inputs to achieve the desired outputs. This process encompasses diverse operational procedures or programs. In this study, the process pertains to evaluating breast cancer knowledge and attitudes, involving tools like knowledge questionnaires and attitude scores. The study includes administering an awareness program on breast cancer, followed by a post-test after 7 days to reassess participants' attitudes.

OUTPUT:

Outputs encompass the energy, material, or information transferred back to the environment. In this context, the study considers the knowledge and attitudes of women following the teaching program as outputs. These outputs are analyzed by comparing the mean scores of pre-test and post-test knowledge and attitude assessments.

FEEDBACK:

Feedback constitutes the mechanism that furnishes information about the system's output, utilizing the feedback as input. Effective teaching is indicated by higher scores and a positive attitude shift. Conversely, if knowledge scores remain low or attitudes remain unchanged (negative attitude), this suggests a need to modify or intensify the awareness program. In this particular study, feedback is not considered.

ENVIRONMENT:

The individual's environment represents the fixed constraints that can impact the effectiveness of the breast cancer teaching program. Within this study, the environment encompasses family members, neighbors, health workers, mass media, and sources of information.
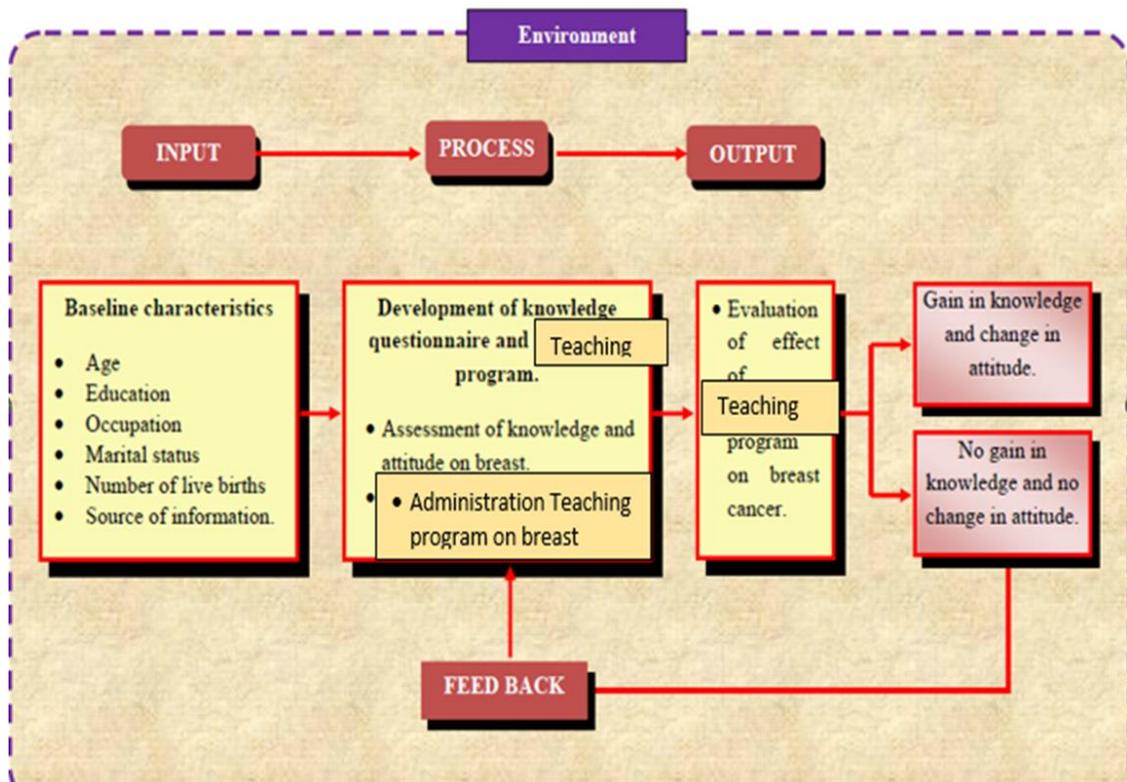
Fig. 2.2: Modified theoretical framework based on general system theory for the effect of teaching program on breast cancer based on model of Ludevis Von Beralan Bertalanffy.

2.13. Treatment Approaches for Breast Cancer

In addressing breast cancer, a multitude of treatment options are available, yet the optimal approach for each woman hinges on several key factors, notably her age, the specific characteristics of the tumor, its size, location, and her breast size. Making informed decisions regarding treatments, encompassing surgical interventions, chemical therapy, radiotherapy, hormonal therapy, and therapeutic variations, is paramount (WHO, 2021).

2.13.1. Surgical Intervention

Surgical procedures constitute a vital component in the breast cancer treatment arsenal. Tailored to prognosis, a range of surgical methods can be employed. Advances in medical technology now enable breast-conserving surgery, effectively targeting malignant cells while preserving healthy tissue, mitigating both biological and psychological treatment-related repercussions. For some breast cancer patients, reconstruction surgery before or after lumpectomy offers a means to restore breast aesthetics and bolster quality of life, encompassing body image.

In instances of advanced breast cancer, involving the spread of tumors to adjacent regions, mastectomy becomes a consideration. Subtypes include radical mastectomy or total mastectomy, categorizing the extent of tissue removal (Fajdic et al., 2013). This course is particularly suitable for early-stage cancer, where surgical resection eradicates malignancy and surrounding tissue via comprehensive diagnostics (Faguet, 2015).

1. Surgical procedures encompass:
2. Total breast removal.
3. Lumpectomy for tumor excision.
4. Partial mastectomy involving tumor removal and adjacent tissue.
5. Lymph node removal through dissection.
6. Management of lymphatic edema.
7. Surgical Procedure Side Effects:
8. Incision inflammation.
9. Blood loss.
10. Delayed wound healing.
11. Varied levels of surgical pain.
12. Nerve damage leading to numbness or loss of sensation in affected areas.

A majority of breast cancer patients undergo surgery to eliminate tumors, often including the removal of specific lymph nodes for microscopic examination (Sabel et al., 2021).

a. Lumpectomy: Surgical extraction of a tumor and adjacent healthy tissue.

b. Partial Mastectomy: Targeted removal of the cancerous portion along with neighboring healthy tissue, also known as segmental mastectomy.

c. Total Mastectomy: Comprehensive breast removal, with optional concurrent lymph node biopsy via separate incision.

d. Modified Radical Mastectomy: Involves complete breast removal, adjacent lymph nodes, chest muscle covering, and potentially, a segment of chest wall muscle.

e. Radical Mastectomy: Extensive removal of cancerous breast, chest wall muscles beneath, and all arm lymph nodes, also termed Halsted radical mastectomy (Goethals and Rose, 2019; Bland et al., 2018).

For patients opting for mastectomy, breast reconstruction surgery can be explored to restore breast shape. This can be performed concurrently or later, using non-breast tissue or implants filled with saline/silicone gel. Silicone gel implants are restricted to clinical trials by the FDA (Schmauss et al., 2016).

2.13.2 Hormonal Therapy:

Hormonal therapy is a targeted approach in cancer treatment aimed at curbing the influence of estrogen, a hormone that fuels the growth of breast cancer cells (McDaniel et al., 2013). By limiting estrogen receptors, this therapy seeks to impede the progression of cancer tumors.

In the realm of cancer treatment, hormonal therapy represents a strategy to mitigate the impact of hormones on cancer cell growth. Hormones, produced by the body's glands, circulate as chemical messengers. Specific cancers exhibit accelerated growth when particular hormones are present. If cancer cells possess receptors where hormones can attach, medical interventions such as drugs, surgery, or radiation are

employed to either diminish hormone production or hinder hormonal activity (Board, 2018). Treatment plans are customized based on individual circumstances, as breast cancer management takes into consideration a multitude of variables assessed by healthcare professionals (Martinez et al., 2015).

2.13.3 Chemotherapy:

Chemotherapy, a pharmaceutical intervention, modifies cellular growth patterns, but its effects extend to various rapidly dividing tissues, including blood cells. It leads to side effects such as anemia, diarrhea, hair loss, low white blood cell and platelet counts, heightened bleeding risk, numbness, and potential cardiac impairment (Amjad et al., 2021).

Chemotherapy involves the administration of drugs to destroy or impede the proliferation of cancer cells. These drugs can be delivered orally or through intravenous or intramuscular injection, achieving systemic chemotherapy. Alternatively, localized chemotherapy targets specific regions like organs or bodily cavities. The administration method depends on the cancer type and stage (Mothoneos, 2018).

2.13.4 Radiotherapy:

Tragically, her demise resulted from the impact of radiotherapy on her cancerous cells. During radiotherapy, radiation is typically directed at patients in a supine position, occurring on most days of the week (Kumar and De Jesus, 2020).

Radiation therapy employs high-energy x-rays or other radiation forms to obliterate cancer cells. External radiation treatment directs radiation from an external device towards the tumor, while internal radiation treatment places radioactive material close to or within the malignancy through needles, seeds, wires, or catheters. The application method aligns with the cancer's nature and severity (Jaffray and Gospodarowicz, 2015).

2.14. Nonsurgical Management:

Women facing breast cancer often grapple with distressing symptoms stemming from the disease itself or its treatment side effects. These symptoms encompass pain, nausea/vomiting, hot flashes, anxiety, depression, and fatigue. Complementary and integrative therapies can alleviate physical and emotional symptoms, supplementing conventional treatment. Prayer also holds a prevalent role in this context (Satija and Bhatnagar, 2017).

Additional therapeutic avenues include guided imagery, massage, and biologically based therapies like vitamins, specialized cancer diets, and herbal remedies. It's vital to educate patients on potential interactions between complementary agents and standard drugs. Encouraging women to seek certified practitioners for specific integrative therapies, such as acupuncture or chiropractic care, is advisable. Some therapies like massage and shiatsu, a Japanese technique involving finger pressure, can be self-administered following initial instruction.

While complementary and integrative therapies can enhance quality of life, they do not alter breast cancer outcomes and should not replace standard treatment. Patients intrigued by these approaches should consult their healthcare providers before adoption (Ignatavicius et al., 2017).

2.15. Breast Self-Examination: A Guide to Early Detection

Breast self-examination is an essential practice for women to detect potential abnormalities in their breasts. While medical professionals generally recommend conducting this examination once a month, aiming to identify breast lumps and potential cancer at an early stage, the effectiveness of self-examination, either on its own or alongside screening mammography, in reducing breast cancer-related deaths remains a topic of debate. While clinicians are discovering more cases of the disease, they may not identify all instances of the most aggressive forms. However, for women diagnosed with cancerous growths, timely diagnosis and treatment

significantly enhance the chances of remission and cure. It is important to note that not all early abnormalities are discernible through mammograms alone, underscoring the necessity of supplementing with breast self-examination (Pippin and Boyd, 2021).

Performing a monthly breast self-exam is strongly advised, although even a few exams are better than none. Consistently scheduling these checks enhances a woman's ability to spot new irregularities. After receiving guidance from their clinicians, many women find the process simpler. Some clinicians offer supplementary materials like pamphlets or videos detailing effective techniques. For premenopausal women, the optimal time to conduct a breast self-exam is shortly after their monthly menstrual cycle, when breast firmness is typically at its peak. For women who are pregnant, do not menstruate, or experience irregular menstruation, setting a fixed day each month for the exam might not be feasible. The breast self-exam commences with a mirror inspection, where any deviations from the breasts' previous appearance are assessed (Lera et al., 2020).

These deviations may encompass changes in skin coloration or texture, alterations in shape, size, or symmetry, as well as anomalies such as swelling, scaling, or dimpling in the areola or nipple. Raising the arms above the head facilitates the observation of contour changes, while placing the hands on the hips with the shoulders forward aids in detecting any dimpling. Moreover, a woman's regular examination of her breasts for abnormalities is known as a breast self-exam. Although it is generally accepted by medical professionals that women should check their breasts once a month to help detect breast lumps and subsequently potential cancer at the earliest stages 1, it is debatable whether self-examination alone or in conjunction with mammogram screening may actually decrease breast cancer-related deaths because doctors are identifying more disease but not

all the women who have the most deadly forms of the disease (Monticciolo et al., 2018).

Steps for Performing a Breast Self-Examination:

Step 1: Self-Examination in Front of a Mirror

Stand before a well-lit mirror, unclothed from the waist up. Observe your breasts, acknowledging that variations in size and shape are normal. With arms at your sides, examine for any changes in size, shape, or position, as well as any skin alterations like puckering, dimpling, sores, or discoloration.

Step 2: Nipple Inspection

Inspect your nipples for sores, peeling, or any changes in their orientation.

Step 3: Chest Muscle Tension

Place your hands on your hips and contract your chest muscles to create tension beneath your breasts. Turn sideways to observe the outer half of each breast.

Step 4: Forward-Leaning Examination

Lean forward while rolling your shoulder and elbow forward, causing your chest muscles to tighten. As your breasts fall forward, assess for any changes in contour and shape.

Step 5: Comprehensive Observation

Interlock your hands behind your head and thrust them forward while turning to view your breasts from all angles. Remember to examine the lower border of your breasts, especially the area adjacent to your hands.

Step 6: Nipple Tissue Examination

Place your thumb and fingers around the tissue surrounding the nipple, gently pulling the nipple outward. Inspect for any discharge and repeat the process for the opposite breast (Tan et al., 2013).
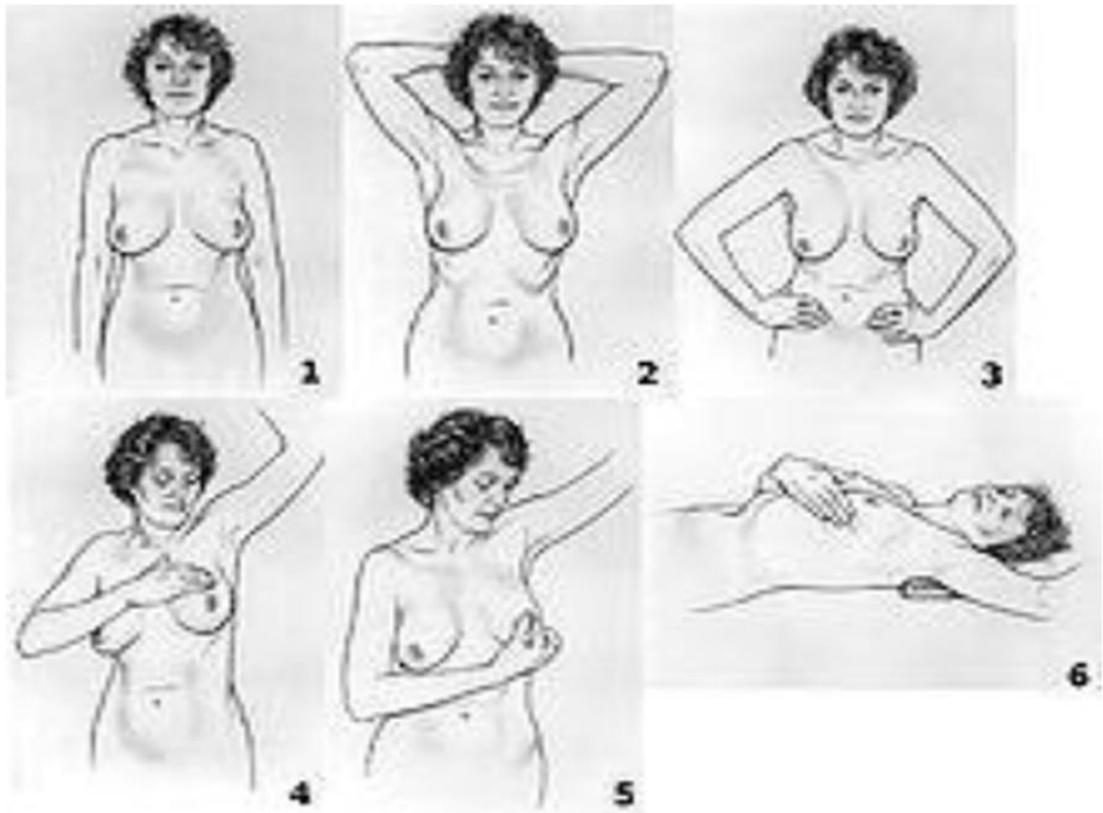
Figure 2.3. breast self examination (Tan et al., 2013)

Standing Up:

1. Begin with freshly washed hands, moist from water, to enhance sensitivity. Stand in front of a mirror. Raise your left arm and place your left hand on your hip. Use your right hand to explore beneath your left arm. Feel for any unusual lumps or thickening. Repeat this process on the opposite side.

2. Check for lumps or thicknesses above and below both collarbones.

3. To stretch breast tissue, raise one arm behind your head. Apply gentle pressure with the flat fingers of your opposite hand. Starting from the bra line, move in upward and downward motions towards the collarbone. Repeat this pattern, ensuring the entire breast is covered. Mirror this process on the other side (Ali, 2018).

Lying Down:

1. Lie down and place a small cushion under your right shoulder. Rest your left hand on the opposite breast with fingers together. Position your other hand behind your head. Using a bit of body lotion can aid in smoother movement.

2. Visualize the breast like a clock face, with 12 o'clock at the top. Make small circular motions, moving from 12 to 1 o'clock. Continue this circular motion until you return to 12 o'clock. Keep your fingers flat and close to the breast. After completing the full circle, move an inch closer to the nipple and repeat the circular motion. Continue until you've covered the entire breast, including the upper outer region extending towards the armpit.

3. Lay your fingers flat on top of the nipple. Check underneath for any changes and gently massage the nipple inward, it should move smoothly.

4. Repeat these steps on the other breast. Pay special attention to the upper outer area near the armpit.

2.16. Breast Cancer Progression Stages

2.16.1. Stage 0:

At this stage, breast cancer is non-invasive, meaning that tumor cells remain confined to their initial site of development within the breast. Stage 0 breast cancer comprises two subtypes: Ductal Carcinoma In Situ (DCIS), where cancer cells are found in the lining of a breast duct. Lobular Carcinoma In Situ (LCIS), characterized by abnormal cells in the breast lobules responsible for milk production. LCIS tends to be less prone to developing into aggressive cancer, often being considered a risk factor rather than a true cancer type. The five-year survival rate for stage 0 breast cancer is 100% (Risom et al., 2022).

2.16.2. Stage II:

Stage II marks the transition to invasive breast cancer, indicating that tumor cells have invaded surrounding tissues. Lymph nodes may be affected, and the tumor size remains 5 cm or smaller. Research by Harlow and Weaver (2013) suggests a five-year survival rate ranging between 81% and 92%.

2.16.3. Stage III:

In this stage, breast cancer has advanced further. It may have spread to the skin, chest wall, or nearby lymph nodes, or the tumor could be larger than 5 cm while involving adjacent lymph nodes. Narod (2012) notes a five-year survival rate of 54% to 67% for stage III breast cancer.

2.16.4. Stage IV:

Stage IV signifies an invasive form of breast cancer that has metastasized to distant organs like the lungs, liver, bones, or brain. Survival rates are notably challenging at this stage, with only around 20% of individuals surviving five years, as indicated by Rashid et al. (2021).

Stage 0: Tumor is confined to the milk duct or lobule.
Stage I: Tumor is less than 2 cm in diameter and confined to the breast.

Stage IIA: Tumor is less than 5 cm, or tumor is smaller with 1, 2, or 3 axillary lymph node involvement.
Stage IIB: Tumor is greater than 5 cm. Up to 3 axillary lymph nodes may be involved.

Stage IIIA: Tumor is greater than 5 cm and is confined to 4 to 10 lymph nodes.
Stage IIIB: Tumor, regardless of size, has spread to the chest wall or skin.
Stage IIIC: Tumor of any size with involvement of 10 or more lymph nodes, but no distant metastases.

Stage IV: Tumor involves lymph nodes and there are distant metastases.

Figure 2.5. Breast cancer stages (Timby and Smith, 2013)

2.17. Nursing Management for Breast Cancer Patients

The optimal care for patients with breast cancer necessitates a comprehensive interdisciplinary approach due to the multifaceted nature of the disease. In line with this, a comprehensive care plan has been formulated to address the specific needs of breast cancer patients (Ng et al., 2017).

Nursing Diagnosis: Deficient Knowledge related to disease process, medications, treatment options, and complications
Interventions:

Provide clear and concise information to the patient concerning the disease process, prescribed medications, and available treatment options. Encourage the patient to actively engage by asking questions related to the disease process, medications, and treatment options. Explain the patient's assessment findings comprehensively and motivate her to recognize changes in signs and symptoms (Osborn et al., 2010).

Nursing Diagnosis: Acute Pain related to breast cancer and surgical procedures.
Interventions and Rationales:

Conduct a thorough assessment of the patient's pain, considering its characteristics and intensity. Create a tranquil and comfortable environment to promote rest and relaxation. Adjust the patient's position as required to enhance comfort. Offer diversions such as music, television, or relaxation techniques to alleviate pain-related distress. Provide patient education on the proper utilization of analgesics or patient-controlled analgesia (PCA) as appropriate. Serve as an advocate for the patient, particularly in cases where adjustments or escalation of pain medication is necessary. Empower the patient to employ pain management techniques proactively to prevent pain from escalating beyond manageable levels (Lewis et al., 2016).

2.18. Breast Cancer Prevention and Management

Breast cancer management has evolved significantly over the years, with advancements in surgical techniques, targeted therapies, and personalized treatment plans. Breast-conserving surgery, also known as lumpectomy, coupled with radiation therapy, has become a standard treatment for early-stage breast cancer, preserving the breast while achieving effective tumor removal. For more advanced cases, mastectomy might be recommended, followed by reconstructive surgery if desired by the patient (National Cancer Institute. 2021).

The advent of targeted therapies has revolutionized breast cancer treatment. HER2-positive breast cancers can be effectively managed with targeted therapies like trastuzumab, which inhibit the overexpression of the HER2 protein (World Cancer Research Fund, 2018). Hormone receptor-positive breast cancers can be managed through hormonal therapies such as tamoxifen or aromatase inhibitors, which disrupt the hormones fueling tumor growth (American Cancer Society, 2021).

Furthermore, immunotherapy has emerged as a promising avenue in breast cancer treatment. Immune checkpoint inhibitors, such as pembrolizumab, have shown potential in treating triple-negative breast cancers by enhancing the body's immune response against cancer cells (Burstein et al., 2019).

Women at an elevated risk of developing breast cancer have several options available to them: long-term monitoring, bilateral preventive mastectomy, and tamoxifen (Nolvadex) chemotherapy. Opting for long-term monitoring involves yearly MRIs, mammograms, clinical breast exams, and monthly breast self-exams. Among these choices, prophylactic bilateral mastectomy is the most invasive. Clients contemplating this option should understand that while it significantly lowers breast cancer risk, it doesn't entirely eliminate it (Padamsee et al., 2017).

Research by the National Cancer Institute in 2008 revealed that a 5 - year course of tamoxifen reduces the occurrence of estrogen receptor–positive tumors by 69%, with no impact on estrogen receptor–negative tumors. Tamoxifen not only reduces breast cancer risk but also safeguards bone mineral density, averting osteoporosis. Additionally, it lowers low-density lipoprotein (LDL) cholesterol levels, although its influence on myocardial infarction incidence remains uncertain. However, tamoxifen does have adverse effects, including an elevated risk of endometrial cancer, deep vein thrombosis, pulmonary embolism, and cataracts. Other side effects encompass heightened hot flashes, cold sweats, vaginal discharge, genital itching, and pain during intercourse (Litzenburger and Brown, 2014).

Moreover, the utilization of raloxifene, a selective estrogen receptor modifier (SERM), was associated with an increased risk of thromboembolic disease. A decrease in breast cancer incidence by 21% to 28% was observed with regular use of nonsteroidal anti-inflammatory drugs (NSAIDs) taken daily for at least 2 months. Data from the Women's Health Initiative revealed that consistent use of aspirin, ibuprofen, or other NSAIDs may significantly protect against breast cancer development. The incidence of breast cancer decreased by 21% to 28% in women who consumed two or more NSAID tablets weekly for 5 to 10 years (Noonan et al., 2018).

Furthermore, Almutairi et al. (2016) emphasized that patients often miscalculate their risk of breast cancer development. They underscored the importance of consulting a breast specialist before considering any preventive strategies. With an accurate risk assessment and a thorough understanding of the pros and cons of each preventive approach, patients can make informed decisions tailored to their individual circumstances.

2.19. Previous studies:

Suleiman (2016).

The study aimed to evaluate breast cancer awareness and breast self-examination (BSE) practices among female Jordanian university students. A cross-sectional design was employed, distributing a self-administered survey to 900 students aged 18 to 37 from the University of Jordan. The survey covered four areas: socio-demographics, knowledge of breast cancer and BSE, attitudes towards breast cancer risk factors, and experiences with breast cancer screening and BSE.

Results indicated a 93.3% response rate. About 51.8% of respondents were aware of breast cancer. Among these, causes were believed to be medical conditions (22.7%), old age (16.4%), lack of breastfeeding (13.3%), heredity (12.8%), and others. Only 34.9% were aware of BSE, and merely 11% had actually practiced it.

In conclusion, the study revealed insufficient awareness of breast cancer and low engagement in BSE among Jordanian female students. Encouraging self-monitoring and regular BSE through educational interventions is crucial to enhance awareness and early detection.

Noman et al. (2017)

This study systematically assessed the impact of diverse educational interventions on enhancing breast cancer screening (BCS) uptake, knowledge, and beliefs among women across different global regions. Adhering to PRISMA guidelines, a thorough literature search was conducted on PubMed, Scopus, Web of Science, and ScienceDirect in May 2019. A total of 22 interventional studies were analyzed, revealing that interventions predominantly employed theory- and language-based multi-pronged approaches, primarily conducted within community and healthcare setups. The interventions consistently demonstrated positive outcomes in terms of improved BCS uptake, knowledge, and beliefs among women. While educational interventions exhibited the potential to boost BCS

participation among women, it's important to exercise caution when interpreting findings due to the wide variability in participant demographics, research methodologies, intervention strategies, and outcome assessments across the studies.

Liu et al. (2018)

This study aimed to assess the awareness and knowledge of breast cancer among Chinese participants through a case-control design using data from 21 hospitals in China. The participants, totaling 2978 individuals aged 25 to 70, were matched by ethnicity. Various statistical analyses were conducted, including Student's t-test, Pearson's $\chi 2$ test, reliability analysis, exploratory factor analysis, and univariate and multivariate logistic regression, to gauge breast cancer knowledge and identify associated factors.

The results indicated specific variables predicting breast cancer awareness, including young age (OR=0.843, 95% CI 0.740 to 0.961), occupation (agricultural worker) (OR=12.831, 95% CI 6.998 to 23.523), high household social status (OR=0.644, 95% CI 0.531 to 0.780), history of breast hyperplasia (OR=1.684, 95% CI 1.273 to 2.228), and a high behavioral prevention score (OR=4.407, 95% CI 3.433 to 5.657).

In conclusion, while most women were aware of breast cancer as a concept, their knowledge about the disease's nuances was limited. This study emphasizes the necessity for increased efforts in publicizing and educating individuals about breast cancer, especially focusing on older women and those employed in agricultural sectors.

George et al. (2019)

Investigates the awareness and attitudes of women in Ogun State, Nigeria, towards breast cancer. Employing a combination of primary and secondary data sources, the research assesses their understanding of breast cancer and its screening methods. The study aims to provide actionable solutions and policy suggestions based on its findings. The results

demonstrate a widespread awareness of breast cancer; however, only a limited number of women are knowledgeable about mammography. Notably, older women exhibit lower engagement in breast cancer screening, particularly those with secondary education who are self-employed or homemakers. Consequently, the study recommends that stakeholders in the health sector and policy decision makers intensify efforts to enhance cancer awareness programs and campaigns. Specifically, the focus should be on reaching older women, particularly housewives, and those with middle-level education, in order to address disparities in breast cancer screening participation.

Abdou et al. (2020).

This study aimed to assess women's awareness, attitudes, and practices related to breast cancer while identifying associated factors. Conducted in Zinder and Niamey regions, the research employed a cross-sectional survey with random sampling in health districts. A breast cancer knowledge score was established, and a generalized linear model was utilized to examine influencing factors.

The findings revealed that women's overall knowledge about breast cancer was deficient, with only 41.2% (37.5–45.0) having awareness of the condition. Among the participants, 65.0% (61.3–68.7) demonstrated familiarity with its symptoms. However, knowledge regarding risk factors and protective measures was inadequate, at 27.4% (24.0–31.0), and good practices related to breast cancer stood at 16.9% (14.2–19.7). Several factors were associated with awareness of breast cancer. These included age (OR = 0.98, 95% CI: 0.96–0.99), practicing clinical breast examination (OR = 2.25, 95% CI: 1.31–3.16), breastfeeding (OR = 3.34, 95% CI: 2.12–5.26), absence of prior participation in breast cancer screening, and residing in rural or peri-urban areas.

In conclusion, women in Niger exhibited relatively limited awareness of breast cancer. While understanding of self and clinical breast

examination was lacking, knowledge of symptoms was relatively satisfactory. The study underscores the need for awareness programs that emphasize clinical breast examination, given the limited availability of mammography, and advocate for early detection practices.

Abd-Elaziz et al. (2021)

The study aimed to assess the impact of breast self-examination programs on early breast cancer detection. Using a quasi-experimental design, the research involved 100 women at a maternity and child University Hospital outpatient clinic. Data collection included three tools: a structured questionnaire covering demographics and knowledge, a women's attitude scale towards breast self-examination, and a women's practices observational checklist for the same. The results indicated that post-program, there was a positive increase in women's knowledge and attitude levels, with educational background influencing pre-program knowledge. However, educational level affected attitude and practices only in the pre-program phase. The study concluded that comprehensive breast self-examination programs could enhance breast cancer detection through improved knowledge, attitude, and practices. A recommendation was made to establish a regular educational program for women to boost their understanding, attitude, and practices concerning breast self-examination.

Sarker et al. (2022)

This study aimed to evaluate the impact of an educational intervention on breast cancer knowledge and breast self-examination (BSE) practices among young female university students in Bangladesh. The study involved 400 participants and utilized pre- and post-test assessments. The intervention included distributing educational materials, demonstrating BSE procedures, and providing leaflets. Results revealed significant improvements in participants' awareness of breast cancer and BSE practices following the intervention. Knowledge scores related to breast cancer symptoms, risk factors, treatment, prevention, breast cancer screening, and

the BSE process showed substantial increases. BSE practices also notably improved from pre-test to post-test. The study concludes that the educational intervention effectively enhanced awareness and knowledge, indicating the need for wider implementation across rural and urban areas.

Rakhshani et al. (2022).

This study aimed to assess the impact of an educational intervention on breast cancer screening knowledge, attitude, and practice among women in Izeh, Khozestan Province, Iran. The study involved 120 women divided randomly into experimental and control groups. Data were collected through a researcher-designed questionnaire before and two months after the intervention. The intervention group underwent eight educational sessions spanning two months. Statistical analysis, including paired t-tests, independent t-tests, and Chi-square tests, was conducted using SPSS 20. Prior to intervention, no significant differences were observed in knowledge, attitude, and practice scores between the groups. However, post-intervention results revealed that the experimental group achieved significantly higher scores in knowledge, attitude, and practice ($P = 0.05$). This suggests that the educational intervention positively influenced breast cancer screening awareness and behavior in the experimental group compared to the control group.

Almeshari et al. (2023)

This research assessed breast cancer knowledge, attitudes, and practices among female faculty and students at Hail University in Saudi Arabia. A cross-sectional study conducted between January and February 2021 gathered data from 425 participants through an online questionnaire. The findings revealed an overall knowledge rate of 46.36% regarding breast cancer. While participants demonstrated fair understanding of risk factors, signs, and symptoms, their awareness and implementation of breast self-examination and screening methods were deficient. In conclusion, the study underscores the need for increased public awareness about breast

cancer through diverse mediums like mass media and social platforms, as well as targeted awareness programs in accessible venues such as educational institutions and hospitals.

Al-Hosni (2023)

This research aimed to assess the effectiveness of a breast cancer (BC) educational initiative among young female students in Oman. Six schools were randomly chosen and divided into control and intervention categories. A questionnaire known as the Breast Cancer Awareness Measure was administered to 10th and 11th graders before and after a 4-week period. The intervention group participated in a one-hour BC education session, involving discussions, presentations, materials, and online resources. Comparative analysis of scores across groups and time periods revealed substantial enhancements in the intervention group's ability to recognize BC risk factors and symptoms. Additionally, barriers to seeking medical assistance were notably reduced in this group. The study highlights the positive impact of the program on enhancing BC knowledge and promoting timely medical help-seeking behavior among young Omani females. Encouraging the inclusion of similar educational programs in national school curricula, especially in countries like Oman with limited resources, could significantly improve early BC diagnosis and survival rates.

Literature Synthesis

Introduction:

Breast cancer is a significant public health concern globally, and early detection through improved awareness and positive attitudes toward breast health plays a pivotal role in reducing mortality rates. Primary health care centers serve as crucial platforms for disseminating health-related information and education, particularly among women. This literature synthesis aims to review existing research on the effectiveness of educational programs targeting awareness and attitudes concerning breast

cancer among women attending primary health care centers in Al-Diwaniyah City.

Methodology:

A systematic search of databases such as PubMed, MEDLINE, Google Scholar, and relevant journals was conducted using keywords such as "breast cancer awareness," "educational program," "primary health care," "attitude," "women," and "Al-Diwaniyah City." Articles published from 2010 to 2023 were considered. A total of 10 relevant studies were selected for this literature synthesis.

Findings:

Effectiveness of Educational Programs:

The majority of studies reviewed reported positive outcomes following the implementation of educational programs on breast cancer awareness and attitudes. These programs utilized various methods, including workshops, lectures, pamphlets, and multimedia presentations, to disseminate information about breast health, risk factors, and early detection methods.

Improvement in Awareness Levels:

Most studies indicated a significant increase in breast cancer awareness among participants after attending the educational programs. These awareness improvements were observed in terms of recognizing risk factors, understanding the importance of early detection, and being familiar with screening methods like mammography and breast self-exams.

Positive Attitude Shifts:

Educational interventions also led to favorable changes in attitudes toward breast health and cancer. Participants exhibited increased confidence in discussing breast-related issues, reduced fear associated with breast cancer diagnosis, and a higher willingness to undergo regular screenings.

Long-Term Impact:

Several studies noted that the positive effects of the educational programs were sustained over time, indicating the potential for lasting behavior change among participants. This suggests that well-designed educational initiatives can have a lasting impact on breast cancer awareness and attitudes.

Socioeconomic Factors:

Some studies highlighted the influence of socioeconomic factors on the effectiveness of educational programs. Tailoring interventions to the specific needs and preferences of the target population, considering factors such as education level and cultural background, was found to enhance the program's impact.

Healthcare Provider Involvement:

Incorporating healthcare providers in the educational programs enhanced their effectiveness. Physicians and nurses were seen as trusted sources of information, and their involvement contributed to increased participant engagement and understanding.

Conclusion:

The reviewed literature underscores the positive impact of educational programs on breast cancer awareness and attitudes among women attending primary health care centers in Al-Diwaniyah City. These interventions effectively improve knowledge of risk factors, early detection methods, and overall attitudes toward breast health. However, the success of these programs is influenced by factors such as tailoring content to the target audience, involving healthcare providers, and considering socioeconomic backgrounds. As breast cancer remains a significant health concern, continued investment in well-designed and culturally sensitive educational initiatives is crucial for empowering women to take charge of their breast health and fostering a culture of early detection and prevention.

Chapter Three

Methodology

Chapter Three
Methodology

This chapter presented the research methods of the study that included the study design, administrative and ethical arrangement, sample of the study, setting of the study, inclusion criteria, exclusion criteria, structured teaching program(construction and implementation), program and instrument construction, demographic data, assessment instrument of mothers awareness and attitudes concerning breast cancer, validity of the study instrument, reliability of the study instrument, pilot study, data collection, statistical analysis. These methods are presented as follows:

3.1. The Study Design:

A pre-experimental study was undertaken in the city of Diwaniyah, spanning from October 20th 2021 to May 15th 2023. This research design encompassed the implementation of three distinct tests, namely pre-test, post-test I, and post-test II, targeting groups of women who were recipients of services at primary healthcare centers.

3.2 Administrative and Ethical Arrangements

3.2.1 Administrative Agreements

Prior to commencing the program implementation, collaborative efforts were initiated to select a suitable topic for a nursing doctoral thesis. An extensive review of existing literature and studies conducted across the governorates of Iraq revealed a significant lack of awareness among women about breast cancer. In light of this, the research focus was directed towards creating an "Effectiveness Teaching Program on Women's Awareness and Attitudes Regarding Breast Cancer." Clear objectives for the study were subsequently formulated.

In October 2021, a scholarly session convened at the Faculty of Nursing, University of Babylon, to deliberate upon the study's title and objectives. Collaborative discussions with a specialized academic

committee led to refinements, and the finalized title was endorsed as the doctoral dissertation's subject.

Following the initial seminar presentation, the nursing department within the Faculty of Nursing at the University of Babylon granted official permission. Subsequently, the University of Babylon's council granted its approval. The researcher meticulously developed the study protocol and completed the requisite ethical clearance forms, which were sanctioned by the University of Babylon's College of Higher Scientific Studies. A formal request was submitted to the Division of Postgraduate Studies within the College of Nursing, outlining the intention to engage primary healthcare centers in Al-Diwaniyah city (see Appendix A).

On June 24th 2021 formal authorization was received from the primary healthcare centers in Al-Diwaniyah Governorate (refer to Appendix B).

3.2.2 Ethical Considerations

The ethical committee of the Department of Adult Nursing at Babylon University's College of Nursing reviewed and endorsed the study protocol. Rigorous measures were implemented to ensure that all information collected from participants remained confidential and secure. Recognizing the paramount importance of ethical responsibilities, the researcher adhered to stringent guidelines prior to commencing the data collection process. This included transparent communication about crucial aspects of the study, as well as a commitment to safeguarding the confidentiality of collected data solely for research purposes.

Upon finalizing the design of the questionnaire employed in the study, participants were provided with a concise explanation of the investigation's nature and objectives. This was aimed at fostering a comprehensive understanding and offering participants the freedom to decline participation, as outlined in Appendix B (Research Approval) and

Appendix A (Facilitating Sample Collection at Primary Healthcare Centers).

3.3. Study Sitting:

The research takes place within the primary health care centers (PHCCs) of AL-Diwaniyah city, which is depicted in detail in (Appendix D). These centers are strategically distributed across the AL-Diwaniyah Health Directorate, comprising two well-defined health sectors. To ensure representative results, a meticulous selection process was employed. Specifically, four essential PHCCs, constituting twenty percent from each sector, were thoughtfully chosen for inclusion in the study (refer to Figure 3-1 for visual representation).
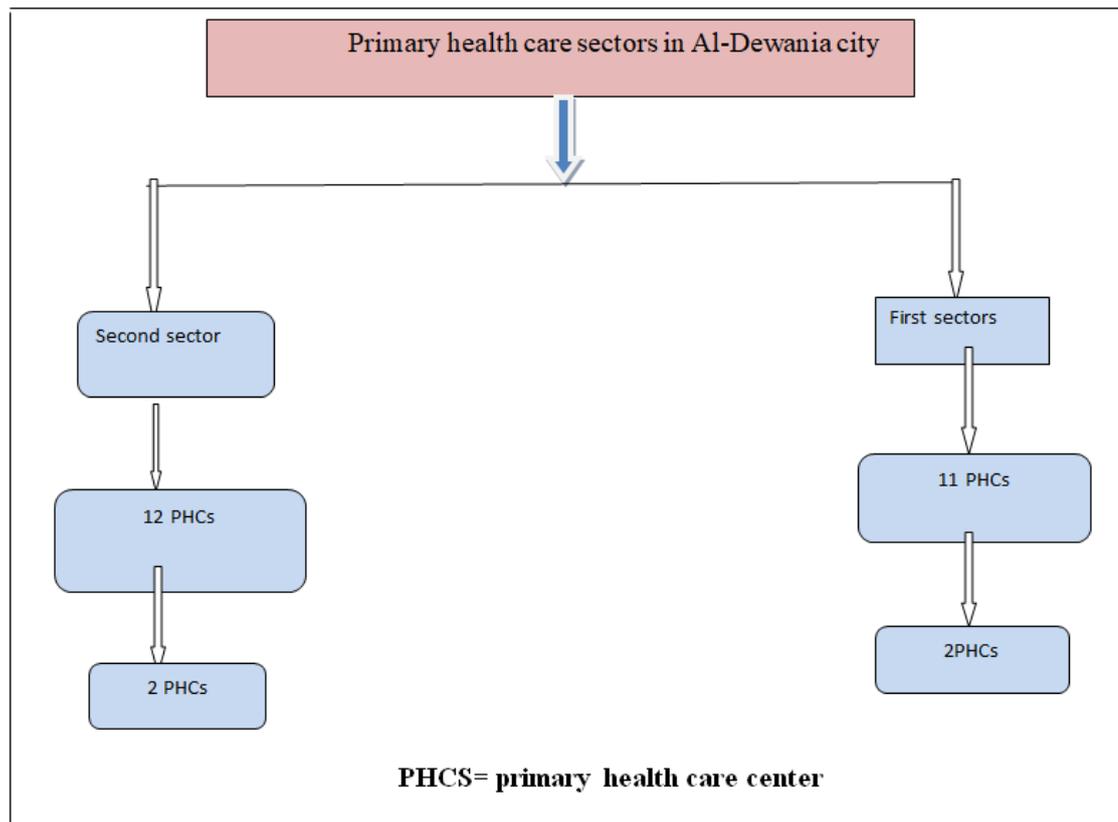
Figure (3-1): The Distribution of the Setting for the Study

3.4. Sample of the Study:

Non Probability a Purposive Sample was chosen. The sample for this study consisted of (60) women who were adopt three test as pre-post I and II. In Al-Diwaniyah city, all (60) of the women attend five PHCCs at the time of gathering data.

These PHCCs were selected as (20%) out of the target population by simple random sampling technique (Lottery method), as shown in table (3-1)

Table (3.1): Purposive Samples from Al-Diwaniyah City's Primary Healthcare Sectors

No	Sector	PHCs	Sample number
1	First PHCS sector	Al-Eurubuh	15
		Al-Hakeam	13
2	Second PHCS sector	Al Nahda	17
		Al-Zahraa	15
Total	2	4	60

3.4.1. Inclusion Criteria

1. Women aged 25 to 50 years.
2. Women demonstrating a voluntary willingness to engage in the study.

3.4.2. Exclusion Criteria

1. Women who were unavailable during the data collection period.
2. Women who had previously received education about breast cancer.
3. Women who had been medically diagnosed with breast cancer.

3.5. Steps of the Study

The current research was specifically aimed at assess women awareness and attitudes towards breast cancer and focused on the following steps:

3.5.1. Initial Assessment of Women Awareness and Attitudes towards Breast Cancer

The objective of this assessment was to evaluate women's comprehension of breast cancer. To accomplish this stage of the study, the researcher employed a closed questionnaire format. The design of the questionnaire was informed by a comprehensive examination of pertinent literature and insights gleaned from subjective experiences related to knowledge-based inquiries. The assessment was conducted with a cohort of ten women from July 4th to 8th 2021.

The questionnaire, aimed at gauging women's informational needs, comprised eleven knowledge-oriented questions. Each participant dedicated approximately 10 to 20 minutes to complete the questionnaire.

3.5.2. Program Construction

The program was structured around a series of four comprehensive lectures, strategically designed to fulfill the study's objectives. Each lecture was meticulously crafted to encompass essential components such as an introductory segment, substantive content, clearly defined learning goals, a conducive lecture environment, effective teaching methodologies, illustrative demonstrations, and a well-structured timetable. To facilitate seamless access and reference, all these lectures were compiled into a handbook (refer to Appendix D), thoughtfully distributed to the women within the target groups before the program's actual implementation.

3.5.3. Program Implementation

A cohort of sixty women participated in the educational program. The program's core subjects were comprehensively elucidated over the course of four lectures during its execution. Each lesson was meticulously

scheduled to span two hours per day, with every lecture being conducted at a primary healthcare center.

3.5.4. Lecture Details:

Lecture 1:

In the inaugural lecture, we delve into the essential aspects of breast cancer. This session encompasses the precise definition of breast cancer, a comprehensive exploration of its various types, and a thorough examination of the factors that contribute to its development. (Refer to Appendix D for additional information.)

Lecture 2:

Our second lecture centers on an in-depth analysis of key subjects. We illuminate the intricacies of recognizing signs and symptoms associated with breast cancer, emphasizing the critical importance of early detection. Within this lecture, we not only elucidate the significance of identifying breast cancer early but also provide a comprehensive list of measures aimed at facilitating such early detection.

Lecture 3:

The third lecture takes a closer look at Breast Self Examination (BSE). Through this session, participants will acquire a solid grasp of what BSE entails, alongside a detailed explanation of the optimal timing for conducting these examinations. Furthermore, we guide attendees through the step-by-step process of performing a thorough breast self-examination.

Lecture 4:

Our fourth lecture goes beyond the surface, offering an intricate exploration of Clinical Breast Examination and a comprehensive discussion on mammography. Attendees will also be presented with a curated list of preventive measures centered around early detection, accompanied by a detailed exposition on medical strategies employed in the management of breast cancer.

3.5.5. Implementation of Program

The educational program was successfully implemented with a cohort of sixty women. The program comprised three comprehensive lectures, each aimed at elucidating the core aspects of the software. These lectures were carefully designed to span 50 to 60 minutes each day, and the schedule was thoughtfully organized to accommodate this. Notably, all lectures were conducted at the designated primary health centers, as indicated in Table 3.2.

Table 3.2: The primary health centers

Lectures	Topics
Session 1 Duration: 50-60 minutes Location: PHCCs Learning Objectives: By the end of the session, participants should be able to: 1. Define breast cancer. 2. Describe the different types of breast cancer. 3. Recognize and articulate the various risk factors associated with breast cancer.	Concept of breast cancer
Session 2: Understanding Breast Cancer Awareness Duration: 50-60 minutes Location: PHCCs (Primary Health Care Centers) Learning Objectives: By the end of this session, participants will be able to: 1. Recognize Signs and Symptoms: Articulate the key signs and symptoms associated with breast cancer. 2. Emphasize Early Detection: Discuss the significance of early detection in improving breast cancer outcomes. 3. Enumerate Early Detection Strategies: List various measures and approaches for early detection of breast cancer.	Beast cancer clinical manifestations and early detection

Session 3: Empowering Breast Health Duration: 50-60 minutes Location: PHCCs (Primary Health Care Centers) Learning Objectives: By the end of this session, participants will be able to: Comprehend Breast Self-Examination (BSE): Understand the concept and significance of Breast Self-Examination (BSE) in maintaining breast health. Identify Optimal Timing for Breast Self-Examination: 1. Explain the ideal timing and frequency for conducting effective Breast Self-Examination. 2. Master the Steps of Breast Self-Examination: 3. Describe the systematic approach and key steps involved in performing a thorough Breast Self-Examination.	Breast self examination
Session 4: Enhancing Breast Health Duration: 50-60 minutes Location: Primary Healthcare and Community Centers (PHCCs) Learning Objectives: By the end of this session, participants will be proficient in the following: 1. Understanding Clinical Breast Examination: 2. Gain insight into the significance and methodology of clinical breast examinations as a proactive measure for breast health. 3. Exploring Mammogram Examination: 4. Engage in an interactive discussion about mammograms, delving into their role in breast health assessment and early detection of anomalies. 5. Identifying Preventive Measures for Early Detection: 6. Compile a comprehensive list of preventive measures and strategies that aid in the early detection of potential breast health issues, promoting overall well-being. 7. Comprehending Medical Management of Breast Cancer: 8. Acquire a detailed understanding of the medical management options available for individuals diagnosed with breast cancer, focusing on various treatment modalities and their implications.	Breast cancer examination and management

3.5.6. Evaluation of the Program

The final phase of this study involves evaluating the impact of the educational program on women's knowledge and perceptions of breast cancer. This will be achieved through a post-test assessment conducted 14 days after the conclusion of the teaching program.

3.6 Study Instruments

In crafting the study instruments, a comprehensive exploration of pertinent literature, educational programs, women's knowledge resources, and prevailing attitudes has been undertaken to facilitate robust data collection. These instruments are delineated in detail in Appendix D.

3.6.1 Part I: Demographic Data

This segment presents a questionnaire encompassing key socio-demographic attributes. Comprising five items – age, educational attainment, occupation, residency, and family composition – this section captures essential societal context.

3.6.2 Part II: Assessment of Women's General Knowledge Concerning Breast Cancer

Designed using a binary scale framework with two response levels, this tool evaluates women's awareness regarding breast cancer. Employing a structured awareness questionnaire featuring 33 items, the instrument gauges participants' comprehension of breast cancer-related aspects. Each correct response is allocated a score of 1, while incorrect answers receive a score of 0. Comprising multiple-choice questions, the questionnaire probes participants' awareness across various domains:

Table 3.3: The questions domains

List	Domains	Items
1	Concept of breast cancer	10 items
2	Clinical manifestations	٥ items
3	Breast self examination	11 items
4	Management of breast cancer	٧ items

3.7. Validity of the Study Instruments

To ensure the accuracy and relevance of the study instruments, a comprehensive assessment of content validity was conducted, aligning with established methodologies (Polit & Hungler, 2013). A diverse panel comprising twenty specialists, each holding expertise in nursing and medicine across various reputable institutions, was meticulously chosen.

The panel's composition consisted of the following experts: four scholars from the University of Babylon's Faculty of Nursing, five experts from the University of Baghdad's Faculty of Nursing, one specialist from the University of Al-Kufa's Faculty of Nursing, one expert from the University of Alameed's Faculty of Nursing, one authority from the Diwaniyah Health Department's Obstetrics and Gynecology Hospital, and another expert from the Diwaniyah Health Department's General Hospital (for further reference, see Appendix D).

These distinguished experts were actively engaged in the content review process of the questionnaire. Their invaluable insights, critiques, and recommendations were thoughtfully integrated into the refinement of the study instrument. Their perspective was aligned with the study's overarching goals, considering both the educational program and the questionnaire components.

By employing this comprehensive content validity assessment, the study's instruments were rigorously vetted and optimized to accurately encompass the full spectrum of the research domain.

3.8. Pilot Study

This pilot study was undertaken to evaluate the research tool's reliability, clarity, effectiveness, and consistency, all of which were confirmed. Additionally, it aimed to estimate the average time required for data collection per subject through interview processes and identify potential difficulties.

The pilot study had the following objectives:

1. Develop and validate the research instruments.

2. Evaluate the instrument's feasibility.

3. Identify logistical challenges that may arise from the proposed methods.

4. Assess the effectiveness of the proposed data analysis techniques and uncover any potential issues.

5. Estimate the time required for data collection by the researcher.

3.8.1. Results of the Pilot Study:

1. The questionnaire demonstrated high reliability.

2. Participants took an average of 15 to 20 minutes to complete the questionnaire.

3. The instrument items were refined, improving the understanding of the underlying study phenomenon (refer to Table 3-1). The questionnaire underwent the following iterative stages before reaching its final version:

   i.   Define the data to be collected based on the study's research questions.

   ii. Determine the questionnaire format and structure.

   iii. Specify the response criteria for each questionnaire item.

   iv. Seek feedback and observations from supervisors to enhance and refine the questionnaire.

   v.   Obtain input from panels of expert reviewers to further improve the questionnaire.

   vi. Assess its reliability by administering the questionnaire to a sample of 10 nurses.

   vii. Finalize, print, review, and distribute the questionnaire both before and after the educational program.

3.8.2. Questionnaire Reliability:

Reliability of study tools refers to their ability to yield consistent results when used repeatedly with the same individuals over time. A random sample of 10 women participated in a test-retest reliability assessment, without awareness of their role as a stability gauge for the tool. Notably, these individuals were excluded from the main study sample. The Cronbach's Alpha coefficient was utilized to calculate the confidence level, as demonstrated below.

Table 3-1: Reliability of the Studied Questionnaire (n=10)

Reliability Statistics		
Knowledge 35 – Items	Test	Re-test
	0.71	0.78

3.9. Data Collection

Utilizing a specially designed assessment tool, we have successfully gathered valuable data for our study. The data collection process involved both pre-test and post-test I and II examination techniques. This thorough data collection was conducted within primary healthcare centers, maintaining consistency with the setting in which the teaching program was implemented.

Prior to the assessment, the researcher effectively communicated the study's objectives to the participants, emphasizing the significant benefits that this research endeavor offers.

The program's implementation encompassed the following key components:

1. Demographic data forms were completed by each women within 60 women were selected.

2. A pre-test was administered to all women individually to assess their awareness and attitudes; this test lasted for a duration of 20-25 minutes.

3. All participants were convened in the same classroom setting to partake in the intervention program.

4. A comprehensive awareness and attitudes assessment comprising thirty questions was conducted, specifically designed to evaluate the women awareness and attitudes towards breast cancer.

5. Each instructional session spanned a duration of 60 to 90 minutes.

6. Following the conclusion of the educational program, all subjected to a post-test after a one-week interval.

7. All women underwent a second post-test (Post-test II) after one month to gauge the sustained impact of the tutorial.

8. The instructional sessions leveraged a variety of teaching resources, including classroom settings, lectures, whiteboards, computers, data projectors, and notebooks.

3.10. Statistical Analysis Approach

The researcher employed a rigorous statistical analysis process to derive meaningful insights from the collected data. Utilizing both SPSS-24 and Microsoft Excel (2010), the data was meticulously examined, and various statistical methods were applied to unveil relationships among variables. These analyses were instrumental in producing the conclusive findings of the research through a series of meticulous statistical tests.

3.10.1. Descriptive Approach

The descriptive approach encompasses a range of mathematical and statistical techniques designed to quantitatively characterize key attributes of the data. This is achieved using tables and charts, allowing for a comprehensive portrayal of the data's intrinsic characteristics. The primary objective of descriptive statistics is to facilitate the processing,

organization, summarization, and categorization of the data. This presentation is rendered in a lucid and uncomplicated manner, enhancing the recipient's comprehension and recognition of the content. The analysis employs:

1. Statistical Tables: Frequencies and Percentages
2. Computation of Mean Scores (M.s.) and Overall Average Score (M±)

The formula for calculating the average score is as follows:

M.s = (Maximum Scores - Minimum Scores) / Levels

= (2 - 1) / 3 = 0.33

The categorization of the average score for awareness is as follows:

1.00 - 1.33: Low Responses

1.34 - 1.66: Fair Responses

1.67 - 2.00: High Responses

The categorization of the average score for attitudes is as follows:

1.00 - 1.66: Low Responses

1.67 – 2.33: Fair Responses

2.34 - 3.00: High Responses

Regarding the final result of the scale based on the total, the categories are as follows:

Total Mean of Scores Awareness = (Maximum Total Scores - Minimum Total Scores) / Levels

= (39 - 78) / 3 = 13

Categorization based on total mean:

Poor Level: 39-52

Fair Level: 52.1-65

Good Level: 65.1-78

Total Mean of Scores Attitudes = (Maximum Total Scores - Minimum

Total Scores) / Levels

= (15 - 45) / 3 = 10

Categorization based on total mean:

Negative Level: 15-25

Neutral Level: 25.1-35

Positive Level: 35.1-45

3. The analysis Standard Deviation test (±SD)

4. Cronbach alpha correlational coefficient to gauge the internal consistency of the study tool. This coefficient is invaluable in assessing the reliability and coherence of the measurement instrument.

2.10.2. Inferential approach

1. Analysis of Variance (ANOVA)

The ANOVA test is employed to assess variations in dependent variables concerning independent variables, particularly when comparing differences in the knowledge of adolescent girls across various socio-demographic characteristics. This method is applicable when dealing with multiple class variables (more than two). A significance level (Sig.) of 0.05 is utilized to identify statistically significant distinctions.

2. Independent Sample t-test

The Independent Sample t-test is utilized to ascertain disparities in dependent variables based on independent variables. This approach is suitable when comparing differences in the knowledge of adolescent girls across different socio-demographic characteristics, limited to scenarios involving two class variables. A significance level (Sig.) of 0.05 indicates statistically meaningful disparities.

Chapter Four
Results of the Study

Chapter Four

Results of the Study

Under the objectives of current study findings, the descriptive and inferential statistic approach organized in tables and figures that includes the followings:

Table 4.1.Distribution of Study Sample by their Socio-Demographic Variables (SDVs)

SDVs	Classification	Freq.	%
Age /years (*M± SD= 31±10.08*)	<20 years old	4	6.7
	20-29 years old	28	46.7
	30-39 years old	17	28.3
	40-49 years old	6	10.0
	50and older	5	8.3
Marital status	Single	27	45.0
	Married	29	48.3
	Widower	4	6.7
Residents	Urban	47	78.3
	Rural	13	21.7
Monthly income	Sufficient	22	36.7
	Sufficient to certain limit	30	50.0
	Insufficient	8	13.3
Education Level	Read and write	22	36.7
	Primary graduated	10	16.7
	Intermediate graduated	9	15.0
	Preparatory graduated	8	13.3
	Bachelor graduated	6	10.0
	Post-graduated	5	8.3
Occupation	Unemployed	13	21.7
	Free work	10	16.7
	Students	13	21.7
	Government Employee	10	16.7
	Retired	14	23.3
Previous source of information about BC	Family / relative/ friends	28	46.7
	Mass media	26	43.33
	Health personnel	5	8.3
	Library social media	1	1.7

Freq.= Frequency; %= Percentage

The findings indicate that the participants' ages varied, with women in the study having a mean age of 31. Among the age groups, 20-29 years old had the highest representation at 46.7%, followed by 30-39 years old at

28.3%, 40-49 years old at 10%, those over 50 at 8.3%, and those under 20 at 6.7%.

Regarding marital status, married women constituted the largest group at 48.3%, followed by single women at 45.0%, and widowed individuals at 6.7%.

In terms of residency, urban residents were predominant at 78.3%, while rural residents comprised 21.7% of the participants.

When considering monthly income, 50.0% of women indicated a sufficient to certain limit, 36.7% stated their income was sufficient, and 13.3% found it insufficient.

Educational background revealed that the majority (36.7%) had basic literacy (read and write), followed by primary school graduates at 16.7%, intermediate school graduates at 15.0%, and preparatory school graduates at 13.3%. Bachelor's and post-graduate degree holders made up 10.0% and 8.3%, respectively.

Occupationally, the largest groups were composed of unemployed individuals and students (21.7% each), followed by those engaged in freelance work and government employment (16.7% each), and retirees at 23.3%.

Among sources of information about breast cancer (BC), family, relatives, and friends played a significant role (46.7%).

Table 4-2:Women Awareness Regarding to Breast Cancer

Table 4-2-1:Women awareness responses during pre-post I and II tests regarding to structure and concept of breast cancer

List	Structure and Concept of breast cancer	Rating	Pre-test.			Post test I			Post test II		
			No.	M.s.	Ass.	No.	M.s.	Ass.	No.	M.s.	Ass.
1	Following are the parts of milk storing region of breast	Incorrect	49	1.18	P	7	1.88	G	9	1.85	G
		Correct	11			53			51		
2	Number of lobes in each breast are	Incorrect	51	1.15	P	8	1.86	G	10	1.83	G
		Correct	9			52			50		
3	Normal adult nipples are	Incorrect	39	1.35	F	4	1.93	G	5	1.91	G
		Correct	21			56			55		
4	Main function of the breast is	Incorrect	47	1.21	P	33	1.45	F	34	1.43	F
		Correct	13			27			26		
5	Breast lump is mostly common in the following segment	Incorrect	43	1.28	P	31	1.48	F	31	1.48	F
		Correct	17			29			29		
6	The commonest site for breast cancer	Incorrect	40	1.33	P	2	1.96	G	4	1.93	G
		Correct	20			58			56		
Overall Awareness regarding Structure and Concept of breast cancer		P =6-8)	40	7.51	P	1	10.6	G	3	10.45	G
		F=6.1-10)	16			33			32		
		G=10.1-12)	4			26			25		

"Level of Assessment (Poor [P]=1-1.33, Fair [F]=1.34-1.66, Good [G]=1.67-2"

The study's findings illustrate the assessment of responses from the study sample before and after undergoing Test I and Test II, pertaining to their awareness of the structure and concepts related to breast cancer. The results reveal that, during the pre-test, the women participating exhibited poor responses across all studied items (mean score ≤ 1.33), except for item number 3, where responses were deemed fair (mean score = 1.34-1.66). Overall, the women demonstrated a limited awareness regarding the structure and concepts of breast cancer (mean score = 7.51).

Following Test I, there was a significant enhancement in women's awareness concerning the structure and concepts of breast cancer across all studied items (mean score ≥ 1.67), except for items number 4 and 5, where responses remained at a fair level (mean score = 1.34-1.66). Overall, the women exhibited a commendable awareness regarding the structure and concepts of breast cancer (mean score = 10.6).

During Test II, the women's responses mirrored those observed in the post-test I phase. Consequently, the women maintained a high level of awareness regarding the structure and concepts of breast cancer (mean score = 10.45) overall.

Table 4-2-2: Women awareness responses during pre-post I and II tests regarding to risk factors of breast cancer

List	Risk factors of breast cancer	Rating	Pre-test.			Post test I			Post test II		
			No.	M.s.	Ass.	No.	M.s.	Ass.	No.	M.s.	Ass.
1	Cause of cancer breast is	Incorrect	38	1.36	F	10	1.83	G	12	1.80	G
		Correct	22			50			48		
2	Breast cancer is more common among	Incorrect	43	1.28	P	11	1.82	G	12	1.80	G
		Correct	17			49			48		
3	Cancer breast is higher in women who menopause	Incorrect	46	1.23	P	41	1.31	P	41	1.32	P
		Correct	14			19			19		
4	Cancer breast is higher in women who attained menarche	Incorrect	40	1.33	P	4	1.93	G	5	1.91	G
		Correct	20			56			55		
5	Cancer is associated with	Incorrect	55	1.08	P	18	1.70	G	19	1.68	G
		Correct	5			42			41		
6	Risk of breast cancer is mostly seen among women who are	Incorrect	51	1.15	P	40	1.33	P	41	1.32	P
		Correct	9			20			19		
7	Cancer breast is common in women who have	Incorrect	49	1.18	P	14	1.77	G	16	1.73	G
		Correct	11			46			44		
8	Chance of getting breast cancer is increased with	Incorrect	51	1.15	P	11	1.81	G	12	1.80	G
		Correct	9			49			48		
Overall awareness regarding Risk factors of breast cancer		P=8-10.66	40	9.78	p	4	13.51	G	5	13.37	G
		F=10.66-13.33	18			15			16		
		G=13.34-16	2			41			39		

"Level of Assessment (Poor [P]=1-1.33, Fair [F]=1.34-1.66, Good [G]=1.67-2"

The results pointed towards a noteworthy trend. Prior to the intervention, the women exhibited limited understanding across all the examined aspects (M.s ≤ 1.33). Overall, the participants demonstrated inadequate awareness regarding breast cancer risk factors (M=9.78).

Following the intervention in post-test I, the women's awareness regarding breast cancer risk factors exhibited significant improvement across most of the studied aspects (M.s ≥ 1.67). However, a few items, specifically numbers 3 and 6, still showed limited responses (M.s ≤ 1.33). On the whole, the participants displayed commendable awareness of breast cancer risk factors (M=13.51).

In post-test II, the participants' responses mirrored those of post-test I. Consequently, the overall assessment indicated a commendable awareness of breast cancer risk factors (M=13.37).

Table 4-2-3: Women awareness responses during pre-post I and II tests regarding to clinical manifestation of breast cancer

List	Clinical manifestation of breast cancer	Rating	Pre-test.			Post test I			Post test II		
			No.	M.s.	Ass.	No.	M.s.	Ass.	No.	M.s.	Ass.
1	Abnormal changes in the breast during breast cancer include	Incorrect	50	1.17	P	2	1.97	G	4	1.93	G
		Correct	10			58			56		
2	Following are warning signs of breast cancer except	Incorrect	51	1.15	P	10	1.83	G	11	1.82	G
		Correct	9			50			49		
3	Major symptoms at later stage of breast cancer include	Incorrect	52	1.13	P	35	1.42	F	35	1.42	F
		Correct	8			25			25		
4	Important sign of breast cancer is	Incorrect	50	1.17	P	5	1.92	G	5	1.92	G
		Correct	10			55			55		
5	In breast cancer, a nipple is	Incorrect	51	1.15	p	29	1.52	F	29	1.52	F
		Correct	9			31			31		
	Overall awareness regarding Risk factors of breast cancer	P=5-6-66	50	5.77	p	1	8.65	G	2	8.60	G
		F=6.67-8.33	4			32			31		
		G=8,34-10	6			27			27		

"Level of Assessment (Poor [P]=1-1.33, Fair [F]=1.34-1.66, Good [G]=1.67-2"

The results suggest that, during the initial pre-test, the women being studied exhibited inadequate responses across all the evaluated items (mean scores ≤ 1.33). Collectively, these results point to a subpar level of awareness among the women regarding the clinical indicators of breast cancer (Mean = 5.77).

Upon analysis of the data, it becomes evident that significant improvements occurred in the participants' awareness of breast cancer's clinical manifestations after exposure to the intervention. In Post Test I, the women displayed a substantially enhanced understanding across all the evaluated items (mean scores ≥ 1.67), with the exception of items 3 and 5, where responses reached a moderate level (mean scores = 1.34-1.66). Consequently, the women's overall awareness of clinical breast cancer manifestations was deemed satisfactory (Mean = 8.65) at this stage.

The trends in awareness remained consistent in Post Test II, mirroring the responses observed in Post Test I. Collectively, the outcomes

of Post Test II demonstrated that the women's awareness of clinical manifestations of breast cancer remained at a commendable level (Mean = 8.60).

Table 4-2-4: Women awareness responses during pre-post I and II tests regarding to Evaluation and diagnostic of breast cancer

List	Evaluation and diagnostic of breast cancer	Rating	Pre-test.			Post test I			Post test II		
			No.	M.s.	Ass.	No.	M.s.	Ass.	No.	M.s.	Ass.
1	Easiest and cheapest method for early detection of lump is	Incorrect	53	1.12	P	39	1.35	F	39	1.35	F
		Correct	7			21			21		
2	A women should begin her BSE by the age of	Incorrect	41	1.32	P	10	1.83	G	11	1.82	G
		Correct	19			50			49		
3	Part of the hand used for breast palpation is	Incorrect	49	1.18	P	5	1.92	G	7	1.88	G
		Correct	11			55			53		
4	If found something abnormal in breast during BSE women	Incorrect	57	1.05	P	23	1.62	F	25	1.58	F
		Correct	3			37			35		
5	Position for BSE include the following except	Incorrect	45	1.25	P	9	1.85	G	11	1.82	G
		Correct	15			51			49		
6	Following are the methods used for BSE	Incorrect	45	1.25	P	9	1.85	G	11	1.82	G
		Correct	15			51			49		
7	Breast self examination	Incorrect	56	1.07	P	18	1.70	G	21	1.65	F
		Correct	4			42			39		
8	Breast self examination should be performed	Incorrect	50	1.17	P	12	1.80	G	14	1.77	G
		Correct	10			48			46		
9	In post menopausal women best day for breast examination	Incorrect	48	1.20	P	10	1.83	G	12	1.80	G
		Correct	12			50			48		
Overall awareness regarding Evaluation and diagnostic of BC		P=9-12	52	10.6	P	4	15.75	G	6	15.48	G
		F=12.1-15	4			18			19		
		G=15.1-18	4			38			35		

"Level of Assessment (Poor [P]=1-1.33, Fair [F]=1.34-1.66, Good [G]=1.67-2"

The study's findings revealed an assessment of responses from the study sample during pre-test and post-test I and II evaluations regarding awareness of breast cancer, particularly in terms of evaluation and diagnostics. The results demonstrated that prior to any intervention, the women in the study exhibited poor responses across all assessed items (M.s $\leq$ 1.33). Overall, the women displayed a subpar level of awareness concerning the evaluation and diagnostics of breast cancer, with an average score of 10.6. Following the intervention, at post-test I, a significant improvement in awareness regarding breast cancer evaluation and

diagnostics was observed across all studied items (M.s ≥ 1.67), except for items 1 and 4, where responses remained at a fair level (M.s = 1.34-1.66). The collective outcome indicated a favorable level of awareness among women, with an average score of 15.75. In post-test II, the awareness levels remained consistent with those observed in post-test I. Additionally, responses to item number 4 continued to be within the fair range (M.s = 1.34-1.66). Overall, women displayed a commendable awareness level regarding breast cancer evaluation and diagnostics, with an average score of 15.48.

Table 4-2-5: Women awareness responses during pre-post I and II tests regarding to Management of breast cancer

List	Management of breast cancer	Rating	Pre-test.			Post test I			Post test II		
			No.	M.s.	Ass.	No.	M.s.	Ass.	No.	M.s.	Ass.
1	Firm pressure over breast is used to feel	Incorrect	52	1.13	P	5	1.92	G	9	1.85	G
		Correct	6			55			51		
2	Frequency of clinical breast examination is	Incorrect	49	1.18	P	20	1.67	G	20	1.67	G
		Correct	11			40			40		
3	Frequency of Mammogram for women age 40 & above	Incorrect	51	1.15	P	8	1.87	G	11	1.82	G
		Correct	9			52			49		
4	Radiation therapy means	Incorrect	49	1.18	P	15	1.75	G	17	1.72	G
		Correct	11			45			43		
5	Radiation therapy to breast cancer is used to	Incorrect	51	1.15	P	14	1.77	G	15	1.75	G
		Correct	9			46			45		
6	Chemotherapy refers to	Incorrect	35	1.42	F	8	1.85	G	12	1.80	G
		Correct	25			51			48		
7	Chemotherapy is best used	Incorrect	53	1.12	P	17	1.72	G	19	1.68	G
		Correct	7			43			41		
8	Mammography is most effective during	Incorrect	53	1.12	P	6	1.90	G	8	1.87	G
		Correct	7			54			52		
9	Breast ultrasound is done to identify whether	Incorrect	46	1.23	P	12	1.80	G	14	1.77	G
		Correct	14			48			46		
10	Mastectomy means	Incorrect	16	1.73	G	7	1.88	G	8	1.87	G
		Correct	44			53			52		
11	Surgical therapy includes the following except	Incorrect	52	1.13	P	10	1.83	G	12	1.80	G
		Correct	8			50			48		
	Overall awareness regarding Management of breast cancer	P=11-14.66	44	13.55	p	2	19.95	G	4	19.58	G
		F=14.67-18.33	13			10			10		
		G=18.34-22	3			48			46		

"Level of Assessment (Poor [P]=1-1.33, Fair [F]=1.34-1.66, Good [G]=1.67-2"

The findings of this study highlight the assessment of responses from the study participants in the pre-test and post-test I and II evaluations, specifically focusing on their awareness of breast cancer management. The results reveal that prior to any intervention, the women in the study exhibited limited understanding, with their responses to all surveyed items scoring poorly (M.s $\leq$ 1.33). Notably, only two items, number 6 and number 10, received fair (M.s = 1.34-1.66) and good (M.s. $\geq$ 1.67) responses, respectively. In aggregate, the women demonstrated a subpar level of awareness regarding breast cancer management (M = 13.55).

Following the intervention, there was a noteworthy enhancement in the participants' awareness levels as evidenced by their responses in post-test I. Across all the items, their awareness scores significantly improved, reaching a good level of understanding (M.s. $\geq$ 1.67). This translated into an overall positive shift, indicating a solid grasp of breast cancer management among the women (M = 19.95).

In post-test II, the responses mirrored those observed in post-test I, reaffirming the sustained improvement in awareness levels. The collective outcome highlighted a continued strong awareness towards breast cancer management (M = 19.58), reaffirming the positive impact of the intervention.

Table4-2-6.Overall Women Awareness towards Breast Cancer during Pre-test and Post-test I

Women Awareness	Pre-test			Post-test I			Post-test II		
	No.	%	*M ± SD*	No.	%	*M ± SD*	No.	%	*M ± SD*
Poor (*M=39-52*)	51	85.0		1	1.7		2	3.3	
Fair (*M=52.1-65*)	6	10.0	*47.2±8.45*	8	13.3	*68.5±5.10*	12	20.0	*67.5±6.06*
Good (*M=65.1-78*)	3	5.0		51	85.0		46	76.7	
Total	60	100		60	100		60	100	

M: Mean of total Scores, SD: Standard Deviation for total scores

The results indicate a notable trend in the awareness of women about breast cancer. Initially, prior to the intervention program, only 15% of the women exhibited a satisfactory level of awareness (M ± SD = 47.2 ± 8.45). However, following the implementation of the intervention program, this figure dramatically improved, with 85% of women demonstrating a strong awareness (M ± SD = 68.5 ± 5.10) during the immediate post-test.

Remarkably, even after a month had elapsed, the positive impact of the intervention program persisted, as women still displayed a commendable awareness level towards breast cancer (M ± SD = 67.5 ± 6.06). These findings underscore the effectiveness of the intervention in enhancing women's understanding of breast cancer, emphasizing the enduring influence over time.

Table 4-3:Statistical Significant Difference between Pre and Post Test I by their Overall Responses to the Awareness Scores

Women	Periods	Mean	SD	t-value	d.f	*p-value*
Awareness	Pre-test	1.21	.216	16.252	59	*.000*
	Post-test I	1.76	.130			

M: Mean, SD: Standard deviation, t: t-test, d.f: Degree of freedom, Sig: Significance, p: Probability value

      The results indicate a substantial disparity in women's awareness levels, as evidenced by the pre-test conducted prior to the intervention program, and the post-test carried out subsequent to the implementation of the intervention program (t = 16.252; p = 0.000). Analyzing the statistical means, the study demonstrates a notable enhancement in women's awareness during the post-test phase (M = 1.21), in comparison to the scores observed in the pre-test (M = 1.76).

Table 4-4:Statistical Significant Difference between Post Test I and II by their Overall Responses to the Awareness Scores

Women	Periods	Mean	SD	t-value	d.f	*p-value*
Awareness	Post-test I	1.76	.130	1.847	59	*.070*
	Post-test II	1.73	.155			

M: Mean, SD: Standard deviation, t: t-test, d.f: Degree of freedom, Sig: Significance, p: Probability value

      The findings indicate that there is no statistically significant difference in women's awareness between post-test I (immediately after the intervention program) and post-test II (one month later), as demonstrated by the results of the analysis (t = 1.847; p = 0.070). The study's statistical analysis suggests that women's awareness remains unaffected by the passage of time.

Table 4-5:Statistical Significant Difference between Pre and Post Test I and II by their Overall Responses to the Awareness Scores

Period (A)	Period (B)	Mean Differences (A vs. B)	Std. Error	*p-value*
Pre-test	Post-test I	-.54444-*	.03132	.000*
	Post-test II	-.51966-*	.03132	.000*
Post-test I	Pre-test	.54444*	.03132	.000*
	Post-test II	.02479	.03132	.430
Post-test II	Pre-test	.51966*	.03132	.000*
	Post-test I	-.02479-	.03132	.430

Statistically significant disparities in women's awareness were observed between the pre-test and both post-tests I and II ($p < 0.05$). However, no statistically significant distinctions were found between post-test I and II ($p > 0.05$).
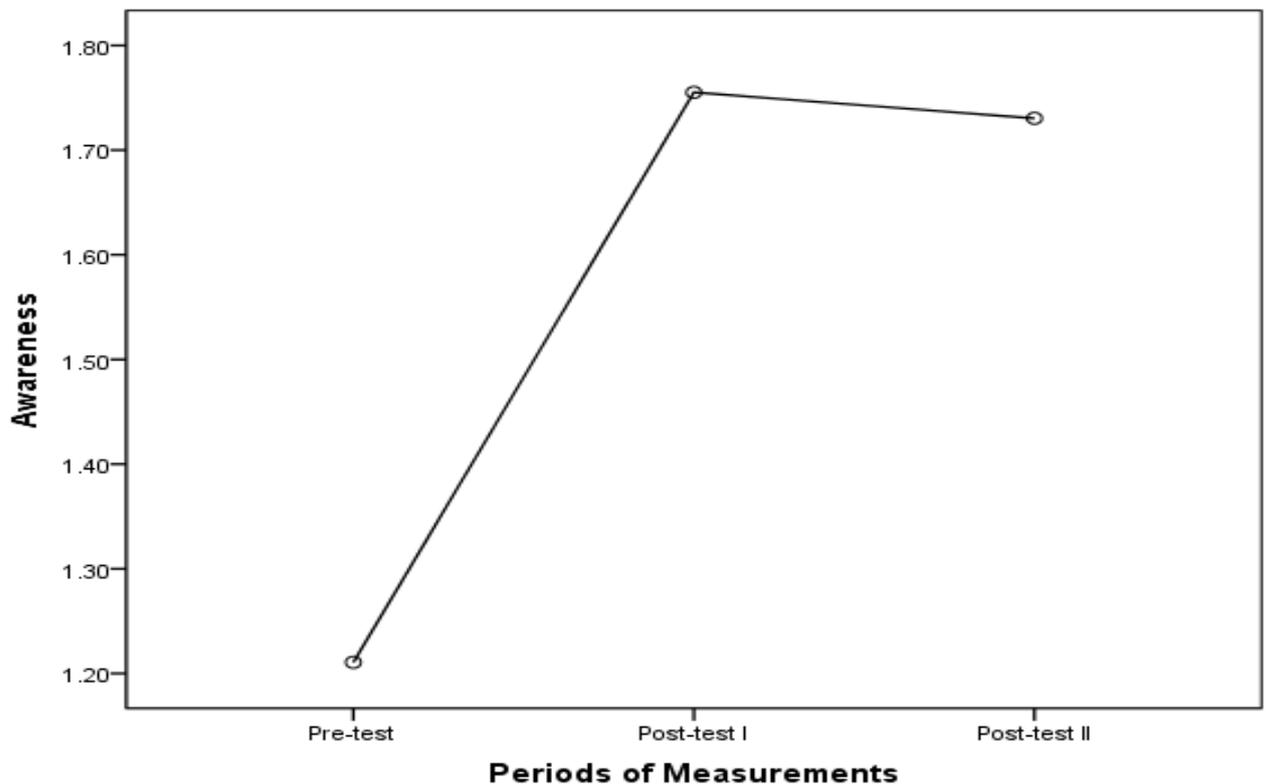

Fig. 4-2: Women Awareness in Three Periods of Measurement

Table 4-6:Women attitudes responses during pre-post I and II tests regarding to structure and concept of breast cancer

List	Attitudes towards breast cancer	Rating	Pre-test.			Post test I			Post test II		
			No.	M.s.	Ass.	No.	M.s.	Ass.	No.	M.s.	Ass.
1	If i gain weight I may get breast cancer.	Disagree	40	1.58	Dis.	10	2.63	Ag.	9	2.67	Ag.
		Neutral	5			2			2		
		Agree	15			48			49		
2	I do not have family history of cancer, so I may not get cancer.	Disagree	38	1.53	Dis.	10	2.60	Ag.	9	2.63	Ag.
		Neutral	12			4			4		
		Agree	10			46			47		
3	I do exercise so I am free from the risk of getting breast cancer.	Disagree	27	1.77	Nu.	1	2.75	Ag.	1	2.77	Ag.
		Neutral	20			13			12		
		Agree	13			46			47		
4	I think after menopause I have to maintain normal weight.	Disagree	26	1.87	Nu.	0	2.83	Ag.	0	2.85	Ag.
		Neutral	16			10			9		
		Agree	18			50			51		
5	I think early detection of disease is waste of money.	Disagree	33	1.75	Nu.	6	2.67	Ag.	6	2.68	Ag.
		Neutral	9			8			7		
		Agree	18			46			47		
6	I have to reduce intake of oral contraceptives to prevent from getting breast cancer.	Disagree	39	1.52	Dis.	5	2.72	Ag.	5	2.72	Ag.
		Neutral	11			7			7		
		Agree	10			48			48		
7	It's not necessary to check breast during menses.	Disagree	42	1.45	Dis.	9	2.65	Ag.	9	2.63	Ag.
		Neutral	9			3			4		
		Agree	9			48			47		
8	I consult doctor only when I get breast cancer.	Disagree	47	1.35	Dis.	15	2.47	Ag.	13	2.53	Ag.
		Neutral	5			2			2		
		Agree	8			43			45		
9	Post menopausal women won't get breast cancer.	Disagree	44	1.38	Dis.	13	2.48	Ag.	12	2.50	Ag.
		Neutral	9			5			6		
		Agree	7			42			42		
10	think Ayurveda (alternative medicine, herbas) is the choice of treatment for breast cancer.	Disagree	43	1.40	Dis.	13	2.52	Ag.	11	2.57	Ag.
		Neutral	10			3			4		
		Agree	7			44			45		
11	If I do not breast feed the child, I may get breast cancer.	Disagree	43	1.43	Dis.	13	2.50	Ag.	11	2.57	Ag.
		Neutral	8			4			4		
		Agree	9			43			45		
12	Chewing tobacco smoking causes breast cancer.	Disagree	34	1.68	Nu.	7	2.65	Ag.	6	2.68	Ag.
		Neutral	11			7			7		
		Agree	15			46			47		
13	I frequently examine my breast for any changes.	Disagree	31	1.83	Nu.	5	2.78	Ag.	4	2.82	Ag.
		Neutral	8			3			3		
		Agree	21			52			53		
14	I think survival rate is less in breast cancer.	Disagree	40	1.42	Dis.	12	2.48	Ag.	10	2.55	Ag.
		Neutral	15			7			7		
		Agree	5			41			43		
15	Breast self examination is necessary only when there is a problem.	Disagree	43	1.37	Dis.	11	2.52	Ag.	10	2.55	Ag.
		Neutral	12			7			7		
		Agree	5			42			43		

"Level of Assessment (Disagree [Dis.]=1-1.66, Neutral [Nu.]=1.67-2.33, Agree [Ag.]=234-3"

The study's findings revealed an assessment of the responses from the study sample during the pre-test and post-test I and II evaluations concerning attitudes towards breast cancer.

The results suggest that before any intervention (pre-test), the women in the study generally exhibited responses ranging from disagreement to neutrality across all assessed items (with mean scores ≤ 1.66).

However, following the intervention, specifically in post-test I, there was a notable and statistically significant improvement in the attitudes of the women towards breast cancer across all studied items (with mean scores ≥ 2.34). This positive shift in attitudes indicates the effectiveness of the intervention.

Furthermore, the results from post-test II indicated that the positive attitude improvements observed in post-test I were sustained, as the women's responses remained consistent with those of post-test I. This reinforces the notion that the intervention had a lasting impact on the participants' attitudes towards breast cancer.

Table4-7.Overall Women Attitudes towards Breast Cancer during Pre-test and Post-test I

Women Attitudes	Pre-test			Post-test I			Post-test II		
	No.	%	$M \pm SD$	No.	%	$M \pm SD$	No.	%	$M \pm SD$
Negative	30	50.0		5	8.3		3	5.0	
Neutral	28	46.7	23.3±7.91	15	25.0	39.3±8.64	16	26.7	39.1±7.85
Positive	2	3.3		40	66.7		41	68.3	
Total	60	100		60	100		60	100	

M: Mean of total Scores, SD: Standard Deviation for total scores

(Negative= 15-25; Neutral= 25.1-35; Positive= 35.1-45)

The findings reveal a notable shift in attitudes towards breast cancer among women. Prior to the intervention program, during the pre-test period, approximately half (50%) of the women exhibited negative attitudes, with a measured mean (±SD) of 23.3 ± 7.91. However, following the intervention program, at the post-test stage (post-test I), a remarkable change occurred, with about two-thirds (66.7%) of women displaying positive attitudes, and the mean attitude score (±SD) rising to 39.3 ± 8.64.

Furthermore, this positive trend persisted even a month after the intervention program. Women's attitudes toward breast cancer continued to improve, as evidenced by a mean attitude score (±SD) of 39.1 ± 7.85. This suggests a sustained positive impact and a noteworthy shift in attitudes over the course of the study.

Table 4-8:Statistical Significant Difference between Pre and Post Test I by their Overall Responses to the Attitudes Scores

	Periods	Mean	SD	t-value	d.f	*p-value*
Women Attitudes	Pre-test	1.51	.527	10.534	59	*.000*
	Post-test I	2.62	.564			

M: Mean, SD: Standard deviation, t: t-test, d.f: Degree of freedom, Sig: Significance, p: Probability value

The results indicate a substantial disparity in women's attitudes between the pre-test conducted prior to the intervention program and the post-test administered following the implementation of the intervention program (t=10.534; p=0.000). Analyzing the statistical means, the findings demonstrate a marked enhancement in women's attitudes during the post-test (M=2.62) in comparison to the pre-test (M=1.51) scores.

Table 4-9:Statistical Significant Difference between Post Test I and II by their Overall Responses to the Attitudes Scores

	Periods	Mean	SD	t-value	d.f	*p-value*
Women Attitudes	Post-test I	2.62	.564	1.426	59	*.159*
	Post-test II	2.64	.523			

M: Mean, SD: Standard deviation, t: t-test, d.f: Degree of freedom, Sig: Significance, p: Probability value

The results reveal that there is no significant difference in women's attitudes between post-test I, conducted after the intervention program, and post-test II, conducted a month later (t = 1.436; p = 0.169). However, when considering the statistical mean, the study's findings suggest a noteworthy improvement in women's attitudes over time (post-test II = 2.64, compared to post-test I = 2.62), despite the absence of statistical disparities.

Table 4-10:Statistical Significant Difference between Pre and Post Test

I and II by their Overall Responses to the Attitudes Scores

Period (A)	Period (B)	Mean Differences (A vs. B)	Std. Error	*p-value*
Pre-test	Post-test I	-1.06111-*	.09838	.000*
	Post-test II	-1.09222-*	.09838	.000*
Post-test I	Pre-test	1.06111*	.09838	.000*
	Post-test II	-.03111-	.09838	.752
Post-test II	Pre-test	1.09222*	.09838	.000*
	Post-test I	.03111	.09838	.752

Statistically significant variations in women's attitudes emerge when comparing the pre-test with both post-tests I and II (p < 0.05). However, no statistically significant distinctions are observed between post-test I and II (p > 0.05).
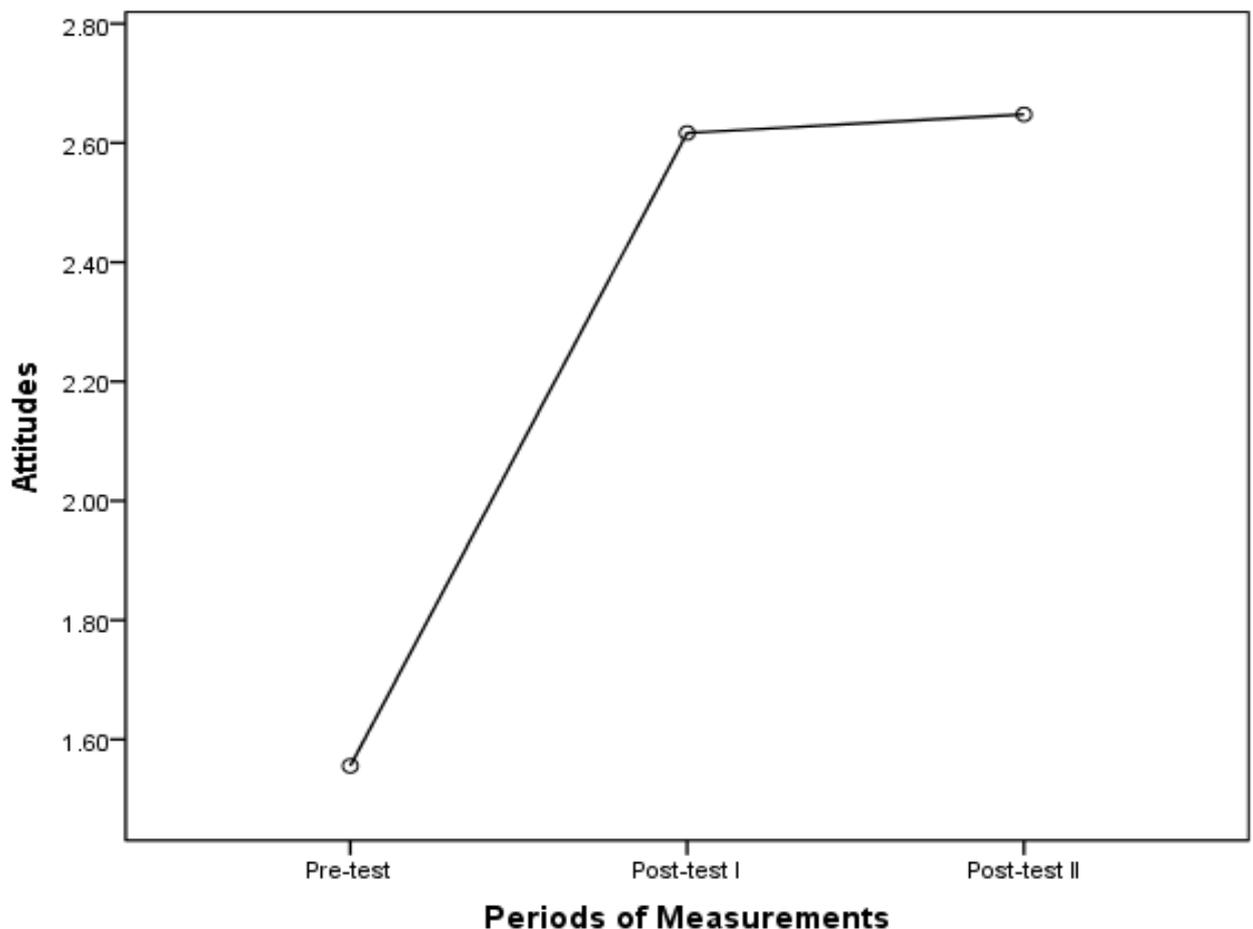
Fig. 4-3: Women Attitudes in Three Periods of Measurement

4.11.Significant Differences in Women Awareness towards Breast Cancer at Pre-test with regards SDVs

Women Awareness	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	*P-value*
Age	Between Groups	1.502	28	.054	1.310	.232
	Within Groups	1.270	31	.041		
	Total	2.772	59			
Marital status	Between Groups	.104	2	.052	1.108	.337
	Within Groups	2.668	57	.047		
	Total	2.772	59			
Income	Between Groups	.060	2	.030	.625	.539
	Within Groups	2.712	57	.048		
	Total	2.772	59			
Residents	Between Groups	.006	1	.006	.130	.719
	Within Groups	2.766	58	.048		
	Total	2.772	59			
Education	Between Groups	.104	4	.026	.537	.709
	Within Groups	2.668	55	.049		
	Total	2.772	59			
Occupation	Between Groups	.348	5	.070	1.548	.191
	Within Groups	2.424	54	.045		
	Total	2.772	59			
Sources of information	Between Groups	.129	4	.032	.672	.614
	Within Groups	2.643	55	.048		
	Total	2.772	59			

The analysis of variance depict there were no significant differences in women awareness towards breast cancer with respect sociodemographic characteristics (*p>0.05*).

4.11. Significant Differences in Women Awareness towards Breast Cancer at Post-test with regards SDVs

Women Awareness	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	*P-value*
Age	Between Groups	.716	28	.026	2.684	.004
	Within Groups	.295	31	.010		
	Total	1.012	59			
Marital status	Between Groups	.037	2	.018	1.068	.350
	Within Groups	.975	57	.017		
	Total	1.012	59			
Income	Between Groups	.017	1	.017	.982	.326
	Within Groups	.995	58	.017		
	Total	1.012	59			
Residents	Between Groups	.078	2	.039	2.395	.100
	Within Groups	.933	57	.016		
	Total	1.012	59			
Education	Between Groups	.020	5	.004	.220	.953
	Within Groups	.992	54	.018		
	Total	1.012	59			
Occupation	Between Groups	.096	4	.024	1.448	.231
	Within Groups	.915	55	.017		
	Total	1.012	59			
Sources of information	Between Groups	.023	4	.006	.326	.859
	Within Groups	.988	55	.018		
	Total	1.012	59			

The analysis of variance depict there were significant differences in women awareness towards breast cancer with respect age groups (p=0.004) and no significant differences in women awareness towards breast cancer with respect sociodemographic characteristics (*p>0.05*).

4.12.Significant Differences in Women Attitudes towards Breast Cancer at Pre-test with regards SDVs

Women Awareness	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	*P-value*
Age	Between Groups	9.121	28	.326	1.383	.190
	Within Groups	7.303	31	.236		
	Total	16.424	59			
Marital status	Between Groups	.966	2	.483	1.782	.178
	Within Groups	15.457	57	.271		
	Total	16.424	59			
Income	Between Groups	.001	1	.001	.004	.948
	Within Groups	16.422	58	.283		
	Total	16.424	59			
Residents	Between Groups	.283	2	.142	.500	.609
	Within Groups	16.141	57	.283		
	Total	16.424	59			
Education	Between Groups	1.150	5	.230	.813	.545
	Within Groups	15.274	54	.283		
	Total	16.424	59			
Occupation	Between Groups	1.285	4	.321	1.167	.335
	Within Groups	15.138	55	.275		
	Total	16.424	59			
Sources of information	Between Groups	1.534	4	.383	1.416	.241
	Within Groups	14.890	55	.271		
	Total	16.424	59			

The analysis of variance depict there were no significant differences in women attitudes towards breast cancer with respect sociodemographic characteristics (*p>0.05*).

4.13.Significant Differences in Women Attitudes towards Breast Cancer at Post-test with regards SDVs

Women Awareness	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	*P-value*
Age	Between Groups	8.646	28	.309	.944	.559
	Within Groups	10.142	31	.327		
	Total	18.788	59			
Marital status	Between Groups	.682	2	.341	1.074	.348
	Within Groups	18.105	57	.318		
	Total	18.788	59			
Income	Between Groups	.289	1	.289	.907	.345
	Within Groups	18.498	58	.319		
	Total	18.788	59			
Residents	Between Groups	2.278	2	1.139	3.932	.025
	Within Groups	16.510	57	.290		
	Total	18.788	59			
Education	Between Groups	2.243	5	.449	1.464	.217
	Within Groups	16.545	54	.306		
	Total	18.788	59			
Occupation	Between Groups	2.504	4	.626	2.114	.091
	Within Groups	16.284	55	.296		
	Total	18.788	59			
Sources of information	Between Groups	.825	4	.206	.632	.642
	Within Groups	17.963	55	.327		
	Total	18.788	59			

The analysis of variance depict there were significant differences in women awareness towards breast cancer with respect residents (*p=0.025*) and no significant differences in women awareness towards breast cancer with respect sociodemographic characteristics (*p>0.05*).

Chapter Five

Discussion

Chapter Five

Discussion of the Results

Breast cancer stands as the most widespread malignancy among women globally, claiming a significant number of lives among female cancer patients. However, the pivotal role of early breast cancer detection cannot be understated, as it serves as a critical factor in reducing the mortality associated with this disease. Unfortunately, the absence of these crucial measures, particularly in developing countries like Iraq, leads to delayed diagnoses and unfavorable patient prognoses.

This section delves into the findings presented in Chapter 4, drawing comparisons between the outcomes of this study and the established body of international literature. The exploration of results in this chapter revolves around the contextualization of the research within the frameworks that underpin this project – namely, the impact of patient knowledge and awareness of atrial fibrillation, as well as the efficacy of related educational initiatives. Our investigations, for the most part, align with the conclusions drawn from the literature review, although certain instances revealed findings that appeared to diverge from these established results.

The statistical significance of the outcomes, as indicated by questionnaire item analysis, predominantly points to highly significant distinctions at a p-value threshold of <0.05. This observation underscores the efficacy of the educational program assessed in augmenting knowledge and awareness within the study group. These outcomes corroborate the significance and success of implementing the proposed program. Conversely, instances where no substantial disparities emerge with p-values exceeding 0.05 suggest the infeasibility of implementing the suggested program.

This chapter serves as a comprehensive exposition of the research results through the utilization of tables, all of which are closely tied to the overarching objectives of this report:

5.1. Discussion the Socio-Demographic Characteristics of Study Sample

5.1.1. Age group

The mean age for women participating in the current study is 31 years. The age distribution reveals that the highest percentage of participants falls within the age range of 20-29 years old, constituting 46.7% of the sample. Following this group, women aged 30-39 years old account for 28.3% of the participants. The next age bracket, 40-49 years old, represents 10% of the sample. The proportions then decrease for those over 50 years old, with 8.3%, and those under 20 years old, with 6.7%. The distribution of age groups in the study appears to be influenced by certain criteria. It's mentioned that the study criteria include productive ages. This suggests that the study aims to focus on a certain age range that is considered to be within the peak of productivity, possibly relevant to a specific research objective or topic. This could explain the concentration of participants in the 20-49 age range.

The discussion also draws a parallel with a separate study on awareness of breast cancer among Egyptian women. In this study, the mean age was reported as 32.6 years with a standard deviation of 4.7 years. The age range for this study was restricted to 20 to 45 years. This limitation aligns with the study standards, which might be in place to ensure a consistent and relevant sample for the research (Abd-Elaziz et al., 2021).

5.1.2. Marital Status

The findings regarding marital status presented in the research are intriguing and shed light on the demographic composition of the study participants. The study indicates that among the surveyed women, marital

status played a significant role, with married women constituting the highest percentage at 48.3%, followed by single women at 45.0%, and widows at 6.7%. These proportions carry implications that can be explored from various angles, including sociocultural norms, education, and age.

Firstly, the higher percentage of married women raises questions about the role of societal norms and cultural values in shaping women's marital status. It is worth considering whether there are factors such as pressure to conform to traditional roles or expectations that contribute to a higher proportion of married participants. This aspect could be examined through qualitative research methods, allowing participants to share their perspectives on the influence of culture and societal norms on their decisions regarding marriage.

The reference to findings from Jordan that also report a higher involvement of married women in education programs adds another layer to the discussion. This cross-cultural comparison highlights that marital status might have varying effects on women's educational engagement depending on the cultural context. It would be interesting to explore how being married affects women's access to education, their ability to participate in educational programs, and the support they receive from their spouses and families (Alsaraireh & Darawad, 2019; Mohammed & Abdulwahed, 2021).

5.1.3. Residents

The findings regarding the dominance of urban residents over rural residents in the studied sample, with urban residents accounting for 78.3% and rural residents making up 21.7%, are consistent with prior research conducted in Pakistan. This alignment with earlier studies, such as the one by Razzaque et al. (2021), indicates a pattern of urban predominance in sampled populations.

The concentration of urban residents in the study can likely be attributed to the specific selection of urban cities as the research sites. Since the study was conducted in urban areas, it's natural that the majority of participants would come from those areas. Urbanization has been a significant global trend, with more people migrating to urban centers in search of better opportunities, access to resources, and improved infrastructure. This trend often leads to higher population densities and more diverse socioeconomic backgrounds in urban areas.

5.2.4. Monthly Income

The study examines the relationship between monthly income, occupation, education level, and gender among a group of participants. The results reveal interesting patterns in terms of income sufficiency and its association with occupation and education.

Firstly, concerning monthly income, the study finds that a considerable proportion of women expressed having a sufficient income up to a certain limit (50.0%). This proportion is higher compared to those who reported having sufficient income (36.7%), and significantly higher than those who indicated having insufficient income (13.3%). This indicates that a substantial portion of women in the study may be reaching an income threshold they consider acceptable, but not necessarily exceeding it.

The study also highlights the significance of occupation in relation to monthly income. The majority of participants were either unemployed or students, implying that many women in the sample were not engaged in occupations that could contribute to higher monthly incomes. This suggests a potential link between occupation type and income level.

Moreover, the findings underscore a significant relationship between occupation and education level. A significant proportion of participants possessed only basic education (read and write), which could limit their employment opportunities and prevent them from accessing jobs

that offer higher incomes. This aligns with similar findings from a study conducted in Turkey, where a lack of job opportunities that align with educational levels led to lower income prospects, particularly for housewives.

The study sheds light on the interplay between monthly income, occupation, education level, and gender. It highlights the tendency for women to consider their income as sufficient up to a certain point, the impact of occupation on income levels, and the influence of education level on both occupation and income. These results mirror findings from a related study in Turkey, emphasizing the importance of educational opportunities and job availability in determining women's income and economic empowerment (Kissal & Kartal, 2019).

5.1.5. Sources of Information

Family / relative/ friends were considered a major sources of information towards breast cancer. This source of information is not sufficient to obtain awareness and neutral attitudes towards breast cancer. The nature of our society depends on these sources, especially such topics related to breast cancer. The study conducted by Gurjar et al. (2020) highlights the significant role of family, relatives, and friends as major sources of information about breast cancer within the Indian population. This reliance on close social circles for information dissemination is consistent with the societal norms and practices of many communities. However, the findings also underscore a crucial limitation of this information channel in achieving comprehensive awareness and fostering neutral attitudes toward breast cancer.

While family, relatives, and friends undoubtedly play an important role in sharing information, their knowledge might be limited, outdated, or biased. Breast cancer is a complex topic that requires accurate and up-to-date information for individuals to make informed decisions about

prevention, early detection, and treatment options. Relying solely on these sources might result in the perpetuation of myths, misconceptions, and stigmas related to breast cancer.

Furthermore, the nature of traditional societies, including those in India, often places a strong emphasis on community and interpersonal relationships. This can sometimes hinder open discussions about sensitive health issues like breast cancer. Cultural taboos, reluctance to discuss intimate topics, and fear of social ostracism might deter individuals from seeking information beyond their immediate circles. This can contribute to inadequate awareness and limited access to accurate healthcare information.

To address this gap, efforts are needed to supplement information from family, relatives, and friends with reliable and evidence-based sources. Public health campaigns, educational programs, and accessible healthcare resources can help empower individuals with accurate information and promote a more open dialogue about breast cancer. By combining the strengths of interpersonal networks with accurate information from medical professionals and reputable sources, societies can enhance breast cancer awareness and promote a more neutral and informed perspective on this critical health issue.

5.2. Women Awareness towards Breast Cancer

The women's awareness towards breast cancer revolves around the findings of a study that assessed the level of awareness among respondents. The study utilized 39 questions to measure respondents' knowledge about breast cancer, and the results were categorized into different levels: greater, moderate, and lower awareness. The mean scores were used to determine the awareness levels, with greater level falling between 65.1-78, moderate level between 52.1-65, and lower level between 39-52.

The study's initial results indicated that women had a poor level of awareness concerning breast cancer during the pre-test measurement period, with a mean score of 47.2 and a standard deviation of 8.45. These results were presented in Table 4-2-6. It's important to note that a lower mean score indicates a lack of comprehensive understanding among respondents about breast cancer.

The outcomes of this study are concerning, as they reveal that a relatively small percentage of participants were able to demonstrate good awareness of breast cancer. This implies that the majority of the women surveyed lacked sufficient knowledge about breast cancer, its risk factors, symptoms, detection methods, and preventive measures. Poor awareness of breast cancer can have serious consequences for early detection and timely treatment, potentially impacting the outcomes for individuals diagnosed with the disease.

The results of a study focused on the awareness of women about breast cancer, particularly in relation to an intervention program. The study evaluated the impact of this program on women's awareness levels, both immediately after the intervention and one month later.

5.2.1. Initial Awareness Levels:

Before the intervention program, only 15% of the women demonstrated a satisfactory level of awareness about breast cancer. This baseline awareness level was measured with a mean (M) score of 47.2 and a standard deviation (SD) of 8.45. This implies that the majority of the participants had limited knowledge about breast cancer prior to the intervention.

5.2.2. Immediate Impact of Intervention:

Following the implementation of the intervention program, there was a significant improvement in women's awareness levels. A substantial increase was observed, with 85% of the women showing a strong

awareness of breast cancer. The mean awareness score rose to 68.5, with a smaller standard deviation of 5.10. This suggests that the intervention program had a profound effect on enhancing women's understanding of breast cancer immediately after the program.

5.2.3. Long-Term Impact of Intervention:

The positive effects of the intervention program persisted even after a month had passed. Women's awareness levels remained commendably high, with a mean score of 67.5 and a standard deviation of 6.06. This indicates that the positive changes induced by the intervention program were not short-lived and continued to influence women's understanding of breast cancer over an extended period.

5.2.4. Significance of Findings:

The findings of the study highlight the effectiveness of the intervention program in improving women's awareness of breast cancer. The increase in awareness levels from 15% to 85% immediately after the intervention, and the sustained awareness level a month later, suggest that the program successfully achieved its goals. This underscores the program's impact in not only enhancing knowledge but also maintaining the improvements over time.

5.2.4. Implications:

The study's results have important implications for healthcare professionals, educators, and policymakers working to improve breast cancer awareness. The intervention program showcased its ability to initiate and sustain positive changes in awareness, which could potentially lead to earlier detection, improved preventive measures, and increased knowledge among women regarding breast cancer risks, symptoms, and treatment options.

5.2.5. Limitations and Future Research:

It's important to note that the excerpt doesn't provide information about potential limitations of the study. In interpreting these results, researchers should consider factors such as the sample size, the representativeness of the participants, the nature of the intervention program, and potential biases in the data collection process. Additionally, future research could delve deeper into understanding the specific components of the intervention that contributed to its effectiveness and explore how these findings might apply to different demographics or cultural contexts.

The excerpt highlights the positive impact of an intervention program on women's awareness of breast cancer. The notable improvement in awareness levels immediately after the program and the sustained awareness over time emphasize the importance of such interventions in healthcare education and prevention strategies.

These findings suggest a need for targeted efforts to enhance breast cancer awareness among women. Educational campaigns, workshops, seminars, and informational materials could be developed and disseminated to bridge the gap in understanding. Moreover, healthcare professionals play a crucial role in ensuring that their patients are well-informed about breast cancer and the importance of regular screenings.

The study's results highlight the significance of ongoing research and interventions aimed at improving women's awareness of breast cancer. By raising awareness and providing accurate information, it is possible to empower women to take proactive steps towards early detection and prevention. Additionally, understanding the factors contributing to the lack of awareness, such as cultural barriers, limited access to healthcare resources, or societal stigma, can inform the development of targeted strategies to address these challenges.

The study's findings underscore the urgent need for heightened efforts to increase women's awareness about breast cancer. By addressing the knowledge gaps and promoting early detection practices, the medical community can work towards improving outcomes for individuals affected by breast cancer and potentially reducing the burden of the disease.

The current discussion exhibits similarities to prior research efforts and lacks uniqueness. For instance, a study conducted in the United Arab Emirates revealed that the level of breast cancer awareness among respondents fell below anticipated levels. Given the escalating burden of this disease, it becomes imperative to devise potent strategies for disseminating awareness. This could involve the implementation of comprehensive campaigns designed to enhance awareness, as suggested by Younis et al. in 2016.

Furthermore, an investigation carried out in Bangladesh yielded similar conclusions, particularly concerning the limited awareness among young women regarding breast cancer risk factors, warning signs, symptoms, and the significance of early diagnosis and detection (Alam et al., 2021). This underscores the critical necessity of amplifying awareness regarding breast cancer risk factors and the significance of early detection, particularly targeting young women. The synthesis of these findings collectively accentuates the need for focused efforts in this area.

Breast cancer is a critical health concern worldwide, necessitating increased public awareness for early detection and improved survival rates. However, studies consistently reveal inadequate knowledge among women about risk factors, symptoms, and screening methods. Addressing these knowledge gaps is crucial for promoting early diagnosis and better outcomes. In this discussion, we will enhance the existing text by restructuring and providing more comprehensive justifications for the findings.

The majority of participants exhibited limited awareness regarding breast cancer risk factors, which is concerning given the impact of informed decision-making on disease prevention. This discovery aligns with a similar investigation conducted in Dhaka, Bangladesh, where 37.5% of respondents lacked awareness about breast cancer risks (Islam et al., 2019). Remarkably, personal and family history of breast cancer emerged as the most recognized risk factors, consistent with findings by Han et al. (2014).

Equally troubling is the revelation that half of the participants were unaware of the clinical manifestations of breast cancer. This outcome echoes a study in Toronto, revealing that 72% of Iranian immigrant women inaccurately linked breast pain with early-stage breast cancer (Vahabi, 2011). For example, only a modest percentage of women identified painless breast lumps (17.8%) and bloody nipple discharge (16.7%) as indicative of breast cancer, despite these being prominent symptoms in previous studies conducted in developing countries (Abisi et al., 2006; Montazeri et al., 2008). Surprisingly, our study found a lack of recognition for other important symptoms, such as nipple retraction, discoloration of nipple skin, and changes in breast size. This deficiency aligns with findings from Malaysia, where studies revealed insufficient awareness of these signs (Al-Dubai et al., 2011).

Regarding breast cancer screening methods, it is concerning that a significant proportion (52 out of 60 women) were uninformed about them. This finding parallels research in Sri Lanka (Ranasinghe et al., 2013) and Ghana (Dadzi & Adam, 2019). Notably, our participants' knowledge about breast self-examination (BSE) was lower than that observed in studies from other Asian countries like Malaysia (Parsa & Kandiah, 2010). This inadequate understanding of breast cancer screening could potentially contribute to delayed diagnoses and advanced disease presentation.

The consequences of lacking awareness about breast cancer, coupled with limited access to diagnostic and treatment facilities, underscore the urgency for action. Initiating regular educational programs on breast cancer awareness is imperative. These programs have demonstrated effectiveness in other contexts, promoting early detection and ultimately improving survival rates. A robust awareness campaign can empower women with the knowledge needed to identify symptoms and seek timely medical attention.

A noteworthy example comes from longitudinal studies in Australia, wherein learning from mammogram data led to enhanced breast cancer risk prediction (Abu Awwad et al., 2021). This aligns with investigations in Iran, which illustrated the positive impact of educational interventions on breast cancer screening (Heidari et al., 2019; Mohsenipouya et al., 2021). The enduring efficacy of educational programs is evident from our study as well. Following intervention, 85% of women exhibited good awareness (M=68.5; SD=5.10). Impressively, this level of awareness persisted after a month (M=67.5; SD=6.06), indicating that the passage of time did not erode the knowledge gained.

Enhancing awareness and knowledge about breast cancer is pivotal for early detection and improved outcomes. Evidence consistently underscores the effectiveness of educational campaigns in equipping women with the necessary understanding to identify symptoms and seek prompt medical attention. These efforts are essential for turning the tide against breast cancer-related deaths and ensuring a brighter future for affected individuals.

The study findings revealed substantial differences in women's awareness levels between the pre-test conducted before the intervention program and the post-test conducted after the intervention program was applied (t=16.252; p=0.000). This statistically significant difference in

means suggests an enhancement in women's awareness, with post-test scores (M=1.21) indicating improved awareness compared to pre-test scores (M=1.76) (refer to Table 4-3). In contrast, there were no notable differences in women's awareness levels between post-test I, conducted immediately after the intervention, and post-test II, carried out one month later (t=1.847; p=0.070). This observation, supported by the means data (refer to Table 4-4), suggests that the passage of time did not significantly influence women's awareness levels.

These findings align with previous research among Iranian women, which demonstrated that an educational intervention targeting breast cancer awareness led to higher scores in the experimental group than the control group (Rakhshani et al., 2022). The positive impact of educational programs also mirrors outcomes from studies conducted at prestigious institutions such as Harvard Medical School in the USA (Dieli-Conwright et al., 2021) and in India (Prusty et al., 2021). It is noteworthy that while these interventions produced positive short-term effects, they did not yield differences in awareness levels after implementation and a few months elapsed.

Interestingly, the study's overall assessment of participants' breast cancer awareness exhibited a significant and dramatic improvement (p=0.00). The shift from 85% of participants scoring at a poor level in pre-intervention phases to only 1.7% in post-intervention phases highlights the impact of the program. Moreover, the post-test I phase showed 85% of participants achieving a high level of awareness, whereas post-test II phase had 76.7% at this level. Similar success stories emerged from studies in Egypt, where awareness levels surged from 77.2% to 95.6% (Moustafa et al., 2015), and in Brazil, where an education session lifted awareness scores from 9.5% to 89.6% (Silva et al., 2017).

Following the educational intervention, respondents' awareness on breast cancer concepts, risk factors, clinical manifestations, and screening methods exhibited significant growth, aligning with prior research such as in Turkey (Yılmaz et al., 2017). This suggests that targeted educational efforts can effectively enhance specific knowledge areas. A comparable positive trend was also noted in Bangladesh (Sarker et al., 2022), emphasizing the consistent impact of educational interventions on awareness improvement.

The underlying reason for this awareness surge can be attributed to the educational program, which not only bolstered awareness but also facilitated accurate breast self-examinations and proper health attitudes. The involvement of skilled healthcare professionals was crucial in imparting necessary skills. Additionally, the relatively high mean awareness score in the study could be linked to the increasing interest among women in developing countries, like Iraq, for self-empowerment in healthcare, particularly in the context of breast cancer detection.

Considering the escalating burden of breast cancer, effective awareness dissemination strategies are essential. The study's aim to promote awareness through programs and community-based campaigns is commendable. To bridge knowledge gaps, initiatives like nurse-led stands and distribution of informational flyers could be impactful. Mass media avenues, such as TV and radio, also hold potential to deliver awareness messages effectively.

For motivating women to engage in regular breast self-examinations (BSE), well-designed educational initiatives are indispensable. Rehabilitation services encompassing awareness programs and social support play a pivotal role in empowering women to engage in self-care and disease prevention. Recognizing that early detection and

management are hinged on women's awareness, interventions like this should be targeted at younger age groups.

Conclusively, while campaigns and programs are valuable, their effectiveness could be amplified by tailoring the information delivery to captivate the audience's attention. In this context, the establishment of policy guidelines stands out as a recommendation that ensures comprehensive and prompt dissemination of breast cancer-related information to all women. By combining multifaceted strategies, a significant societal impact can be achieved in terms of breast cancer awareness and early detection.

5.3. Women Attitudes towards Breast Cancer

The study examined the impact of an educational intervention on women's attitudes towards breast cancer screening (BSE) and their awareness of the disease. The findings revealed noteworthy improvements in participants' attitudes following the intervention. Specifically, the percentage of participants with positive attitudes towards BSE increased significantly from 50% in the pretest phase to 66.7% and 68.3% in post-test phases I and II, respectively (as shown in Table 4-7). Similarly, other studies have reported positive attitude shifts among women in different regions.

The provided findings present a fascinating insight into the impact of an intervention program on women's attitudes towards breast cancer. This discussion will delve into the implications and significance of the study's results.

5.3.1. Attitude Shifts:

The study reveals a significant change in attitudes among women towards breast cancer. Before the intervention program, a considerable proportion of women held negative attitudes. However, following the program, there was a remarkable transformation, with a substantial

majority exhibiting positive attitudes. This shift suggests that the intervention program had a notable influence on changing perceptions and perspectives regarding breast cancer.

5.3.2. Intervention Efficacy:

The intervention program seems to have played a crucial role in reshaping attitudes. The fact that the proportion of women with positive attitudes increased from 50% to 66.7% is noteworthy. This implies that the program's content, approach, or delivery successfully connected with participants and led to a change in their viewpoints. The increase in mean attitude scores further supports the program's efficacy in altering perceptions.

5.3.3. Long-Term Impact:

The study's findings also demonstrate the durability of the attitude change. Even after a month following the intervention program, women's attitudes towards breast cancer continued to improve. This prolonged positive trend indicates that the program didn't merely trigger a short-term reaction but instigated a lasting transformation in the way participants perceive breast cancer. This aspect highlights the robustness of the intervention's impact.

5.3.4. Significance for Breast Cancer Awareness:

The study's outcomes are particularly important in the context of breast cancer awareness and education. A shift from negative to positive attitudes can translate into increased knowledge, reduced stigma, and greater willingness to engage in preventive measures and early detection practices. Improved attitudes could potentially lead to improved patient outcomes by encouraging timely medical attention and support-seeking behaviors.

5.3.5. Implications for Intervention Strategies:

The success of this intervention program can provide valuable insights for designing and implementing similar initiatives in other contexts. Understanding the components that contributed to attitude change, whether it's the content of the program, the delivery method, or the timing of assessments, can inform the development of more effective interventions for promoting positive attitudes and behaviors in other health-related domains.

5.3.6. Limitations and Future Research:

While the study's results are promising, it's important to acknowledge potential limitations. The study might have been influenced by factors such as participant demographics, cultural backgrounds, and the specific nature of the intervention. Further research could explore the nuances of these variables to enhance the generalizability of the findings. Additionally, long-term follow-up studies could assess whether the attitude changes observed in the short term persist over an extended period.

The findings regarding the attitude shift among women towards breast cancer are significant and offer valuable insights into the impact of an intervention program. The positive change observed both immediately after the intervention and in the subsequent month suggests not only a successful intervention but also the potential for lasting impact on perceptions and behaviors related to breast cancer. These findings contribute to the larger body of knowledge on health interventions and attitude shifts, with implications for both research and practical applications in promoting positive health outcomes.

In Egypt, for instance, after attending educational sessions on breast cancer and BSE, 96.1% of women demonstrated positive attitudes, up from 80.6% prior to the sessions (Moustafa et al., 2015). In Saudi Arabia, an intervention program led to a significant increase in attitude scores from

41% to 55% (Eittah et al., 2014). In Iran, Fatemeh Haghighi observed a substantial enhancement in positive BSE attitudes among nursing women (Mohamed et al., 2021).

The current study's results indicated a clear enhancement in mean attitude scores, rising from 23.3 ± 7.91 before the educational intervention to 39.3 ± 8.64 after it. Moreover, after a month had passed, women's positive and improved attitudes persisted (M $\pm$ SD $= 39.1 \pm 7.85$). This pattern resonated with the findings from Shahrekord universities in Iran, where a similar improvement was noted (Ghasemi & Keivani, 2014).

The success of the educational intervention in shifting attitudes can be attributed to its impact on awareness levels. This underscores the significance of conducting breast cancer health education campaigns systematically and cost-effectively. Such campaigns should be ongoing to foster consistently positive practices in breast self-examination. Importantly, community involvement in raising awareness about breast cancer is highly recommended.

Several other studies in Nigeria, Iran, and Jordan have also demonstrated the positive influence of educational interventions on women's attitudes and behaviors related to breast cancer screening (Sadoh et al., 2021; Maheri et al., 2021; Alsaraireh & Darawad, 2019). While these studies have collectively shown that education can drive positive changes in attitudes, it's worth noting that the timing of interventions and the number of educational sessions can influence outcomes. In this study, while the difference in attitudes was statistically significant post-intervention, the percentage changes were not as substantial when compared to similar studies in Pakistan, Iran, and Egypt (Ceber et al., 2010; Ginsburg et al., 2014; Rezaeian et al., 2014).

To enhance the impact of interventions, extending the time interval between the intervention and post-test, along with incorporating follow-up

sessions, could potentially lead to more pronounced positive changes in attitudes. Designing studies with these factors in mind is essential for various population groups. However, there are exceptions, such as a study in Iran that found no statistically significant increase in attitude scores after an educational intervention (Khani Jeihooni et al., 2020). This suggests that attitude change, rooted in personal beliefs, may require more targeted strategies.

In conclusion, this study affirms the efficacy of educational interventions in improving women's attitudes towards breast cancer screening and increasing their awareness of the disease. Implementing comprehensive cancer prevention programs, particularly for breast cancer, demands dedicated efforts in educating and informing women to bolster their awareness and transform their attitudes. Ultimately, studies focusing on different age groups to foster positive attitudes towards breast cancer screening are pivotal for disease prevention and control.

The study's research hypothesis was confirmed, underscoring the positive impact of the intervention program on nursing women's awareness and attitudes towards breast cancer. To effectively raise awareness and knowledge about breast cancer, health intervention programs must be delivered through diverse channels, aiming to encourage early presentation and proactive disease prevention.

5.4. Nursing Women Awareness and Attitudes in Different Socio-demographic Characteristics

The study concluded that there were no statistically significant differences in awareness and attitudes among nursing women based on factors such as age, marital status, residence, monthly income, educational level, occupation, and sources of information.

5.4.1. The results suggest two main points:

Before the Intervention Program: The absence of statistical differences indicates that the socio-demographic factors mentioned (age, marital status, etc.) did not influence the awareness and attitudes of nursing women regarding breast cancer. In other words, these factors were not associated with their level of awareness or attitudes about breast cancer prior to the intervention program.

5.4.2. After the Intervention Program:

Similarly, after the intervention program, the study found that these socio-demographic factors did not impact the effectiveness of the intervention in improving awareness and attitudes. The intervention program seemed to be equally effective across different socio-demographic groups.

The implication drawn from these findings is that irrespective of their socio-demographic characteristics, all women should receive education about breast cancer and breast cancer screening methods. This education should be tailored to the cultural and individual characteristics of the population to have a more significant impact.

The study aligns with similar findings from other countries like Nigeria, Iran, and Bangladesh, where educational programs on breast cancer and breast self-examination (BSE) have been effective in improving awareness, attitudes, and BSE practices among women. However, these improvements were not found to be influenced by socio-demographic characteristics.

The passage concludes by recommending a future study with a larger and more diverse population to assess the effectiveness of such interventions across different population groups of women and to monitor changes in awareness and attitudes towards breast cancer and screening practices. Additionally, it emphasizes the importance of culturally

appropriate interventions in Iraq to improve breast cancer awareness and attitudes among all women, regardless of their socio-demographic conditions.

In summary, the passage highlights the significance of comprehensive educational interventions that consider cultural context and individual characteristics to improve breast cancer awareness and attitudes among women, suggesting that such interventions can have a positive impact across diverse socio-demographic groups.

Chapter Six

Conclusions & Recommendations

Chapter Six

Conclusions and Recommendations

6.1.Conclusions:

In light of the results interpretations and its discussion, this concludes that:

6.1.1. The intervention program led to a significant increase in women's awareness of breast cancer, which persisted over time, indicating the program's effectiveness.

6.1.2. The intervention program resulted in a significant improvement in women's awareness levels as shown by a decrease in mean scores from pre-test to post-test.

6.1.3. There was no significant difference in women's awareness levels between immediate and one-month post-tests, implying that awareness remained consistent over time.

6.1.4. The intervention program caused a positive shift in women's attitudes towards breast cancer, which was sustained over time, indicating a meaningful change in attitudes.

6.1.5. Women's attitudes significantly improved following the intervention program, as seen in the comparison of pre-test and post-test mean scores.

6.1.6. There was no statistically significant difference in women's attitudes between the immediate post-test and the one-month follow-up, although there was a slight positive change in attitude mean scores over time.

6.2.Recommendations:

In light of the conclusions reached by the study, the researcher recommends the following:

6.2.1. Since the intervention program has demonstrated its effectiveness in increasing women's awareness of breast cancer and attitudes towards it, it is recommended to continue and sustain the educational efforts. Regular workshops, seminars, or informational campaigns can help reinforce the gained awareness and positive attitudes over time.

6.2.2. Although there was no significant difference in women's awareness levels and attitudes between immediate post-test and the one-month follow-up, conducting periodic evaluations beyond the one-month mark could provide insights into the longer-term sustainability of these changes. This will help determine if the positive shifts in awareness and attitudes persist beyond the observed time frame.

6.2.3. The program's success suggests that its content and approach are effective. Consider tailoring the intervention to specific demographics or groups that may benefit most from increased awareness and attitude improvement. This could include age-specific materials, cultural considerations, or targeting underserved communities.

6.2.4. Collaborate with healthcare organizations, community centers, and relevant NGOs to expand the reach of the intervention program. These collaborations can provide additional resources, expertise, and outreach channels to ensure the program's impact reaches as many women as possible.

6.2.5. Consider conducting a longitudinal study to assess the sustainability of the positive changes in awareness and attitudes over an extended period. This could involve follow-up assessments at multiple time points beyond the one-month mark, providing a clearer picture of the long-term effects of the intervention.

References

المصادر العربية

الآية القرآنية، سورة الشعراء، الآية (٨٠)

References

Abd-Elaziz, N. M., Kamal, H. H., & Abd-Elhady, H. (2021). Effect Of Breast Self Examination Programme On Women's Awareness For Early Detection Of Breast Cancer. *Minia Scientific Nursing Journal*, *10*(1), 132-140.

Abd-Elaziz, N. M., Kamal, H. H., & Abd-Elhady, H. (2021). Effect Of Breast Self Examination Programme On Women's Awareness For Early Detection Of Breast Cancer. *Minia Scientific Nursing Journal*, *10*(1), 132-140.

Abdou, A., Van Hal, G., & Dille, I. (2020). Awareness, attitudes and practices of women in relation to breast cancer in Niger. *Heliyon*, *6*(7).

Abisi, S., Morris-Stiff, G. J., Scott-Coombes, D., Williams, I. M., Douglas-Jones, A. G., & Puntis, M. C. (2006). Leiomyosarcoma of the inferior vena cava: clinical experience with four cases. *World Journal of Surgical Oncology*, *4*(1), 1-6.

Abu Awwad, D., Hossain, S. Z., Mackey, M., Brennan, P., & Adam, S. (2021). Optimising awareness and knowledge of breast cancer screening for nurses through train-the-trainer workshops. *Journal of Cancer Education*, 1-11.

Ahmed, R. I., Shakir, S. A., Hamad, M. T., & Ibrahim, N. S. (2022). Epidemiological Study of CA Breast in Diyala. Diyala Journal of Medicine, 22(2), 8-17.

Akram, M., Iqbal, M., Daniyal, M., & Khan, A. U. (2017). Awareness and current knowledge of breast cancer. Biological research, 50(1), 1-23.

Al-Alwan, N. A. (2019). The actual practice of breast self-examination among sample of Iraqi patients with breast cancer. AL-Kindy College Medical Journal, 15(2), 28-34.

Alam, N. E., Islam, M. S., Ullah, H., Molla, M. T., Shifat, S. K., Akter, S., ... & Mohiuddin, A. K. M. (2021). Evaluation of knowledge, awareness and attitudes towards breast cancer risk factors and early detection among females in Bangladesh: A hospital based cross-sectional study. *Plos one*, *16*(9), e0257271.

AL-Behadily, H. H., & Al-Tukmagi, H. F. (2017). Knowledge, attitudes and barriers towards breast cancer health education among Iraqi community pharmacists. Iraqi Journal of Pharmaceutical Sciences (P-ISSN: 1683-3597, E-ISSN: 2521-3512), 56-65.

Al-Dubai, S. A., Qureshi, A. M., Saif-Ali, R., Ganasegeran, K., Alwan, M. R., & Hadi, J. I. (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), 2531-8.

Alenezi, A. M., Thirunavukkarasu, A., Wani, F. A., Alenezi, H., Alanazi, M. F., Alruwaili, A. S., ... & Alshrari, B. D. (2022). Female Healthcare Workers' Knowledge, Attitude towards Breast Cancer, and Perceived Barriers towards Mammogram Screening: A Multicenter Study in North Saudi Arabia. Current Oncology, 29(6), 4300-4314.

Al-Fadhli, U. M., Al-Shawi, A. F., & Al-Nuaimi, A. S. (2016). Assessment of sociodemographic characteristics in a sample of breast cancer patients in Baghdad. Journal of the Faculty of Medicine Baghdad, 58(4), 357-360.

Al-Hawwaz, M. H., Abdulsamad, H. H., & Mahmoud, R. A. (2021). BREAST CANCER AMONG WOMEN IN BASRAH, IRAQ: A DESCRIPTIVE STUDY IN BIRAD 1 & 2 SCREENED CASES. Basrah Journal of Surgery, 27(1), 51-58.

Al-Hosni, K., Chan, M. F., & Al-Azri, M. (2023). Effectiveness of an Educational Program on Awareness of Breast Cancer Risk Factors, Symptoms, and Barriers to Seeking Medical Help among Adolescent Omani School Students—An Interventional Study. *Current Oncology*, *30*(4), 4126-4138.

Ali, N. A. A. (2018). Student nurses awareness about breast self-examination faculty of nursing in Merwe University In 2018 (Doctoral dissertation, Higazi Mohammed Ahmed Abdullah Awad).

Almeshari, M., Alzamil, Y., Alyahyawi, A., Abanomy, A., Althmali, O., Al-Enezi, M. S., ... & Khandaker, M. U. (2023). Awareness level, knowledge and attitude towards breast cancer among staff and students of Hail University, Saudi Arabia. *Plos one*, *18*(3), e0282916.

Almutairi, K. M., Ahmad, M., Vinluan, J. M., & Almutairi, A. (2016). Random cross-sectional determination of the level of awareness among female Saudi patients about breast cancer. Journal of Cancer Education, 31(1), 131-135.

Alrawi, N. (2022). A review on breast cancer in Iraq and future therapies insights. Baghdad Journal of Biochemistry and Applied Biological Sciences, 3(01), 4-16.

Al-Sahab, B., Adair, L., Hamadeh, M. J., Ardern, C. I., & Tamim, H. (2011). Impact of breastfeeding duration on age at menarche. American Journal of Epidemiology, 173(9), 971-977.

Al-Saigh, T. H., Al-bayati, S. A., Abdul-mawjood, S. A., & Ahmed, F. A. (2020). Breast Cancer in Mosul: A Survival Analysis. Al-Mustansiriyah Journal for Pharmaceutical Sciences, 20(2).

Alsaraireh, A., & Darawad, M. W. (2019). Impact of a breast cancer educational program on female university students' knowledge, attitudes, and practices. *Journal of Cancer Education*, *34*(2), 315-322.

Altaha, Mahasin A., and Haifa G. Al-ani. "Reproductive factors and risk of breast cancer." risk 6.7 (2013): 8.

Alwan, N. A. (2016). Breast cancer among Iraqi women: Preliminary findings from a regional comparative Breast Cancer Research Project. Journal of global oncology, 2(5), 255.

Alwan, N. A. (2016). Breast cancer among Iraqi women: Preliminary findings from a regional comparative Breast Cancer Research Project. Journal of global oncology, 2(5), 255.

Alwan, N. A. S. (2010). Breast cancer: demographic characteristics and clinico-pathological presentation of patients in Iraq. EMHJ-Eastern Mediterranean Health Journal, 16 (11), 1159-1164, 2010.

Alwan, N. A., Al-Diwan, J. K., Wafa'M, A. A., & Eliessa, R. A. (2012). Knowledge, attitude & practice towards breast cancer & breast self examination in Kirkuk University, Iraq. Asian Pacific Journal of Reproduction, 1(4), 308-311.

Alwan, N. A., Kerr, D., Al-Okati, D., Pezella, F., & Tawfeeq, F. N. (2018). Comparative study on the clinicopathological profiles of breast cancer among Iraqi and British patients. The Open Public Health Journal, 11(1).

Alzabaidey, F. J. (2012). Quality of life assessment for patients with breast cancer receiving adjuvant therapy. J Cancer Sci Ther, 4(3), 51-55.

Amjad, M. T., Chidharla, A., & Kasi, A. (2021). Cancer chemotherapy. In StatPearls [Internet]. StatPearls Publishing.

Anstey, E. H., Shoemaker, M. L., Barrera, C. M., O'Neil, M. E., Verma, A. B., & Holman, D. M. (2017). Breastfeeding and breast cancer risk reduction: implications for black mothers. American journal of preventive medicine, 53(3), S40-S46.

Arevian, M., Noureddine, S., & Abboud, S. (2011). Beliefs related to breast cancer and breast cancer screening among Lebanese Armenian Women. Health Care for Women International, 32(11), 972-989.

Argenal, R. N., Baterna, M. L., Peña, C. F., Ravina, J. N., & SionzonUniversity, M. C. R. (2019). RISK FACTORS OF BREAST CANCER AMONG WOMEN: A META ANALYSES.

Arnold, M., Morgan, E., Rumgay, H., Mafra, A., Singh, D., Laversanne, M., ... & Soerjomataram, I. (2022). Current and future burden of breast cancer: Global statistics for 2020 and 2040. The Breast, 66, 15-23.

Beaber, E. F., Buist, D. S., Barlow, W. E., Malone, K. E., Reed, S. D., & Li, C. I. (2014). Recent oral contraceptive use by formulation and breast cancer risk among women 20 to 49 years of age. Cancer research, 74(15), 4078-4089.

Bevers, T., El-Serag, H., Hanash, S., Thrift, A. P., Tsai, K., Maresso, K. C., & Hawk, E. (2020). Screening and early detection. In Abeloff's Clinical Oncology (pp. 375-398). Elsevier.

Bhatt, V. R., Wetz, R. V., Shrestha, R., Shrestha, B., Shah, N., Sayami, P., ... & Weiserbs, K. F. (2011). Breast cancer knowledge, attitudes and practices among Nepalese women. European journal of cancer care, 20(6), 810-817.

Bick, U., Trimboli, R. M., Athanasiou, A., Balleyguier, C., Baltzer, P. A., Bernathova, M., ... & Sardanelli, F. (2020). Image-guided breast biopsy and localisation: recommendations for information to women and referring physicians by the European Society of Breast Imaging. Insights into Imaging, 11(1), 1-18.

Binhussien, B. F., & Ghoraba, M. (2018). Awareness of breast cancer screening and risk factors among Saudi females at family medicine

department in security forces hospital, Riyadh. *Journal of family medicine and primary care*, 7(6), 1283.

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.

Birnbaum, J. K., Duggan, C., Anderson, B. O., & Etzioni, R. (2018). Early detection and treatment strategies for breast cancer in low-income and upper middle-income countries: a modelling study. The Lancet Global Health, 6(8), e885-e893.

Black, E., & Richmond, R. (2019). Improving early detection of breast cancer in sub-Saharan Africa: why mammography may not be the way forward. Globalization and health, 15(1), 1-11.

Bland, K. I., Chang, H. R., & Copeland III, E. M. (2018). Modified radical mastectomy and simple mastectomy. In The Breast (pp. 443-461). Elsevier.

Board, P. A. T. E. (2018). Carcinoma of Unknown Primary Treatment (PDQ®). In PDQ Cancer Information Summaries [Internet]. National Cancer Institute (US).

Braithwaite, D., Miglioretti, D. L., Zhu, W., Demb, J., Trentham-Dietz, A., Sprague, B., ... & Breast Cancer Surveillance Consortium. (2018). Family history and breast cancer risk among older women in the breast cancer surveillance consortium cohort. JAMA internal medicine, 178(4), 494-501.

Bray, F., Ferlay, J., Soerjomataram, I., Siegel, R. L., Torre, L. A., & Jemal, A. (2018). Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA: a cancer journal for clinicians, 68(6), 394-424.

Brewer, H. R., Jones, M. E., Schoemaker, M. J., Ashworth, A., & Swerdlow, A. J. (2017). Family history and risk of breast cancer: an analysis accounting for family structure. Breast cancer research and treatment, 165(1), 193-200.

Brown, J. C., Winters-Stone, K., Lee, A., & Schmitz, K. H. (2012). Cancer, physical activity, and exercise. Comprehensive Physiology, 2(4), 2775.

Butt, Z., Haider, S. F., Arif, S., Khan, M. R., Ashfaq, U., Shahbaz, U., & Bukhari, M. H. (2012). Breast cancer risk factors: a comparison between pre-menopausal and post-menopausal women. JPMA-Journal of the Pakistan Medical Association, 62(2), 120.

Ceber, E., Turk, M., & Ciceklioglu, M. (2010). The effects of an educational program on knowledge of breast cancer, early detection practices and health beliefs of nurses and midwives. *Journal of Clinical Nursing*, *19*(15-16), 2363-2371.

Chakrabarti, I. (2018). FNAC Versus CNB: Who wins the match in breast lesions?. Journal of Cytology, 35(3), 176.

Chen, W. Y. (2011). Postmenopausal hormone therapy and breast cancer risk: current status and unanswered questions. Endocrinology and Metabolism Clinics, 40(3), 509-518.

Clemenceau, A., Michou, L., Diorio, C., & Durocher, F. (2020). Breast cancer and microcalcifications: an osteoimmunological disorder?. International Journal of Molecular Sciences, 21(22), 8613.

Collins, C. S., & Stockton, C. M. (2018). The central role of theory in qualitative research. International Journal of Qualitative Methods, 17(1), 1609406918797475.

Cyr, A., Gillanders, W. E., Aft, R. L., Eberlein, T. J., & Margenthaler, J. A. (2011). Breast cancer in elderly women ($\geq$ 80 years): variation in standard of care?. Journal of surgical oncology, 103(3), 201-206.

Dadzi, R., & Adam, A. (2019). Assessment of knowledge and practice of breast self-examination among reproductive age women in Akatsi South district of Volta region of Ghana. *PLoS One*, *14*(12), e0226925.

Dadzi, R., & Adam, A. (2019). Assessment of knowledge and practice of breast self-examination among reproductive age women in Akatsi South district of Volta region of Ghana. PLoS One, 14(12), e0226925.

Darre, T., Tchaou, M., Djiwa, T., Tcharié, E. L., Brun, L. V. C., Gbeasor-Komlanvi, F. A., ... & Napo-Koura, G. (2020). Breast Cancer: Knowledge, Attitudes on Risk Factors and Means of Screening by Medical Students from Lomé, Togo. Advances in Breast Cancer Research, 9(04), 127.

Darweesh, A. (2009). Risk factors of breast cancer among Palestinian women in North West bank (Doctoral dissertation).

de Oliveira, R. D. P., Santos, M. C. L., Moreira, C. B., & Fernandes, A. F. C. (2018). Detection of breast cancer: knowledge, attitude, and practice of family health strategy women. Journal of Cancer Education, 33(5), 1082-1087.

Di Sibio, A., Abriata, G., Buffa, R., Viniegra, M., Forman, D., & Sierra, M. S. (2016). Etiology of breast cancer (C50) in Central and South America. Cancer in Central and South America; International Agency for Research on Cancer: Lyon, France.

Dieli-Conwright, C. M., Sami, N., Norris, M. K., Wan, J., Kumagai, H., Kim, S. J., & Cohen, P. (2021). Effect of aerobic and resistance exercise on the mitochondrial peptide MOTS-c in Hispanic and Non-Hispanic White breast cancer survivors. *Scientific Reports*, *11*(1), 16916.

Ebrahim, S. (2014). Knowledge of students toward breast cancer and breast self-examination practice at high school nursing in Basra city. Rev J Kufa for Nurs Sci, 4(1), 0-0.

Eittah, H., Awed, H., & Bukhary, Z. (2014). Effect of health education on raising female students awareness' regarding breast cancer at Saudi Arabia. *Journal of Natural Sciences Research*, *4*(9), 1-12.

Eliassen, A. H., Hankinson, S. E., Rosner, B., Holmes, M. D., & Willett, W. C. (2010). Physical activity and risk of breast cancer among postmenopausal women. Archives of internal medicine, 170(19), 1758-1764.

Ellington, T. D., Miller, J. W., Henley, S. J., Wilson, R. J., Wu, M., & Richardson, L. C. (2022). Trends in breast cancer incidence, by race, ethnicity, and age among women aged≥ 20 years—United States, 1999–2018. Morbidity and Mortality Weekly Report, 71(2), 43.

Evans, A., Trimboli, R. M., Athanasiou, A., Balleyguier, C., Baltzer, P. A., Bick, U., ... & Sardanelli, F. (2018). Breast ultrasound: recommendations for information to women and referring physicians by the European Society of Breast Imaging. Insights into imaging, 9(4), 449-461.

Ewaid, S. H., Shanjar, A. M., & Mahdi, R. H. (2018). Knowledge and practice of breast self-examination among sample of women in Shatra/Dhi-Qar/Iraq. Alexandria journal of medicine, 54(4), 315-317.

Ewaid, S. H., Shanjar, A. M., & Mahdi, R. H. (2018). Knowledge and practice of breast self-examination among sample of women in Shatra/Dhi-Qar/Iraq. Alexandria journal of medicine, 54(4), 315-317.

Faguet, G. B. (2015). A brief history of cancer: age-old milestones underlying our current knowledge database. International journal of cancer, 136(9), 2022-2036.

Fajdic, J., Djurovic, D., Gotovac, N., & Hrgovic, Z. (2013). Criteria and procedures for breast conserving surgery. Acta Informatica Medica, 21(1), 16.

Faupel-Badger, J. M., Arcaro, K. F., Balkam, J. J., Eliassen, A. H., Hassiotou, F., Lebrilla, C. B., ... & Sherman, M. E. (2013). Postpartum remodeling, lactation, and breast cancer risk: summary of a National Cancer Institute–sponsored workshop. Journal of the National Cancer Institute, 105(3), 166-174.

Feng, Y., Spezia, M., Huang, S., Yuan, C., Zeng, Z., Zhang, L., ... & Ren, G. (2018). Breast cancer development and progression: Risk factors, cancer stem cells, signaling pathways, genomics, and molecular pathogenesis. Genes & diseases, 5(2), 77-106.

Feng, Y., Spezia, M., Huang, S., Yuan, C., Zeng, Z., Zhang, L., ... & Ren, G. (2018). Breast cancer development and progression: Risk factors, cancer stem cells, signaling pathways, genomics, and molecular pathogenesis. Genes Dis [Internet]. 2018; 5 (2): 77–106. J. GENDIS, 1.

Ferlay, J., Colombet, M., Soerjomataram, I., Parkin, D. M., Piñeros, M., Znaor, A., & Bray, F. (2021). Cancer statistics for the year 2020: An overview. International journal of cancer, 149(4), 778-789.

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. *American journal of cancer research*, *10*(5), 1568.

Fu, M. R. (2014). Breast cancer-related lymphedema: Symptoms, diagnosis, risk reduction, and management. World journal of clinical oncology, 5(3), 241.

Garijo, M. F., Val, D., & Val-Bernal, J. F. (2009). An overview of the pale and clear cells of the nipple epidermis. Histology and histopathology.

George, T. O., Allo, T. A., Amoo, E. O., & Olonade, O. (2019). Knowledge and attitudes about breast cancer among women: a wake-

up call in Nigeria. *Open access Macedonian journal of medical sciences*, *7*(10), 1700.

Ghalib, H. H. A., Ali, D. H., Karim, S. A. M., Gubari, M. I. M., Mohammed, S. A., Marif, D. H., & Othman, H. M. (2019). Risk factors assessment of breast cancer among Iraqi Kurdish women: Case-control study. Journal of Family Medicine and Primary Care, 8(12), 3990.

Ghasemi, B., & Keivani, Z. (2014). The effect of breast self-examination training on knowledge, attitude and practice of women working in Shahrekord universities in 2010. *Journal of clinical nursing and midwifery*, *3*(2), 30-36.

Ginsburg, O. M., Chowdhury, M., Wu, W., Chowdhury, M. T. I., Pal, B. C., Hasan, R., ... & Salim, R. (2014). An mHealth model to increase clinic attendance for breast symptoms in rural Bangladesh: can bridging the digital divide help close the cancer divide?. *The oncologist*, *19*(2), 177-185.

Ginsburg, O., Yip, C. H., Brooks, A., Cabanes, A., Caleffi, M., Dunstan Yataco, J. A., ... & Anderson, B. O. (2020). Breast cancer early detection: A phased approach to implementation. Cancer, 126, 2379-2393.

Goethals, A., & Rose, J. (2019). Mastectomy.

Gurjar, N. R. (2020). Impact of an educational programme on knowledge on breast cancer and practice of breast self examination among women. *Indian Journal of Continuing Nursing Education*, *21*(2), 155.

Hamed, E., Alemrayat, B., Syed, M. A., Daher-Nashif, S., Rasheed, H. M. A., & Kane, T. (2022). Breast Cancer Knowledge, Attitudes and Practices amongst Women in Qatar. International journal of environmental research and public health, 19(7), 3995.

Han, K., Zheng, H., & Huang, Z. (2014). Immunization coverage and its determinants among migrant children in Guangdong. *China*, *14*(1), 1-8.

Harlow, S. P., & Weaver, L. (2013). Management of the regional lymph nodes in breast cancer.

Hartmann, L. C., Degnim, A. C., Santen, R. J., Dupont, W. D., & Ghosh, K. (2015). Atypical hyperplasia of the breast—risk assessment and management options. New England Journal of Medicine, 372(1), 78-89.

Heena, H., Durrani, S., Riaz, M., AlFayyad, I., Tabasim, R., Parvez, G., & Abu-Shaheen, A. (2019). Knowledge, attitudes, and practices related to breast cancer screening among female health care professionals: a cross sectional study. BMC women's health, 19(1), 1-11.

Heidari, M., Sheikhi, R., Ghodusi Borujeni, M., Heidari Sureshjani, E., & Rezaei, P. (2019). Effect of breast cancer prevention program on the awareness and performance of female high school students. *Family Medicine & Primary Care Review*, (3), 218-222.

Ignatavicius, D. D., Workman, M. L., & Rebar, C. (2017). Medical-Surgical Nursing-E-Book: Concepts for Interprofessional Collaborative Care. Elsevier Health Sciences.

Isaak, A. A. (2015). A Study of Knowledge, Attitudes and Practices towards Breast Cancer Screening & Mammography Among Somali Refugee Women in Seattle (Doctoral dissertation).

Islam, M. S., Akter, Y., Mohiuddin, A. K. M., Evamoni, F. Z., Hasan, M., Jafar, N. B., ... & Roy, A. S. (2019). Knowledge and Awareness of Early Detection Methods and Risk Factors towards Breast and Cervical Cancer in Bangladesh. *Annals of Oncology*, *30*, vi101.

Izanloo, A., Ghaffarzadehgan, K., Khoshroo, F., Haghiri, M. E., Izanloo, S., Samiee, M., ... & Sadrzadeh, S. M. (2018). Knowledge and attitude

of women regarding breast cancer screening tests in Eastern Iran. ecancermedicalscience, 12.

Jaffray, D. A., & Gospodarowicz, M. K. (2015). Radiation therapy for cancer. Cancer: disease control priorities, 3, 239-248.

Jeevan Prakash, G. (2016). Quality Of Life Assessment after Modified Radical Mastectomy in Early Breast Cancer (Doctoral dissertation, Stanley Medical College, Chennai).

John, L., & Panajiotis, N. (2014). Surgical Anatomy and Technique: A Pocket Manual.

Joseph, O. A. (2016). The prospects of medicinal plants in the treatment of breast cancer. European Pharmaceutical Review, 13.

Katz, T. A. (2016). Potential mechanisms underlying the protective effect of pregnancy against breast cancer: a focus on the IGF pathway. Frontiers in Oncology, 6, 228.

Khalis, M., Charbotel, B., Chajès, V., Rinaldi, S., Moskal, A., Biessy, C., ... & El Rhazi, K. (2018). Menstrual and reproductive factors and risk of breast cancer: A case-control study in the Fez region, Morocco. PloS one, 13(1), e0191333.

Khan, Y. S., & Sajjad, H. (2019). Anatomy, Thorax, Mammary Gland.

Khani Jeihooni, A., Darvishi, N., & Harsini, P. A. (2020). The effect of educational intervention based on the theory of planned behavior on mammography screening in Iranian women. *Journal of Cancer Education*, *35*, 264-273.

Kissal, A., & Kartal, B. (2019). Effects of health belief model-based education on health beliefs and breast self-examination in nursing students. *Asia-Pacific journal of oncology nursing*, *6*(4), 403-410.

Kumar, R., & De Jesus, O. (2020). Radiation effects on the fetus.

Lakhtakia, R. (2014). A brief history of breast cancer: Part I: Surgical domination reinvented. Sultan Qaboos University Medical Journal [SQUMJ], 14(2), 166-169.

Last reviewed by a Cleveland Clinic medical professional on 10/14/2020.

Lera, T., Beyene, A., Bekele, B., & Abreha, S. (2020). Breast self-examination and associated factors among women in Wolaita Sodo, Ethiopia: a community-based cross-sectional study. BMC Women's Health, 20(1), 1-10.

Lewis, S. L., Bucher, L., Heitkemper, M. M., Harding, M. M., Kwong, J., & Roberts, D. (2016). Medical-Surgical Nursing-E-Book: Assessment and Management of Clinical Problems, Single Volume. Elsevier Health Sciences.

Litzenburger, B. C., & Brown, P. H. (2014). Advances in preventive therapy for estrogen-receptor-negative breast cancer. Current breast cancer reports, 6(2), 96-109.

Liu, L. Y., Wang, Y. J., Wang, F., Yu, L. X., Xiang, Y. J., Zhou, F., ... & Yu, Z. G. (2018). Factors associated with insufficient awareness of breast cancer among women in Northern and Eastern China: a case–control study. *BMJ open*, *8*(2), e018523.

Liu, L. Y., Wang, Y. J., Wang, F., Yu, L. X., Xiang, Y. J., Zhou, F., ... & Yu, Z. G. (2018). Factors associated with insufficient awareness of breast cancer among women in Northern and Eastern China: a case–control study. *BMJ open*, *8*(2), e018523.

Łukasiewicz, S., Czeczelewski, M., Forma, A., Baj, J., Sitarz, R., & Stanisławek, A. (2021). Breast Cancer—Epidemiology, Risk Factors, Classification, Prognostic Markers, and Current Treatment Strategies—An Updated Review. Cancers, 13(17), 4287.

Maheri, M., Darabi, F., Khalili, S., & Hesari, M. (2021). The effect of educational intervention based on theory of planned behavior on the

improvement of colorectal cancer screening intention among average-risk individuals referring to Asadabad city clinics. *Journal of Education and Health Promotion*, *10*.

Makki, J. (2015). Diversity of breast carcinoma: histological subtypes and clinical relevance. Clinical medicine insights: Pathology, 8, CPath-S31563.

Mann, R. M., Athanasiou, A., Baltzer, P. A., Camps-Herrero, J., Clauser, P., Fallenberg, E. M., ... & Kuhl, C. K. (2022). Breast cancer screening in women with extremely dense breasts recommendations of the European Society of Breast Imaging (EUSOBI). European Radiology, 1-10.

Martinez, K. A., Kurian, A. W., Hawley, S. T., & Jagsi, R. (2015). How can we best respect patient autonomy in breast cancer treatment decisions?. Breast cancer management, 4(1), 53-64.

McDaniel, R. E., Maximov, P. Y., & Jordan, V. C. (2013). Estrogen-mediated mechanisms to control the growth and apoptosis of breast cancer cells: a translational research success story. Vitamins & Hormones, 93, 1-49.

McDonald, J. A., Goyal, A., & Terry, M. B. (2013). Alcohol intake and breast cancer risk: weighing the overall evidence. Current breast cancer reports, 5(3), 208-221.

McVeigh, U. M., Tepper, J. W., & McVeigh, T. P. (2021). A review of breast cancer risk factors in adolescents and young adults. Cancers, 13(21), 5552.

Mehejabin, F., & Rahman, M. S. (2022). Knowledge and perception of breast cancer among women of reproductive age in Chattogram, Bangladesh: A cross-sectional survey. *Health Science Reports*, *5*(5), e840.

Mehrgou, A., & Akouchekian, M. (2016). The importance of BRCA1 and BRCA2 genes mutations in breast cancer development. Medical journal of the Islamic Republic of Iran, 30, 369.

Mitra, S., & Dey, P. (2016). Fine-needle aspiration and core biopsy in the diagnosis of breast lesions: a comparison and review of the literature. Cytojournal, 13.

Mjali, A., Jawad, S. A., & Al-Shammari, H. H. J. (2021). Breast cancer in middle euphrates region of Iraq: risk factors, presenting symptoms and time to medical help-seeking. Asian Pacific Journal of Cancer Care, 6(3), 243-247.

Mohamed, A. O. A., Nori, M. M. M., & Altamih, R. A. A. (2021). The Effectiveness of Breast Cancer Health Education Campaign and Breast Self-Examination Training among Female Detainees, Khartoum City-Sudan. *Journal of Environmental Science and Public Health*, *5*(2), 296-310.

Mohammed, M. Y., & Abdulwahed, H. S. (2021). Assessment of Health Follow up and Weight Control for Women with Osteoporosis in Baqubah City. *Iraqi National Journal of Nursing Specialties*, *34*(2), 89-98.

Mohsenipouya, H., Naghibi, S., Shojaizadeh, D., & Montazeri, A. (2019). Use of the health education campaign (HEC) in the field of breast cancer screening in the north of Iran. *Health Education and Health Promotion*, *7*(1), 21-25.

Montazeri, A., Vahdaninia, M., Harirchi, I., Harirchi, A. M., Sajadian, A., Khaleghi, F., ... & Jarvandi, S. (2008). Breast cancer in Iran: need for greater women awareness of warning signs and effective screening methods. *Asia Pacific family medicine*, *7*(1), 1-7.

Monticciolo, D. L., Newell, M. S., Moy, L., Niell, B., Monsees, B., & Sickles, E. A. (2018). Breast cancer screening in women at higher-

than-average risk: recommendations from the ACR. Journal of the American College of Radiology, 15(3), 408-414.

Monticciolo, D. L., Newell, M. S., Moy, L., Niell, B., Monsees, B., & Sickles, E. A. (2018). Breast cancer screening in women at higher-than-average risk: recommendations from the ACR. Journal of the American College of Radiology, 15(3), 408-414.

Mothoneos, J. (Ed.). (2018). Understanding chemotherapy: a guide for people with cancer, their families and friends. Cancer Council Australia.

Moustafa, D. G., Abd-Allah, E. S., & Taha, N. M. (2015). Effect of a breast-self examination (BSE) educational intervention among female university students. *Am J Nursing Sci*, *4*(4), 159-65.

Mualla, F. H., & Al-Alwan, N. A. (2014). Promoting clinical breast examination as a screening tool for breast cancer in Iraq. Iraqi National Journal of Nursing Specialties, 27(1).

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

Mutar, M. T., Goyani, M. S., Had, A. M., & Mahmood, A. S. (2019). Pattern of presentation of patients with breast cancer in Iraq in 2018: A cross-sectional study. Journal of global oncology, 5, 1-6.

Naraynsingh, V., Jarvis, J. K., Milne, D. M., Cawich, S. O., Harnanan, D., Singh, Y., & Islam, S. (2021). The Pushing Sign for Early Skin Tethering in Breast Cancer. Cureus, 13(12).

Narod, S. A. (2012). Tumour size predicts long-term survival among women with lymph node-positive breast cancer. Current oncology, 19(5), 249-253.

National Cancer Institute, 2014. Understanding Breast Changes . A Health Guide for Women. Available at:

https://www.cancer.gov/types/breast/breast-changes/understanding-breast-changes.pdf

Ng, Z. X., Ong, M. S., Jegadeesan, T., Deng, S., & Yap, C. T. (2017, May). Breast cancer: exploring the facts and holistic needs during and beyond treatment. In Healthcare (Vol. 5, No. 2, p. 26). MDPI.

Noman, S., Shahar, H. K., Abdul Rahman, H., Ismail, S., Abdulwahid Al-Jaberi, M., & Azzani, M. (2017). The effectiveness of educational interventions on breast cancer screening uptake, knowledge, and beliefs among women: a systematic review. *International journal of environmental research and public health*, *18*(1), 263.

Noonan, S., Pasa, A., Fontana, V., Caviglia, S., Bonanni, B., Costa, A., ... & DeCensi, A. (2018). A Survey among Breast Cancer Specialists on the Low Uptake of Therapeutic Prevention with Tamoxifen or RaloxifeneReasons for Low Breast Cancer Therapeutic Prevention Uptake. Cancer Prevention Research, 11(1), 38-43.

O. Odusanya, Olufemi O. Tayo, O. (2001). Breast cancer knowledge, attitudes and practice among nurses in Lagos, Nigeria. Acta oncologica, 40(7), 844-848.

Oeffinger, K. C., Fontham, E. T., Etzioni, R., Herzig, A., Michaelson, J. S., Shih, Y. C. T., ... & Wender, R. (2015). Breast cancer screening for women at average risk: 2015 guideline update from the American Cancer Society. Jama, 314(15), 1599-1614.

Oeffinger, K. C., Fontham, E. T., Etzioni, R., Herzig, A., Michaelson, J. S., Shih, Y. C. T., ... & Wender, R. (2015). Breast cancer screening for women at average risk: 2015 guideline update from the American Cancer Society. Jama, 314(15), 1599-1614.

Osborn, K. S., Wraa, C. E., & Watson, A. B. (2010). Medical-surgical nursing: preparation for practice. Prentice Hall.

Osei, E., Osei Afriyie, S., Oppong, S., Ampofo, E., & Amu, H. (2021). Perceived breast cancer risk among female undergraduate students in Ghana: A cross-sectional study. Journal of Oncology, 2021.

Osei-Afriyie, S., Addae, A. K., Oppong, S., Amu, H., Ampofo, E., & Osei, E. (2021). Breast cancer awareness, risk factors and screening practices among future health professionals in Ghana: A cross-sectional study. PloS one, 16(6), e0253373.

Padamsee, T. J., Wills, C. E., Yee, L. D., & Paskett, E. D. (2017). Decision making for breast cancer prevention among women at elevated risk. Breast Cancer Research, 19(1), 1-12.

Park, S. H., Hoang, T., & Kim, J. (2021). Dietary Factors and Breast Cancer Prognosis among Breast Cancer Survivors: A Systematic Review and Meta-Analysis of Cohort Studies. Cancers, 13(21), 5329.

Parsa, P., & Kandiah, M. (2010). Predictors of adherence to clinical breast examination and mammography screening among Malaysian women. *Asian Pac J Cancer Prev*, *11*(3), 681-8.

Phipps, A. I., Buist, D. S., Malone, K. E., Barlow, W. E., Porter, P. L., Kerlikowske, K., & Li, C. I. (2011). Family history of breast cancer in first-degree relatives and triple-negative breast cancer risk. Breast cancer research and treatment, 126(3), 671-678.

Picon-Ruiz, M., Morata-Tarifa, C., Valle-Goffin, J. J., Friedman, E. R., & Slingerland, J. M. (2017). Obesity and adverse breast cancer risk and outcome: Mechanistic insights and strategies for intervention. CA: a cancer journal for clinicians, 67(5), 378-397.

Pippin, M. M., & Boyd, R. (2021). Breast Self Examination. In StatPearls [Internet]. StatPearls Publishing.

Power, E. J., Chin, M. L., & Haq, M. M. (2018). Breast cancer incidence and risk reduction in the Hispanic population. Cureus, 10(2).

Prusty, R. K., Begum, S., Patil, A., Naik, D. D., Pimple, S., & Mishra, G. (2020). Knowledge of symptoms and risk factors of breast cancer among women: a community based study in a low socio-economic area of Mumbai, India. *BMC women's health*, *20*, 1-12.

Prusty, R. K., Begum, S., Patil, A., Naik, D. D., Pimple, S., & Mishra, G. (2021). Increasing breast cancer awareness and breast examination practices among women through health education and capacity building of primary healthcare providers: a pre-post intervention study in low socioeconomic area of Mumbai, India. *BMJ open*, *11*(4), e045424.

Rakhshani, T., Dada, M., Kashfi, S. M., Kamyab, A., & Jeihooni, A. K. (2022). The Effect of Educational Intervention on Knowledge, Attitude, and Practice of Women towards Breast Cancer Screening. *International Journal of Breast Cancer*, *2022*.

Rakhshani, T., Dada, M., Kashfi, S. M., Kamyab, A., & Jeihooni, A. K. (2022). The Effect of Educational Intervention on Knowledge, Attitude, and Practice of Women towards Breast Cancer Screening. *International Journal of Breast Cancer*, *2022*.

Rakhshani, T., Dada, M., Kashfi, S. M., Kamyab, A., & Jeihooni, A. K. (2022). The Effect of Educational Intervention on Knowledge, Attitude, and Practice of Women towards Breast Cancer Screening. International Journal of Breast Cancer, 2022.

Ranasinghe, H. M., Ranasinghe, N., Rodrigo, C., Seneviratne, R. D. A., & Rajapakse, S. (2013). Awareness of breast cancer among adolescent girls in Colombo, Sri Lanka: a school based study. *BMC public health*, *13*, 1-7.

Rashid, N. S., Grible, J. M., Clevenger, C. V., & Harrell, J. C. (2021). Breast cancer liver metastasis: current and future treatment approaches. Clinical & experimental metastasis, 38(3), 263-277.

Razzaque, M. A., Zafar, S. N., Ali, A., Hussain, S., & Qureshi, S. (2021). Effectiveness of educational intervention in raising knowledge regarding breast cancer among female nurses. *JPMA. The Journal of the Pakistan Medical Association*, *71*(8), 1959-1962.

Rehman, H. T., Jawaid, H., Tahir, A., Imtiaz, M., Zulfiqar, T., & Aziz, T. (2022). Breast cancer knowledge among health professionals: A pre–post-knowledge-based intervention study. *Journal of Family Medicine and Primary Care*, *11*(9), 5649-5655.

Rehnke, R. D., Groening, R. M., Van Buskirk, E. R., & Clarke, J. M. (2018). Anatomy of the superficial fascia system of the breast: a comprehensive theory of breast fascial anatomy. Plastic and reconstructive surgery, 142(5), 1135.

Rezaeian, M., Sharifirad, G., Mostafavi, F., Moodi, M., & Abbasi, M. H. (2014). The effects of breast cancer educational intervention on knowledge and health beliefs of women 40 years and older, Isfahan, Iran. *Journal of education and health promotion*, *3*.

Risom, T., Glass, D. R., Averbukh, I., Liu, C. C., Baranski, A., Kagel, A., ... & Angelo, M. (2022). Transition to invasive breast cancer is associated with progressive changes in the structure and composition of tumor stroma. Cell, 185(2), 299-310.

Rivard, A. B., Galarza-Paez, L., & Peterson, D. C. (2021). Anatomy, Thorax, Breast. In StatPearls [Internet]. StatPearls Publishing.

Rollins, J. H., Long, B. W., & Curtis, T. (2022). Merrill's Atlas of Radiographic Positioning and Procedures-3-Volume Set-E-Book. Elsevier Health Sciences.

Ruddy, K. J., Gelber, S., Tamimi, R. M., Schapira, L., Come, S. E., Meyer, M. E., ... & Partridge, A. H. (2014). Breast cancer presentation and diagnostic delays in young women. Cancer, 120(1), 20-25.

Ruddy, K. J., Gelber, S., Tamimi, R. M., Schapira, L., Come, S. E., Meyer, M. E., ... & Partridge, A. H. (2014). Breast cancer presentation and diagnostic delays in young women. Cancer, 120(1), 20-25.

Sadoh, A. E., Osime, C., Nwaneri, D. U., Ogboghodo, B. C., Eregie, C. O., & Oviawe, O. (2021). Improving knowledge about breast cancer and breast self examination in female Nigerian adolescents using peer education: a pre-post interventional study. *BMC Women's Health*, *21*(1), 1-9.

Salem, A. A., Salem, M. A. E., & Abbass, H. (2010). Breast cancer: surgery at the south Egypt cancer institute. Cancers, 2(4), 1771-1778.

Salman, A. A. (2015). Breast cancer: knowledge, attitudes and practices of female secondary schoolteachers and students in Samarra city. Iraqi Journal of Cancer and Medical Genetics, 8(1).

Sankaranarayanan, R., Ramadas, K., Thara, S., Muwonge, R., Prabhakar, J., Augustine, P., ... & Mathew, B. S. (2011). Clinical breast examination: preliminary results from a cluster randomized controlled trial in India. Journal of the National Cancer Institute, 103(19), 1476-1480.

Santen, R. J. (2018). Benign breast disease in women. Endotext [Internet].

Sarker, R., Islam, M. S., Moonajilin, M. S., Rahman, M., Gesesew, H. A., & Ward, P. R. (2022). Effectiveness of educational intervention on breast cancer knowledge and breast self-examination among female university students in Bangladesh: a pre-post quasi-experimental study. *BMC cancer*, *22*(1), 199.

Sarker, R., Islam, M. S., Moonajilin, M. S., Rahman, M., Gesesew, H. A., & Ward, P. R. (2022). Effectiveness of educational intervention on breast cancer knowledge and breast self-examination among female university students in Bangladesh: a pre-post quasi-experimental study. *BMC cancer*, *22*(1), 199.

Sarker, R., Islam, M. S., Moonajilin, M. S., Rahman, M., Gesesew, H. A., & Ward, P. R. (2022). Knowledge of breast cancer and breast self-examination practices and its barriers among university female students in Bangladesh: Findings from a cross-sectional study. PloS one, 17(6), e0270417.

Satija, A., & Bhatnagar, S. (2017). Complementary therapies for symptom management in cancer patients. Indian journal of palliative care, 23(4), 468.

Schmauss, D., Machens, H. G., & Harder, Y. (2016). Breast reconstruction after mastectomy. Frontiers in surgery, 2, 71.

Shah, R., Rosso, K., & Nathanson, S. D. (2014). Pathogenesis, prevention, diagnosis and treatment of breast cancer. World journal of clinical oncology, 5(3), 283.

Shah, T. H., Siores, E., & Daskalakis, C. (2011). Non-invasive devices for early detection of breast tissue oncological abnormalities using microwave radio thermometry. Advances in Cancer Therapy, 190, 447-476.

Sharma, G. N., Dave, R., Sanadya, J., Sharma, P., & Sharma, K. (2010). Various types and management of breast cancer: an overview. Journal of advanced pharmaceutical technology & research, 1(2), 109.

Siddiqui, A. A., Amin, J., Alshammary, F., Afroze, E., Shaikh, S., Rathore, H. A., & Khan, R. (2021). Burden of cancer in the Arab world. Handbook of healthcare in the Arab world, 495-519.

Silva, A. P. S. D., Alexandre, H. G., Almeida, P. C. D., Ximenes, L. B., & Fernandes, A. F. C. (2017). Effects of an educational technology application in the early detection of breast cancer.

Sindi, R. A., Alzahrani, A. A., Alzahrani, N. A., Salman, R. A. B., & Alshareef, S. A. (2019). Awareness Lev-el, Knowledge and Attitude towards Breast Cancer between Medical and Non-Medical University

Stu-dents in Makkah Region: A Cross Sectional Study. Int J Cancer Clin Res, 6, 106.

Słojewska, K. (2021). The effect of physical activity on sex hormone levels in women. Implications for breast cancer risk. Nowotwory. Journal of Oncology, 71(6), 383-390.

Stone, K., & Wheeler, A. (2015). A review of anatomy, physiology, and benign pathology of the nipple. Annals of surgical oncology, 22(10), 3236-3240.

Suh, M. A. B., Atashili, J., Fuh, E. A., & Eta, V. A. (2012). Breast self-examination and breast cancer awareness in women in developing countries: a survey of women in Buea, Cameroon. BMC research notes, 5(1), 1-6.

Suleiman, A. K. (2014). Awareness and attitudes regarding breast cancer and breast self-examination among female Jordanian students. *Journal of basic and clinical pharmacy*, *5*(3), 74.

Suleiman, A. K. (2016). Awareness and attitudes regarding breast cancer and breast self-examination among female Jordanian students. *Journal of basic and clinical pharmacy*, *5*(3), 74.

Sun, Y. S., Zhao, Z., Yang, Z. N., Xu, F., Lu, H. J., Zhu, Z. Y., ... & Zhu, H. P. (2017). Risk factors and preventions of breast cancer. International journal of biological sciences, 13(11), 1387.

Sun, Y. S., Zhao, Z., Yang, Z. N., Xu, F., Lu, H. J., Zhu, Z. Y., ... & Zhu, H. P. (2017). Risk factors and preventions of breast cancer. International journal of biological sciences, 13(11), 1387.

Sun, Y. S., Zhao, Z., Yang, Z. N., Xu, F., Lu, H. J., Zhu, Z. Y., ... & Zhu, H. P. (2017). Risk factors and preventions of breast cancer. International journal of biological sciences, 13(11), 1387.

Sung, H., Rosenberg, P. S., Chen, W. Q., Hartman, M., Lim, W. Y., Chia, K. S., ... & Yang, X. R. (2015). Female breast cancer incidence among

Asian and Western populations: more similar than expected. Journal of the National Cancer Institute, 107(7), djv107.

Tan, M., Zheng, B., Ramalingam, P., & Gur, D. (2013). Prediction of near-term breast cancer risk based on bilateral mammographic feature asymmetry. Academic radiology, 20(12), 1542-1550.

Temitope, O. O., & Joseph, O. A. (2016). The prospects of medicinal plants in the treatment of breast cancer. European Pharmaceutical Review, 21(6), 14-16.

Terry, P. D., Thun, M. J., & Rohan, T. E. (2011). Does tobacco smoke cause breast cancer?. Women's Health, 7(4), 405-408.

Timby, B. K., & Smith, N. E. (2013). Introductory medical-surgical nursing. Lippincott Williams & Wilkins.

Trewin, C. B., Johansson, A. L. V., Hjerkind, K. V., Strand, B. H., Kiserud, C. E., & Ursin, G. (2020). Stage-specific survival has improved for young breast cancer patients since 2000: but not equally. Breast cancer research and treatment, 182(2), 477-489.

Turner, J. R., & Baker, R. M. (2019). Complexity theory: An overview with potential applications for the social sciences. Systems, 7(1), 4.

Vahabi, M. (2011). Knowledge of breast cancer and screening practices among Iranian immigrant women in Toronto. *Journal of Community Health*, *36*, 265-273.

Van Uden, D. J. P., Van Laarhoven, H. W. M., Westenberg, A. H., de Wilt, J. H. W., & Blanken-Peeters, C. F. J. M. (2015). Inflammatory breast cancer: an overview. Critical reviews in oncology/hematology, 93(2), 116-126.

Waks, A. G., & Winer, E. P. (2019). Breast cancer treatment: a review. Jama, 321(3), 288-300.

Warner, E. (2011). Breast-cancer screening. New England Journal of Medicine, 365(11), 1025-1032.

White, M. C., Holman, D. M., Boehm, J. E., Peipins, L. A., Grossman, M., & Henley, S. J. (2014). Age and cancer risk: a potentially modifiable relationship. American journal of preventive medicine, 46(3), S7-S15.

Williams, D. R., Mohammed, S. A., & Shields, A. E. (2016). Understanding and effectively addressing breast cancer in A frican A merican women: Unpacking the social context. Cancer, 122(14), 2138-2149.

Yang, P. J., Hou, M. F., Ou-Yang, F., Tsai, E. M., & Wang, T. N. (2022). Association of early-onset breast cancer with body mass index, menarche, and menopause in Taiwan. BMC cancer, 22(1), 1-11.

Yeshitila, Y. G., Kassa, G. M., Gebeyehu, S., Memiah, P., & Desta, M. (2021). Breast self-examination practice and its determinants among women in Ethiopia: a systematic review and meta-analysis. PloS one, 16(1), e0245252.

Yılmaz, M., Sayın, Y., & Cengiz, H. Ö. (2017). The effects of training on knowledge and beliefs about breast cancer and early diagnosis methods among women. *European journal of breast health*, *13*(4), 175.

Younis, M., Al-Rubaye, D., Haddad, H., Hammad, A., & Hijazi, M. (2016). Knowledge and awareness of breast cancer among young women in the United Arab Emirates. *Advances in Breast Cancer Research*, *5*(4), 163-176.

Yu, D., Lu, J. (2011). Breast Cancer Multistep Development. In: Schwab, M. (eds) Encyclopedia of Cancer. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-16483-5_6655

Zangana, A. M., & Garota, S. A. (2012). Risk factors of breast cancer in a sample of Kurdish women of Kurdistan Region-Iraq: a comparative study between pre-menopausal and post-menopausal women. Zanco Journal of Medical Sciences (Zanco J Med Sci), 16(3), 262-267.

Zhang, B. N., Cao, X. C., Chen, J. Y., Chen, J., Fu, L., Hu, X. C., ... & Zhang, J. (2012). Guidelines on the diagnosis and treatment of breast cancer (2011 edition). Gland surgery, 1(1), 39.

Zhou, W., Ding, Q., Pan, H., Wu, N., Liang, M., Huang, Y., ... & Wang, S. (2014). Risk of breast cancer and family history of other cancers in first-degree relatives in Chinese women: a case control study. BMC cancer, 14(1), 1-7.

Appendices

University of Babylon
College of Nursing
Research Ethics Committee

جـامـعة بـابـل
كـلية التمريـض
لجنة اخلاقيات البحث العلمي

Issue No:

Date: / /2022

Approval Letter

To,
Hiba Jassim Hafidh

The Research Ethics committee at the **University of Babylon, College of Nursing** has reviewed and discussed your application to conduct the research study entitled **"Effectiveness of Education Program on Awareness and Attitudes Concerning Breast Cancer Among Women Who Attendance Primary Health Care Centers in Al- Diwaniyah City"**

The Following documents have been reviewed and approved:

1. Research protocol
2. Research instrument/s
3. Participant informed consent

Committee Decision.

The committee approves the study to be conducted in the presented form. The Research Ethics committee expects to be informed about any changes occurring during the study, any revision in the protocol and participant informed consent.

Prof. Dr. Salma K. Jehad
Chair Committee
College of Nursing
Research Ethical Committee
5 /7/2022
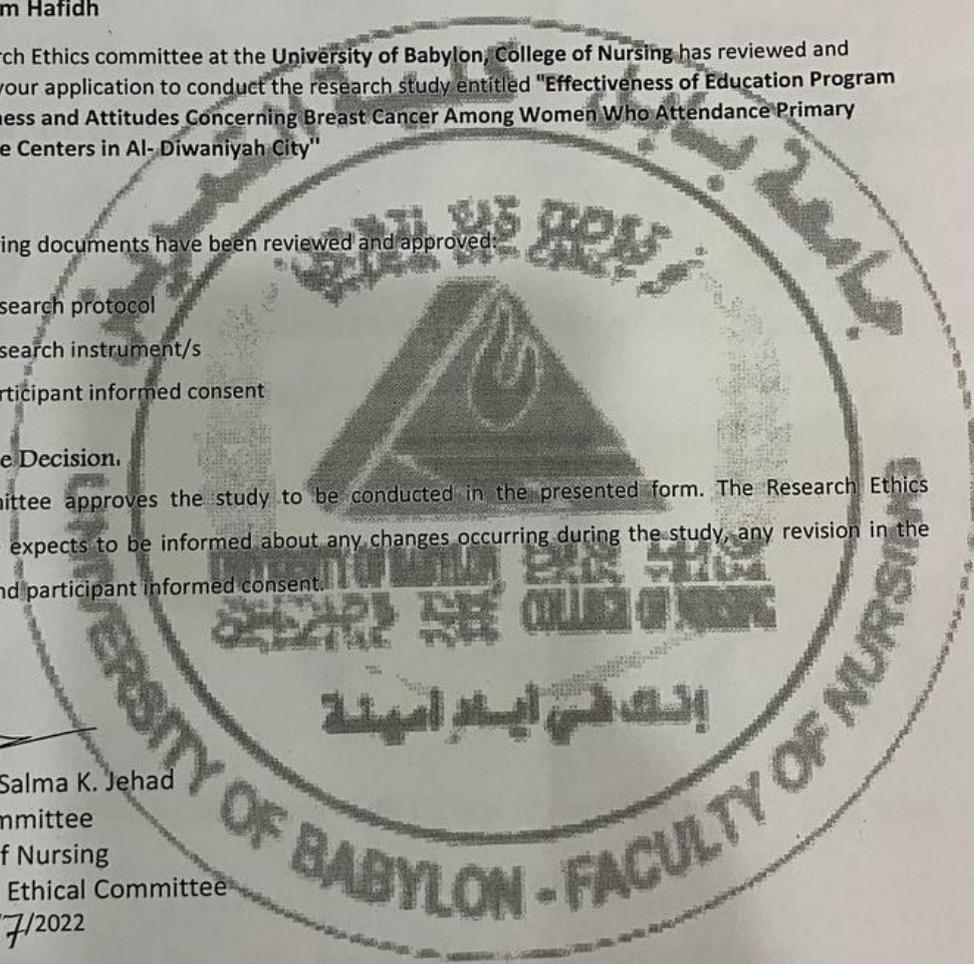
Ministry of Higher Education
and Scientific Research

وزارة التعليم العالي والبحث العلمي

University of Babylon
College of Nursing

جَامِعَةُ بَابِل
كَليَّةُ التَّمرِيض
لجنة الدراسات العليا

Ref. No. :

Date: / /

العدد : ٥ ٨ ٤ ح

التاريخ : ٢ ح / ٧ / ٢٠٢٢ ح

الى / مراكز الرعاية الصحية الاولية في محافظة الديوانية

م/ تسهيل مهمة

تحية طيبة :

يطيب لنا حسن التواصل معكم ويرجى تفضلكم بتسهيل مهمة طالبة الدكتوراه
(هبة جاسم حافظ عيدان) لغرض جمع عينة دراسة الدكتوراه والخاصة بالبحث الموسوم :

(فاعلية برنامج تعليمي في التوعية والتوجيهات في ما يتعلق بسرطان الثدي لدى النساء اللاتي
يترددن على مراكز الرعاية الصحية الاولية في مدينة الديوانية) .

(effectiveness of education program on awareness and attitudes concerning breast
cancer among women who attendance primary health care centers in al- diwaniyah
city)

... مع الاحترام ...

المرافقات //
- بروتوكول .
- استبانة

ا.م . د. نهاد محمد قاسم الدوري
معاون العميد للشؤون العلمية والدراسات العليا
٢٠٢٢ /٧/ ح

*بسمة ٧/٧

صورة عنه الى //
- مكتب السيد العميد للتفضل بالاطلاع مع الاحترام .
- لجنة الدراسات العليا
- الصادرة .

E-mail:nursing@uobabylon.edu.iq

STARS
RATED FOR EXCELLENCE
TEACHING
INCLUSIVENESS
FACILIT

وطني 07711632208
المكتب 009647711632208

w w w . u o b a b y l o n . e d u . i q

English Questionnaire

TOOL –structured awareness, attitudes questionnaire

PART 1 – Demographic characteristics

INSTRUCTION:

Kindly read all the statement carefully & place the tick mark (√) in the bracket pertaining to your personal data.

1. Age   (in years)

2. Marital status
    A. single   ( )
    B. Married   ( )
    C. Widow   ( )

3. Environment
    A. urban   ( )
    B. Rural ( )

4. Income
    A. Sufficient ( )
    B. Sufficient to extent ( )
    C. Not sufficient ( )

5. Level of education
A. Un able to read and write   ( )
B. Able to read and write   ( )
C. Primary Graduated   ( )
D. Secondary Graduated   ( )
E. Preparatory Graduated   ( )
F. Bachelor Graduated   ( )
G. Post graduated   ( )

6. Occupation
   A. Unemployed   ( )
   B. Free works   ( )
   C. Student   ( )
   D. Government Employee   ( )
   E. Retired   ( )

7. Previous source of information about breast cancer
   A. Family members/ relative/ friends/neighbors   ( )
   B. .Mass media (T.V, radio, news paper, health magazine)   ( )
   C. Health personnel   ( )

D. library social media   ( )

Awareness questionnaire

INSTRUCTION:

Kindly answer all the statements carefully & place a tick mark (√) on the appropriate column given at the right side of the item. Kindly note there will be only one correct answer for each item.

 Part one : Structure and Concept of breast cancer

1.   Following are the parts of milk storing region of breast except
A.   Areola   ( )
B.   Lobule   ( )
C.   Nipple   ( )
D.   <u>Fatty tissue</u>   ( )
2.   Number of lobes in each breast are
A.   <u>12- 20 lobes</u>   ( )
B.   15- 25 lobes   ( )
C.   20- 30 lobes   ( )
D.   3.4 30- 40 lobes ( )
3. Normal adult nipples are
a. Inverted (projected in) ( )
 b. <u>Everted</u>   ( )
c. Pinpoint size   ( )
d. Not visible   ( )

4. Main function of the breast is
a. Just a body part   ( )
b. <u>Breast feeding</u>   ( )
c. Sweating   ( )
d. Don't know   ( )
        5. Breast lump is mostly common in the following segment
a.   Upper inner ( )
b.   Lower inner   ( )
c.   <u>Upper outer</u> ( )
d.   Lower outer   ( )
4. The commonest site for breast cancer
a. Lower outer quadrant   ( )
b. <u>Upper outer quadrant</u>   ( )
c. Lower inner quadrant   ( )
d. Nipple area   ( )

Part two: Risk factors of breast cancer:
1. Cause of cancer breast is

a. Bacteria ( )
b. Virus ( )
c. Unknown ( )

2. Breast cancer is more common among

A. Married women ( )
B. Women who have not given birth ( )
C. Breast feeding women ( )
 D. Pregnant women ( )

3. Cancer breast is higher in women who attained menopause.

a. Before 45 years ( )
b. Between 45 and 50 years ( )
c. After 50 years ( )

4. Cancer breast is higher in women who attained menarche
a. Before 12 years ( )
b. Between 12 and 15 Years ( )
c. After 15 years ( )

5 . Cancer is associated with
A. A hard blow on breast ( )
B. Heredity ( )
C. Early menopause ( )
D. Pregnancy ( )

  6. Risk of breast cancer is mostly seen among women who are
A. Early married ( )
B. Using oral contraceptives for long time ( )
C. Consuming protein rich diet ( )
D. Breastfeeding for prolonged time ( )

7. Cancer breast is common in women who have
a. No children ( )
b. One or two children ( )
c. Three or more children ( )

8. Chance of getting breast cancer is increased with
a. High fat diet ( )
b. High protein diet ( )
c. Malnutrition ( )
 d. Low fiber diet ( )

Part three: clinical manifestation of breast cancer:
1. Abnormal changes in the breast during breast cancer include
a. Skin Irritation ( )
b. Change of position of nipple ( )
c. Redness of breast ( )
d. Flattening of nipple ( )

2.   Following are warning signs of breast cancer except
a.   Discharge from the nipple   ( )
b.   Dimpling of the skin   ( )
c.   <u>A lump</u>   ( )
d.   Decrease in size of breast.   ( )

3.   Major symptoms at later stage of breast cancer include
A.   Pitting of the breast skin ( )
B.   Tenderness over the breast ( )
C.   Nipple discharge   ( )
D.   <u>Ulceration & orange peel of skin</u>   ( )

٤. Important sign of breast cancer is
a. Secretion of milk   ( )
b. <u>Watery discharge</u>   ( )
b. No discharge   ( )
d. Don't know   ( )
 ٥.   In breast cancer, a nipple is:
a. <u>Retracted</u>   ( )
b. Normal   ( )
c. Erected   ( )
don't know   ( )

Part four: Evaluation and diagnostic of breast cancer
1.   Easiest and cheapest method for early detection of lump is
a.   <u>Breast self examination</u>   ( )
b.   Mammography   ( )
c.   X- ray   ( )
d.   Blood test   ( )
2.   A women should begin her breast self examination by the age of
A.   18yrs   ( )
B.   <u>20 yrs</u>   ( )
C.   25yrs   ( )
D.   40yrs   ( )
3. Part of the hand used for breast palpation is
A.   Finger tip   ( )
B.   Entire palm   ( )
C.   Index finger   ( )
D.   <u>Finger pads</u>   ( )

4. If found something abnormal in breast during breast self examination women should
A. <u>Consult doctor</u>   ( )

B. Discuss with friends   ( )

C. Do nothing   ( )

D. Go to traditional healer ( )

5. Position for breast self examination include the following except

A. Lie down & hand over the head   ( )

B. Standing before mirror   ( )

C. Hand firmly on hips while standing   ( )

D. <u>Lie down & hand straight on thighs</u>   ( )

6. Following are the methods used for breast self examination except

A. Circular method   ( )

B. wedge method   ( )

C. <u>Horizontal method</u>   ( )

D. Line method   ( )

 7.   Breast self examination includes

A. Examine only nipple   ( )

B. <u>Entire breast</u>   ( )

C. Upper quadrant of breast   ( )

D.Lower quadrant of breast   ( )

8. Breast self examination should be performed

a.   One week before menstruation   ( )

b.   At the time of ovulation   ( )

c.   <u>Five days after menstruation</u>   ( )

d.   Second day of menstruation   ( )

   9.In post menopausal women best day for breast examination is

A.   Every Monday   ( )

B.   Once in fifteen days   ( )

C.   Date of last menstruation   ( )

D.   <u>First day of every month</u>   ( )

Part five: Management of breast cancer:

1.   Firm pressure over breast is used to feel

A.   Lobules   ( )

B.   Fat tissue of the breast   ( )

C.   Areola of the breast   ( )

D.   <u>Chest & ribs</u>   ( )

2.   Frequency of clinical breast examination is

A.   Once a month   ( )

B.   Once a year   ( )
C.   <u>Once in three years</u>   ( )
D.   Never   ( )
3.   Frequency of Mammogram for women age 40 & above is
A.   Once a month   ( )
B.   <u>Once a year</u>   ( )
C.   Once in three years   ( )
D.   Never   ( )

4.   Radiation therapy means
A.   <u>A beam of rays to destroy cancerous tissue</u> ( )
B.   Removal of lymph node   ( )
C.   Removal of breast   ( )
D.   Administering drug orally   ( )

5.   Radiation therapy to breast cancer is used to
A.   <u>Shrink large tumor</u>   ( )
B.   Prevent crackling of nipple   ( )
C.   Detect dimpling of skin   ( )
D.   To remove the lump   ( )
6.   Chemotherapy refers to

A.   Surgical removal of breast   ( )
B.   Traditional healing technique   ( )
C.   <u>Use of cytotoxic drugs</u>   ( )
D.   Acupuncture   ( )
7.   Chemotherapy is best used
A.   <u>Pre- operatively</u>   ( )
B.   During surgery   ( )
C.   Post operatively   ( )
D.   During radiation therapy ( )
8.Mammography is most effective during
A.   No signs & symptoms   ( )
B.   <u>Lump is large enough to feel</u>   ( )
C.   Pain at breast   ( )
D.   Presence of visible lump at the breast   ( )

9.Breast ultrasound is done to identify whether
A.   Cancer is spreading   ( )
B.   Lump size is increasing or decreasing   ( )
C.   <u>Lump is solid or liquid</u>   ( )
D.   Dimpling of breast   ( )
10.Mastectomy means
A.   Removal of lung   ( )
B.   Removal of ribs   ( )

C.   Removal of nipple ( )
D.   Removal of breast ( )

11. Surgical therapy includes the following except
A.   Axillary lymph node dissection   ( )
B.   Thyroidectomy   ( )
C.   Lympectomy   ( )
D.   Radical mastectomy

Part three –Attitude scale for breast cancer
INSTRUCTION:

Kindly read all the statements carefully. Mark your response by placing tick mark (√) in the appropriate column given against the statement. If you agree the statement ,mark in the first column(A), if your undecided mark in the two column (N), if you disagree with the statement mark in the third column (D).

No	Items	A (agree)	U (undecided)	D (disagree)
1	If i gain weight I may get breast cancer.			
2	I do not have family history of cancer, so I may not get cancer.			
3	I do exercise so I am free from the risk of getting breast cancer.			
4	I think after menopause I have to maintain normal weight.			
5	I think early detection of disease is waste of money.			
6	I have to reduce intake of oral contraceptives to prevent from getting breast cancer.			
7	It's not necessary to check breast during menses.			
8	I consult doctor only when I get breast cancer.			
9	Post menopausal women won't get breast cancer.			

10	I think Ayurveda(alternative medicine, herbas) is the choice of treatment for breast cancer.			
11	If I do not breast feed the child, I may get breast cancer.			
12	Chewing tobacco smoking causes breast cancer.			
13	I frequently examine my breast for any changes.			
14	I think survival rate is less in breast cancer.			
15	Breast self examination is necessary only when there is a problem.			

Arabic Questionnaire

أداة ـ استبيان للوعي، والتوجهات
الجزء الأول ـ الخصائص الديموغرافية
تعليمات:
يرجى قراءة جميع البيانات بعناية ووضع علامة التجزئة (√) في القوس فيما يتعلق ببياناتك الشخصية.

١. العمر   (بالسنوات)
٢. الحالة الاجتماعية
   أ- مفرد   (   )
   ب- متزوج   (   )
   ت- أرملة   (   )

٣. البيئة
   أ- حضري (   )
   ب- ريفي ( )

٤. الدخل
   أ- كافي (   )
   ب- كافية إلى حد ما (   )
   ت- غير كافٍ (   )

٥. مستوى التعليم
   أ- غير قادر على القراءة والكتابة (   )
   ب- القدرة على القراءة والكتابة (   )
   ت- الابتدائي (   )
   ث- خريج متوسط (   )
   ج- خريج تمهيدي   (   )
   ح- حاصل على بكالوريوس (   ).
   خ- بعد التخرج ()

٦. الوضيفة
   أ- عاطل عن العمل (   )
   ب- الأعمال الحرة (   )
   ت- طالب (   )
   ث- موظف حكومي (   ).
   ج- متقاعد (   )

٧. المصدر السابق للمعلومات عن سرطان الثدي
   أ- أفراد الأسرة / الأقارب / الأصدقاء / الجيران ( )
   ب- وسائل الإعلام (التلفزيون ، الإذاعة ، الصحف ، المجلات الصحية) ( )
   ت- موظفو الصحة ( )

ث- وسائل التواصل الاجتماعي الخاصة بالمكتبة ( )

الجزء الثاني

استبيان توعية

تعليمات:

يرجى الإجابة على جميع العبارات بعناية ووضع علامة () على العمود المناسب الموجود على الجانب الأيمن من العنصر. يرجى ملاحظة أنه ستكون هناك إجابة واحدة صحيحة لكل عنصر.

الجزء الأول: هيكل ومفهوم سرطان الثدي

٣. فيما يلي أجزاء منطقة تخزين الحليب من الثدي ما عدا

    أ- هالة حلمة الثدي ()

    ب- فصيص ()

    ت- حلمة الثدي ()

    ث- الأنسجة الدهنية ()

٤. عدد الفصوص في كل ثدي

    أ- فص ٢٠-١٢ ()

    ب- فص ٢٥-١٥ ()

    ت- فص ٣٠-٢٠ ( )

    ث- فص ٣٠-٤٠ ()

٣. حلمات الكبار طبيعيه

أ. معكوسة ()

ب. مقلوبة ()

ج. حجم الدبوس ()

د. غير مرئية ( )

٤. الوظيفة الرئيسية للثدي هي

أ. مجرد جزء من الجسم ()

ب. الرضاعة الطبيعية ( )

ج. التعرق ()

د. لا أعرف ()

٥. تكتل الثدي شائع في الغالب في المقطع التالي

أ. الجزء العلوي الداخلي ()

ب. الداخلية السفلى ()

ج. العلوي الخارجي ()

د. السفلي الخارجي ()

٤. الموقع الأكثر شيوعا لسرطان الثدي

أ. الربع الخارجي السفلي ()

ب. الربع الخارجي العلوي ()

ج. الربع الداخلي السفلي ()

د. منطقة الحلمة ()

الجزء الثاني: عوامل خطر الإصابة بسرطان الثدي:

١. سبب الإصابة بسرطان الثدي

أ. بكتيريا   ( )

ب. فايروس   ( )

ج. مجهول   ( )

٢.   سرطان الثدي أكثر شيوعا بين

أ.   المتزوجات   ( )

ب.   النساء اللواتي لم يلدن   ( )

ت.   النساء المرضعات   ( )

ث.   الحامل   ( )

٣. سرطان الثدي أعلى عند النساء اللواتي بلغن سن اليأس.

أ. قبل ٤٥ سنة ()

ب. بين ٤٥ و ٥٠ سنة ()

ج. بعد ٥٠ سنة ()

٤. سرطان الثدي أعلى عند النساء اللواتي بلغن الحيض

أ. قبل ١٢ سنة ()

ب. بين ١٢ و ١٥ سنة ()

ج. بعد ١٥ سنة ()

١.   يرتبط سرطان الثدي

أ.   ضربة قاسية على الثدي ()

ب.   الوراثة   ( )

ت.   انقطاع الطمث المبكر   ( )

ج.   الحمل   ( )

---

٥.   غالبًا ما يُلاحظ خطر الإصابة بسرطان الثدي بين النساء

أ.   المتزوجة في وقت مبكر ()

ب.   استخدام موانع الحمل الفموية لفترة طويلة   ( )

ت.   نظام غذائي غني بالبروتين   ()

ث.   الرضاعة الطبيعية لفترات طويلة ( )

٤. سرطان الثدي شائع عند النساء المصابات التي لديها

أ-   لا يوجد اطفال ( )

ب-   طفل أو طفلان ()

i.   ثلاثة أطفال أو أكثر ()

٦.   تزداد احتمالية الإصابة بسرطان الثدي

أ.   اتباع نظام غذائي عالي الدهون ( )

ب.   نظام غذائي عالي البروتين   ( )

ت.   سوء التغذية   ( )

نظام غذائي منخفض الألياف ( )

الجزء الثالث: المظاهر السريرية لسرطان الثدي:

٧.   تشمل التغييرات غير الطبيعية في الثدي أثناء الإصابة بسرطان الثدي

أ.   تهيج الجلد   ( )

ب.   تغيير موضع الحلمة   ()

ت.   احمرار الثدي   ( )

ث.   تسطيح الحلمة   ( )

٨.   فيما يلي علامات التحذير من سرطان الثدي ما عدا

أ.   إفرازات من الحلمة   ( )

ب.   تهيج الجلد   ( )

ت.   كتلة   في الثدي   ( )

ث.   انخفاض حجم الثدي.   ( )

٩.   تشمل الأعراض الرئيسية في مرحلة لاحقة من سرطان الثدي

أ.   تورم جلد الثدي   ( )

ب.   الم عند اللمس على الثدي   ( )

ت.   افرازات من الحلمة   ( )

ث.   تقرح الجلد او ما يشبه قشر البرتقال   ( )

٤. علامة هامة لسرطان الثدي هي

أ. إفراز الحليب ( )

ب. تصريف مائي ( )

ب. لا يوجد تفريغ ( )

د. لا أعرف ( )

٥. في سرطان الثدي ، الحلمة هي:

أ. متقلصة ( )

ب. طبيعي   ( )

ج. منتصبة ( )

د. لا أعرف ( )

الجزء الرابع: تقييم وتشخيص سرطان الثدي

٣.   أسهل وأرخص طريقة للكشف المبكر عن الورم هي

أ- <u>الفحص الذاتي للثدي</u> ( )

ب- تصوير الثدي الشعاعي   ( )

ت- الأشعة السينية ( )

e.   فحص الدم   ( )

١٠.   يجب على المرأة أن تبدأ الفحص الذاتي للثدي في عمر

أ.   ١٨سنة   ( )

ب.   ٢٠ سنة   ( )

ت.   ٢٥ سنة   ( )

ث.   ٤٠ سنة ( )

١١.   جزء من اليد المستخدمة في ملامسة الثدي

أ.   طرف الإصبع   ( )

ب.   كامل باطن اليد   ( )

ت.   السبابة   ( )

ث.   وسادات الاصبع ( )

١٢.   إذا وجدت شيئًا غير طبيعي في الثدي أثناء الفحص الذاتي للثدي ، يجب على المرأة

أ.   استشارة الطبيب   ( )

ب.   ناقش مع الأصدقاء   ( )

ت.   لا تفعل شيئا   ( )

ث.   اذهب إلى المعالج التقليدي   ( )

١٣. الوضعية للفحص الذاتي للثدي يشمل ما يلي باستثناء

أ. الاستلقاء واليد فوق الرأس ( )

ب. الوقوف أمام المرآة ( )

ت. اليد بقوة على الوركين أثناء الوقوف ()

ث. الاستلقاء واليد بشكل مستقيم على الفخذين ()

١٤. فيما يلي الطرق المستخدمة في الفحص الذاتي للثدي ماعدا

أ. طريقة دائرية ( )

ب. طريقة الوتد ()

ت. الطريقة الأفقية ( )

ث. طريقة الخط ()

١٥. يشمل الفحص الذاتي للثدي

أ. افحص الحلمة فقط ()

ب. صدر كامل ()

ت. الربع العلوي من الثدي ( )

ث. الربع السفلي من الثدي ( )

١٦. يجب إجراء الفحص الذاتي للثدي

أ. قبل أسبوع من الحيض ( )

ب. في وقت الإباضة ( )

ت. بعد خمسة أيام من الحيض ()

ث. اليوم الثاني من الحيض ()

١٧. بعد انقطاع الطمث ، فإن أفضل يوم لفحص الثدي هو

أ. كل يوم اثنين ()

ب. مرة كل خمسة عشر يومًا ()

ت. تاريخ آخر دورة شهرية ( )

ث. اليوم الأول من كل شهر ( )

لجزء الخامس: علاج سرطان الثدي

٨. يستخدم الضغط القوي على الثدي للشعور

أ- فصيصات ()

ب- الأنسجة الدهنية للثدي ()

ت- هالة الثدي ()

ث- <u>الصدر والضلوع</u> ()

٩. تكرار الفحص السريري للثدي هو

أ- مرة في الشهر ()

ب- مرة كل سنة ()

ت- <u>مرة كل ثلاث سنوات</u> ()

ث- أبدًا ()

١٠. معدل تكرار تصوير الثدي بالأشعة السينية للنساء من سن ٤٠ فما فوق

أ- مرة في الشهر ()

ب- <u>مرة كل سنة</u> ()

ت- مرة كل ثلاث سنوات ()

ث- أبدًا ()

1

١١.   العلاج الإشعاعي يعني
أ‌-   شعاع من الأشعة لتدمير الأنسجة السرطانية ()
ب‌-   إزالة العقدة الليمفاوية   ()
ت‌-   إزالة الثدي ()
ث‌-   إعطاء الدواء عن طريق الفم ()

١٢.   يستخدم العلاج الإشعاعي لسرطان الثدي
أ‌-   تقليص الورم الكبير   ()
ب‌-   منع تشققات الحلمة   ()
ت‌-   الكشف عن تنقير الجلد (أي جلد الثدي يشبه قشر البرتقال) ()
ث‌-   لإزالة الورم   ()

١٣.   يشير العلاج الكيميائي إلى
أ‌-   الاستئصال الجراحي للثدي   ()
ب‌-   تقنية الشفاء التقليدية ()
ت‌-   استخدام الأدوية السامة للخلايا   ()
ث‌-   الوخز بالإبر   ()

١٤.   من الأفضل استخدام العلاج الكيميائي
أ‌-   قبل الجراحة   ()
ب‌-   أثناء الجراحة   ()
ت‌-   بعد العملية ()
ث‌-   أثناء العلاج الإشعاعي   ()

١٥.   يكون التصوير الاشعاعي للثدي اكثر فعاليه اثناء
أ‌-   لا توجد علامات وأعراض ()
ب‌-   الكتلة كبيرة بما يكفي لتشعر بها   ()
ت‌-   ألم في الثدي   ()
ث‌-   وجود كتلة مرئية في الثدي   ()

١٨.   يتم إجراء الموجات فوق الصوتية للثدي لتحديد ما إذا كان
أ.   السرطان ينتشر   ( )
ب.   حجم الكتلة يتزايد أو يتناقص   ()
ت.   الكتلة صلبة أو سائلة   ( )
ث.   تنقير الثدي (أي جلد الثدي يشبه قشر البرتقال)   ( )

١٩.   عملية إزالة الثدي بالكامل تعني:
أ.   استئصال الرئة   ()
ب.   إزالة الضلوع   ()
ت.   إزالة الحلمة   ()
ث.   استئصال الثدي ()
٢٠.   يشمل العلاج الجراحي ما يلي باستثناء
أ‌-   تشريح العقدة الليمفاوية الإبطية
ب‌-   استئصال الغدة الدرقية   ( )
ت‌-   استئصال اللمفاوية ()

ث- استئصال الثدي الجذري   ()

الجزء الثالث -مقياس الموقف لسرطان الثدي

تعليمات:

يرجى قراءة جميع البيانات بعناية. ضع علامة على إجابتك بوضع علامة التجزئة (√) في العمود المناسب مقابل العبارة. إذا وافقت على العبارة ، ضع علامة في العمود الأول (أ) ، إذا كانت علامتك غير المحددة في العمودين (ن) ، إذا كنت لا توافق على علامة العبارة في العمود الثالث (د).

**الجزء الثالث // أداة لقياس توجه فيما يتعلق بسرطان الثدي**

لا اوافق	محايد	اوافق	الفقرات	ت
			إذا زاد وزني فقد أصاب بسرطان الثدي	١.
			ليس لدي تاريخ عائلي للإصابة بالسرطان ، لذلك قد لا أصاب بالسرطان	٢.
			أمارس الرياضة حتى أكون خالية من خطر الإصابة بسرطان الثدي	٣.
			أعتقد أنه بعد انقطاع الطمث يجب أن أحافظ على الوزن الطبيعي.	٤.
			أعتقد أن الكشف المبكر عن المرض هو إهدار للمال	٥.
			لا بد لي من تقليل تناول موانع الحمل الفموية لمنع الإصابة بسرطان الثدي	٦.
			ليس من الضروري فحص الثدي أثناء الحيض	٧.
			أستشير الطبيب فقط عندما أصاب بسرطان الثدي	٨.
			لن تصاب النساء بعد سن اليأس بسرطان الثدي	٩.
			أعتقد أن الأيورفيدا (الطب البديل ، الأعشاب) هو اختيار العلاج لسرطان الثدي.	١٠
			إذا لم أقم بإرضاع الطفل ، فقد أصاب بسرطان الثدي	١١
			مضغ تدخين التبغ يسبب سرطان الثدي	١٢
			كثيرًا ما أفحص ثديي بحثًا عن أي تغييرات	١٣
			أعتقد أن معدل البقاء على قيد الحياة أقل في سرطان الثدي	١٤
			الفحص الذاتي للثدي ضروري فقط عند وجود مشكله.	١٥

Appendix D

An Educational Program on Awareness and Attitude Concerning Breast Cancer

برنامج تعليمي حول وعي واتجاهات مرض سرطان الثدي
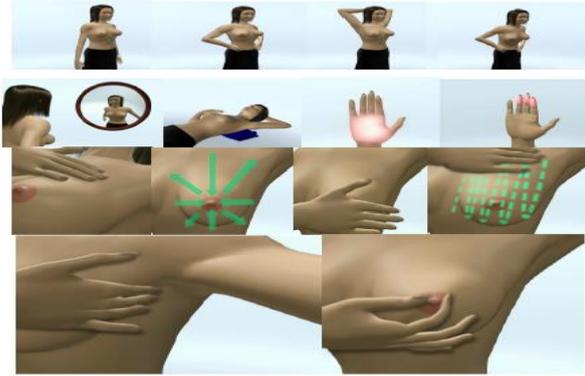
اعداد

طالبة الدكتوراه: هبة جاسم حفيظ

تحت اشراف

الأستاذ الدكتور: فخرية جابر محبس

الأستاذ المساعد الدكتور: ميس هادي جبر

فرع تمريض البالغين

٢٠٢١ـ٢٠٢٢

الأهداف الخاصة:

بعد انتهاء الدراسة، تكون النساء قادرات على:

شرح تركيب الثدي.

مناقشة معنى سرطان الثدي.

شرح أنواع سرطان الثدي.

تسريب عوامل خطر سرطان الثدي.

وصف علامات وأعراض سرطان الثدي.

تذكير بإجراءات الكشف المبكر عن سرطان الثدي.

سرد مراحل سرطان الثدي.

توضيح أهمية الفحص بالأشعة (الماموغرام).

شرح العلاج الجراحي لسرطان الثدي.

مناقشة العلاج بالعلاج الإشعاعي.

وصف العلاج الكيميائي.

الجلسة الأولى:

الأهداف:

١ ـ تعريف سرطان الثدي.

٢ ـ شرح أنواع سرطان الثدي.

٣ ـ التعرف على عوامل الخطر لسرطان الثدي.

أساليب التدريس:

١ ـ وسائط مساعدة بصرية وسمعية.

٢ ـ مناقشة.

٣ ـ عرض توضيحي.

الوقت: ٣٠ـ٤٥ دقيقة.

**المكان: --------------**

المقدمة:

السرطان يقف كعدو قوي ضمن ميدان الصحة البشرية في يومنا هذا، ملقيًا ظلًا من الخوف على الذين يصابون به. طبيعته الخبيثة التي تتآكل بهدوء من الحيوية، تترك الضحايا وأحبائهم في حالة من الاضطراب. بينما تبقى الآليات المعقدة التي تقود سرطانا غامضة، يترنح السيطرة الدقيقة التي يمارسها الجسم البشري عادة على تكاثر الخلايا بوجوده، مما يؤدي إلى ظهور الأورام والأمراض الخبيثة.

يأخذ سرطان الثدي بشكل متميز من بين هذه الأمراض مكانة متقدمة كأكثر أشكال السرطان انتشاراً بين النساء، حيث يحتل المرتبة الثانية كأحد المساهمين الرئيسيين في الوفيات المرتبطة بالسرطان لدى الإناث. تسير

المسار التطوري للثديين عند الذكور والإناث جنبًا إلى جنب حتى بداية فترة البلوغ، والتي تأتي عادة بين سن ١٠ و

١٦. في الإناث، يتم تنظيم تطور الثدي عن طريق تداخل الهرمونات، وعلى وجه الخصوص هرمون الاستروجين.

متجهين نحو التشريح، يتمركز الثدي بين الضلعين الثاني والسادس، ويحتوي على تجمع مكون من ١٢ إلى

٢٠ فص. وكل فص هو تجمع من الفقاعات التي تشع من الحلمة تشبه تشكيلة كونية. وتتألف هذه الفقاعات بدورها

من مجموعات من الحويصلات، وهي وحدات صغيرة تفرز الحليب. توجه هذه الحويصلات غنيمتها السائلة إلى

قنوات صغيرة تنضم معًا لتكوين قنوات حلمية أكبر. وتحدث تلاقي هذه القنوات في قلب الثدي، لتنتهي في الجيب

الحلمي، وهو ممر نحيل يربط بين أعمال الثدي الداخلية وخارج الحلمة. تظهر تعقيدات الفقاعات كشبكة معقدة

مكونة من ١٠ إلى ١٠٠ حويصلة لكل قسم فرعي، وهو تجمع مكرس لإنتاج الحليب.

في سياق الثدي، يظهر تقسيم جغرافي إلى أربعة أجزاء: الجزء العلوي الداخلي، والجزء العلوي الخارجي،

والجزء السفلي الداخلي، والجزء السفلي الخارجي. ومن الجدير بالذكر أنه غالبًا ما يستقر سرطان الثدي في الجزء

العلوي الخارجي، مما يؤسس لنمط محبط.

باختصار القول، تلقي وجود السرطان بظلاله الرهيبة على الصحة البشرية، خصوصًا في شكل سرطان

الثدي. في حين تستمر الألغاز الكامنة وراء بداية المرض، يقدم تركيب الثدي لمحة مذهلة عن تعقيداته، مؤكدًا في

الوقت نفسه على هشاشته ومرونته الملحوظة.
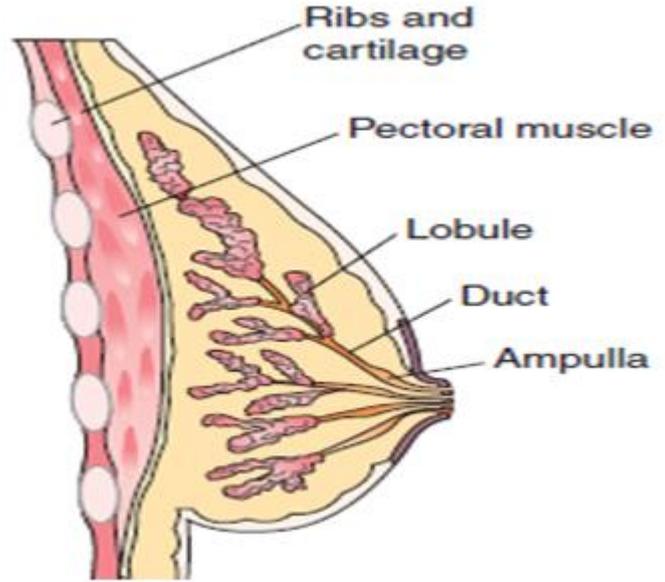
الشكل رقم ١: تشريح الثدي
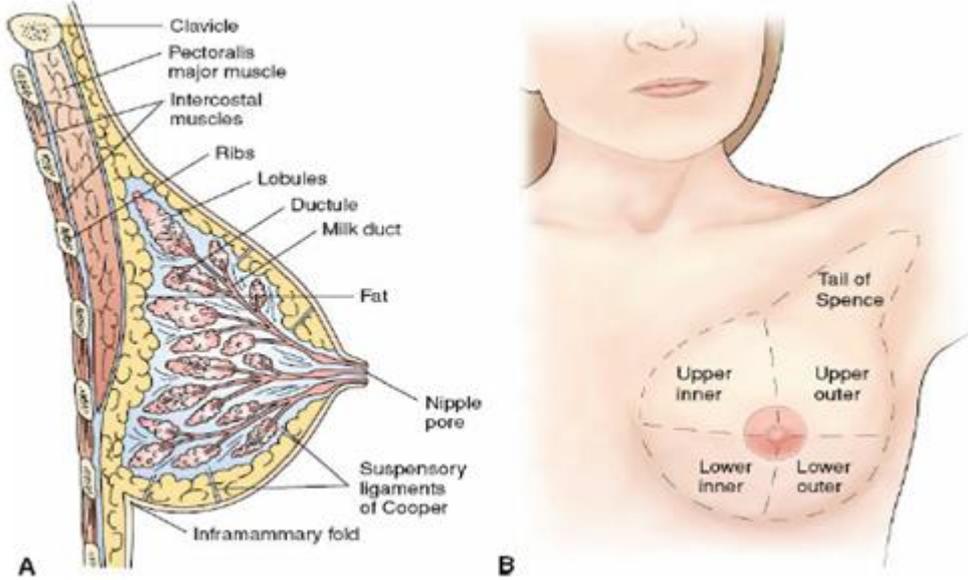
الشكل رقم ٢: أ. تشريح الثدي. ب. مناطق الثدي بما في ذلك ذيل سبنس

وظائف الثدي:

فيما يلي وظائف سرطان الثدي.

النمو والتطور

الدورة الشهرية

تنتج الغدد الثديية الحليب بعد ولادة الطفل.

معنى سرطان الثدي:

سرطان الثدي هو مرض ينمو فيه خلايا السرطان في أنسجة الثدي، أو هو النمو غير الطبيعي لخلايا الثدي. يحدث السرطان عندما تتقسم الخلايا في الجسم بدون تحكم أو ترتيب. يتم تسمية الأورام السرطانية باسم الجزء من الجسم الذي ينبعث منه. ينبع سرطان الثدي من أنسجة الثدي. مثل غيرها من أنواع السرطان، يمكن لسرطان الثدي غزو ونمو في أنسجة أخرى (استئصال) المحيطة بالثدي. إنه المرض الأكثر انتشارًا بعد سرطان الرئة فقط.

أنواع سرطان الثدي:

سرطان القنوات (DCIS):

يتميز سرطان القنوات في الموقع (DCIS) بانتشار الخلايا الخبيثة داخل قنوات الحليب دون غزو للأنسجة المحيطة. على عكس سرطان الثدي الغزوي، لا ينتشر سرطان القنوات في الموقع وعادةً ما لا تموت المرأة بسببه ما لم يتطور إلى سرطان الثدي الغزوي. يمكن أن يتطور سرطان القنوات في الموقع إلى سرطان الثدي الغزوي إذا لم يتم علاجه. تشير التقديرات الأفضل إلى أن نسبة تتراوح بين ١٤% إلى ٥٣% من سرطان القنوات في الموقع الذي لم يتم علاجه يتطور إلى سرطان الثدي الغزوي على مدى ١٠ سنوات أو أكثر. ومع ذلك، ليس هناك فهم جيد للتاريخ الطبيعي لسرطان القنوات في الموقع، وحاليًا لا يمكن توقع أي امرأة تعاني من سرطان القنوات في الموقع ستتطور إلى سرطان الثدي الغزوي بدقة. يظهر سرطان القنوات في الموقع في كثير من الأحيان على صورة أشعة الثدي بمظهر التكلسات ويُعتبر مرحلة سرطان الثدي ٠.

الإدارة طبية:

تأخذ الإدارة الحالية في الاعتبار (١) التأكد من تشخيص دقيق، (٢) تقييم حجم ودرجة سرطان القنوات في الموقع، و (٣) تقييم حافة الجرح بعناية. يحلل عالم الأمراض القطعة من أنسجة الثدي المستأصلة لتحديد نوع ودرجة سرطان القنوات في الموقع أو مدى غير انتظام الخلايا عند مقارنتها بخلايا الثدي الطبيعية ومدى سرعة نموها. تميل الخلايا من الدرجة الثالثة (سرطان القنوات في الموقع عالي الدرجة) إلى النمو بسرعة أكبر من الدرجة الأولى (سرطان القنوات في الموقع منخفض الدرجة) والدرجة الثانية (سرطان القنوات في الموقع متوسط الدرجة) وتبدو مختلفة جدًا عن الخلايا الطبيعية للثدي. التصنيف الدقيق لسرطان القنوات في الموقع أمر حاسم، لأن الدرجة النووية العالية ووجود النخر (الموت المبكر للخلايا في الأنسجة الحية) يتنبأان بشكل كبير بعدم القدرة على تحقيق حدود مناسبة أو حدود من الأنسجة السليمة حول الورم، وبالتالي انتشار محلي، واحتمالية تفويت مناطق الغزو. يجب ميزانية جيدة للمزايا والعيوب للمرضى الذين يعالجون بشكل محافظ لسرطان القنوات في الموقع من حالة إلى حالة.

عوامل الخطر

☒ سرطان الثدي هو مرض معقد، ويمكن أن يؤثر تطوره على مجموعة من العوامل الوراثية والبيئية وأسلوب الحياة. بعض العوامل المفتاحية التي ذكرتها تشمل:

☒ العمر: يزداد خطر إصابة سرطان الثدي مع التقدم في العمر، خصوصًا بعد سن الـ٣٥، ويصل إلى ذروته في الخمسينات. يمكن للنساء الشابات أيضًا أن يصابن بسرطان الثدي، ولكنه أقل شيوعًا.

☒ تاريخ العائلة والوراثة: تاريخ عائلي لسرطان الثدي، خصوصًا بين الأقارب القريبين مثل الأمهات أو الأخوات، يمكن أن يزيد من الخطر. ترتبط الطفرات في جينات BRCA1 وBRCA2 بشكل كبير بسرطان الثدي الوراثي.

☒ عوامل تتعلق بالإنجاب: العوامل المتعلقة بالإنجاب، مثل إجراء أول حمل في سن متأخرة، وعدم الإنجاب، وبداية سن الحيض المبكرة، وتأخر سن اليأس، يمكن أن تؤثر على خطر الإصابة بسرطان الثدي.

☒ الهرمونات: مستويات مرتفعة من الاستروجين والبروجستيرون، سواء كان ذلك من استخدام علاج الهرمونات التعويضية أو استخدام طويل لحبوب منع الحمل، يمكن أن تزيد من خطر الإصابة بسرطان الثدي.

☒ الرضاعة الطبيعية: عدم الرضاعة الطبيعية أو الرضاعة لفترات قصيرة قد تكون مرتبطة بزيادة خطر سرطان الثدي.

☒ النظام الغذائي ونمط الحياة: النظام الغذائي السيء، واستهلاك الكحول بكميات كبيرة، وزيادة استهلاك لحوم البقر واللحوم المصنعة، ونمط حياة غير نشط، هي عوامل يمكن أن تسهم في زيادة خطر سرطان الثدي. السمنة مرتبطة أيضًا بزيادة الخطر.

☒ الوضع الاقتصادي والاجتماعي: تشير بعض الدراسات إلى أن النساء ذوات الوضع الاقتصادي الأعلى قد تكون لديهن خطرًا أعلى للإصابة بسرطان الثدي بسبب عوامل مثل تأخير الإنجاب وعادات الحياة.

☒ التمرين البدني: النشاط البدني المنتظم يرتبط بتقليل خطر سرطان الثدي.

☒ الضوء والإشعاع: التعرض للضوء الاصطناعي في الليل والتعرض المتكرر للإشعاع، مثل الأشعة السينية، يمكن أن يزيد بشكل محتمل من خطر سرطان الثدي.

☒ الوراثة: بالإضافة إلى طفرات BRCA، يمكن أن تسهم عوامل وراثية أخرى في خطر سرطان الثدي.

☒ الخزعة السابقة للثدي: النساء اللواتي أجري لديهن خزعة سابقة للثدي، خصوصًا إذا كانت النتائج غير طبيعية، قد يكون لديهن خطر مرتفع.

☒ مؤشر كتلة الجسم والنشاط البدني: مؤشر كتلة الجسم العالي ومستويات النشاط البدني المنخفضة مرتبطة بزيادة خطر سرطان الثدي.

من المهم ملاحظة أن وجود عامل أو أكثر من العوامل المؤثرة لا يضمن بالضرورة أن الشخص سيصاب بسرطان الثدي. بالمثل، عدم وجود هذه العوامل المؤثرة لا يضمن منع الإصابة بالمرض. يمكن أن تساعد الفحوص الذاتية المنتظمة للثدي، والفحوص السريرية، والتصوير بالأشعة على اكتشاف المرض في مراحله المبكرة وزيادة فرص العلاج.

يمكن أن تتفاعل هذه العوامل بطرق معقدة وقد تختلف من شخص لآخر. يمكنني المساعدة في تقديم المزيد من المعلومات حول كل من عوامل الخطر هذه:

❖ زيادة العمر: يميل خطر الإصابة بسرطان الثدي إلى الزيادة مع تقدم الشخص في السن، ويكون الخطر الأكبر بعد سن الخمسين.

❖ التاريخ الشخصي أو العائلي لسرطان الثدي: إن وجود تاريخ شخصي للإصابة بسرطان الثدي أو تاريخ عائلي للإصابة بسرطان الثدي، وخاصةً لدى القريبات من الدرجة الأولى (الأم، الأخت، الابنة)، يزيد من خطر الإصابة بسرطان الثدي.

❖ الخطورة في الثدي الآخر: إذا كانت المرأة قد أصيبت بسرطان الثدي في أحد الثديين، فإن خطر الإصابة بسرطان الثدي في الثدي الآخر يزداد بحوالي ١% سنوياً.

❖ الحيض المبكر: يرتبط بدء الحيض قبل سن ١٢ عامًا (الحيض المبكر) بزيادة طفيفة في خطر الإصابة بسرطان الثدي.

❖ عدم الإنجاب وتأخر عمر الأم عند الولادة الأولى: النساء اللاتي لم ينجبن مطلقًا (عدم الإنجاب) أو أنجبن طفلهن الأول بعد سن الثلاثين قد يكون لديهن خطر أكبر للإصابة بسرطان الثدي مقارنة بالنساء اللاتي لديهن طفلهن الأول قبل سن العشرين.

❖ انقطاع الطمث المتأخر: انقطاع الطمث بعد سن ٥٥ عامًا يزيد من خطر الإصابة بسرطان الثدي. ومع ذلك، فإن النساء اللاتي خضعن لعملية استئصال المبيض الثنائي (إزالة كلا المبيضين) قبل سن ٣٥ عامًا لديهن خطر أقل.

❖ تاريخ مرض الثدي التكاثري الحميد: إن وجود تاريخ لأنواع معينة من حالات الثدي الحميدة التي تظهر زيادة في نمو الخلايا (انتشارها) يمكن أن يزيد بشكل طفيف من خطر الإصابة بسرطان الثدي.

❖ التعرض للإشعاعات المؤينة: التعرض للإشعاعات المؤينة، وخاصة بين سن البلوغ وسن الثلاثين، يمكن أن يزيد من خطر الإصابة بسرطان الثدي.

❖ السمنة: ترتبط السمنة بزيادة خطر الإصابة بسرطان الثدي بعد انقطاع الطمث. يتم تخزين هرمون الاستروجين، الذي يمكن أن يعزز نمو بعض أنواع سرطان الثدي، في الأنسجة الدهنية، ويمكن أن تؤدي السمنة إلى ارتفاع مستويات هرمون الاستروجين.

❖ العلاج بالهرمونات البديلة (HRT): العلاقة بين العلاج بالهرمونات البديلة (باستخدام هرمون الاستروجين و/أو البروجسترون) وخطر الإصابة بسرطان الثدي معقدة. قد يرتبط الاستخدام طويل الأمد لمكملات الإستروجين من قبل النساء الأكبر سناً لأكثر من ٥ سنوات بزيادة المخاطر.

❖ تناول الكحول: يرتبط تناول الكحول بزيادة خطر الإصابة بسرطان الثدي. قد يكون الخطر أعلى مع ارتفاع مستويات استهلاك الكحول.

من المهم ملاحظة أنه على الرغم من أن هذه العوامل يمكن أن تؤثر على خطر الإصابة بسرطان الثدي، إلا أن وجود واحد أو أكثر من عوامل الخطر هذه لا يعني بالضرورة أن الشخص سيصاب بسرطان الثدي. يمكن أن يلعب فحص الثدي المنتظم والكشف المبكر ونمط الحياة الصحي أدوارًا حاسمة في تقليل خطر الإصابة بسرطان الثدي بشكل عام. إذا كانت لديك مخاوف بشأن سرطان الثدي أو عوامل الخطر المرتبطة به، فمن المستحسن استشارة أخصائي الرعاية الصحية.

الجلسة الثانية

جلسة حول علامات سرطان الثدي وأعراضه والكشف المبكر عنه

المواضيع:

✓ **شرح علامات وأعراض سرطان الثدي.**

✓ **وصف أهمية الكشف المبكر عن سرطان الثدي.**

✔ **قائمة تدابير الكشف المبكر.**

طرق التدريس:

❖ الوسائل السمعية والبصرية (A.V. Aids)

❖ مناقشة

❖ توضيح

❖ المدة: ٣٠ـ٤٥ دقيقة

مقدمة (٥ دقائق)

الترحيب بالمشاركين والتعريف بموضوع سرطان الثدي.

تسليط الضوء على أهمية الكشف المبكر في تحسين معدلات البقاء على قيد الحياة.

_____

علامات وأعراض سرطان الثدي:

غالبًا ما تحدث سرطانات الثدي في الربع الخارجي العلوي من الثدي.

عادة ما تكون الآفات غير مؤلمة وثابتة وصلبة ولها حدود غير منتظمة.

عادة ما ترتبط الشكاوى من آلام الثدي المنتشرة والحنان مع الحيض بأمراض الثدي الحميدة.

ومع زيادة استخدام التصوير الشعاعي للثدي، يسعى عدد أكبر من النساء إلى الحصول على العلاج في مراحل مبكرة.

تشمل بعض العلامات المتقدمة نقر الجلد أو تراجع الحلمة أو تقرح الجلد.

✔ إشارات تحذير:

✔ تغيرات في شكل أو حجم الحلمة أو الثدي.

✔ تغيرات في موضع الحلمة أو لونها.

✔ تنقير، أو تقشر، أو تغير لون، أو انبعاج الجلد.

✔ كتلة أو تورم في الثدي أو الإبط أو الذراع.

✔ ألم في الثدي أو الإبط.

✔ كتلة أو سماكة مميزة تبدو مختلفة عن بقية الثدي.

الأعراض مع تطور السرطان:

✔ قد تكون الأعراض الأولية عبارة عن كتلة أو سماكة في الثدي أو الرقبة أو بالقرب منهما.

✔ تغيرات في حجم أو شكل الثدي.

✔ إفرازات من الحلمة أو ألمها أو تراجعها.

✔ تغيرات في مظهر هالة الثدي أو الحلمة، مثل الاحمرار أو التورم أو التقشر.

✔ في المراحل اللاحقة، قد يحدث ألم وتقرح وتغيرات في الجلد تشبه قشر البرتقال.

أهمية الكشف المبكر:

سبب سرطان الثدي غير معروف، لذا فإن الكشف المبكر والعلاج أمر بالغ الأهمية.

في كثير من الأحيان لا تظهر الأعراض في المراحل المبكرة من سرطان الثدي، مما يجعل اختبارات الفحص ضرورية.

إن الكشف المبكر عن سرطان الثدي يزيد بشكل كبير من فرص نجاح العلاج.

تدابير الكشف المبكر:

✓ الفحص الذاتي للثدي (BSE): فحص الثدي بانتظام بحثًا عن أي تغييرات أو تشوهات.

✓ فحص الثدي السريري: الحصول على فحص من قبل أخصائي الرعاية الصحية للكشف عن أي تغييرات جسدية.

✓ تصوير الثدي بالأشعة السينية: أشعة سينية متخصصة يمكنها اكتشاف سرطان الثدي قبل أن يصبح ملحوظًا.

الإجراءات الوقائية: اعتماد نمط حياة صحي، وإدارة عوامل الخطر، وإجراء الفحوصات الدورية.

تذكر أن هذه المعلومات قيمة، ولكن من المهم دائمًا استشارة أخصائي الرعاية الصحية للحصول على نصائح دقيقة وحديثة، خاصة فيما يتعلق بالتدابير الوقائية واستراتيجيات الكشف المبكر.

الجزء الأول: علامات وأعراض سرطان الثدي (١٠ دقائق)

استخدم الوسائل السمعية والبصرية (الرسوم البيانية والرسوم البيانية والصور) لتوضيح بنية الثدي والمواقع الشائعة لسرطان الثدي.

اشرح الخصائص العامة لآفات سرطان الثدي: غير مؤلمة، ثابتة، صلبة ذات حدود غير منتظمة.

التأكيد على أهمية التعرف على العلامات والأعراض المبكرة لبدء الرعاية الطبية في الوقت المناسب.

الجزء الثاني: العلامات والأعراض التحذيرية (١٠ دقائق)

ناقش العلامات التحذيرية التي يجب أن يكون المشاركون على دراية بها، مثل التغيرات في شكل/حجم الحلمة، وتغيرات الجلد، والكتل، والألم، وتشوهات الحلمة.

استخدم الصور لإظهار أمثلة مرئية لعلامات التحذير.

الجزء ٣: أهمية الكشف المبكر (٥ دقائق)

تسليط الضوء على الأسباب المجهولة لسرطان الثدي وأهمية الكشف المبكر.

اشرح أن الاكتشاف المبكر يزيد من فرص نجاح العلاج.

شارك الإحصائيات أو قصص النجاح لتعزيز أهمية الكشف المبكر.

الجزء الرابع: إجراءات الكشف المبكر (١٠ دقائق)

اشرحي إجراءات الكشف المبكر الثلاثة الرئيسية: الفحص الذاتي للثدي (BSE)، وفحص الثدي السريري (CBE)، والتصوير الشعاعي للثدي.

استخدم العرض التوضيحي لتوضيح للمشاركين كيفية إجراء الفحص الذاتي.

ناقش التكرار الموصى به لكل طريقة من طرق الكشف المبكر بناءً على العمر وعوامل الخطر.

الجزء الخامس: التدابير الوقائية (٥ دقائق)

تطرق بإيجاز إلى عوامل نمط الحياة التي قد تقلل من خطر الإصابة بسرطان الثدي (مثل الحفاظ على وزن صحي وممارسة التمارين الرياضية بانتظام والحد من تناول الكحول).

وشدد على أنه على الرغم من أهمية الوقاية، إلا أن الكشف المبكر يظل أمرا بالغ الأهمية.

الخلاصة والأسئلة والأجوبة (٥ دقائق)

تلخيص النقاط الرئيسية التي تم تناولها خلال الجلسة.

افتح المجال للأسئلة وشجع المشاركين على طرح أي شكوك توضيحية.

الجلسة الثالثة

الفحص الذاتي

تعريف فحص الثدي الذاتي (BSE):

فحص الثدي الذاتي (BSE) هو أبسط طريقة للكشف المبكر عن تكتلات الثدي. يتضمن ذلك تفحص الثديين بصرياً ولمسياً لاكتشاف أي تغيرات غير عادية. يعزز الكشف عن سرطان الثدي في مراحله المبكرة بشكل كبير من فرص العلاج الناجح. يجب أن يبدأ فحص الثدي الذاتي حوالى سن العشرين ويجب أن يُجرى شهرياً. عندما تصبحين على دراية بملمس ثدييك مع مرور الوقت، ستكونين قادرة على التعرف على أي تكتلات جديدة.

أفضل وقت لفحص الثدي الذاتي:

بالنسبة للنساء قبل انقطاع الطمث، أفضل وقت لفحص الثدي الذاتي هو بعد حوالى أسبوع من الدورة الشهرية. بالنسبة للنساء بعد انقطاع الطمث، يُوصى باختيار يوم محدد في كل شهر، مثل اليوم الأول، لإجراء فحص الثدي الذاتي. النساء اللاتي يرضعن يجب أن يقومن بفحص الثدي الذاتي بعد حوالى أسبوع من نهاية الدورة الشهرية.

خطوات فحص الثدي الذاتي:

فحص الثدي الذاتي هو عملية منهجية تشمل فحص بصري وامتحان لمسي. غالبًا ما يتم القيام به أمام مرآة لتقييم التناظر والتجاعيد. تشمل خطوات فحص الثدي الذاتي ما يلي:

الخطوة ١ (الفحص البصري):

➢ واقفة أمام مرآة.

➢ افحصي الثديين عن أي تغيرات غير عادية مثل تسرب من الحلمة، أو تجاعيد، أو تجمعات في الجلد.

الخطوة ٢ (فحص التجاويف):

➢ ضعي يديك خلف رأسك وافركي يديك إلى الأمام.

➢ لاحظي أي تغيرات في تجاويف ثدييك.

الخطوة ٣ (فحص التجاويف ـ استمرار):

➢ ضغطي يديك بقوة على أوراقك، واعبُري قليلاً نحو المرآة، واسحبي كتفيك ومرفقيك للأمام.

➢ لاحظي أي تغير في تجاويف ثدييك.

الخطوة ٤ (امتحان لمسي):

➢ يمكن القيام بهذه الخطوة أثناء الاستحمام لتسهيل حركة الأصابع على البشرة المغسولة بالصابون.

➢ رفعي ذراعك الأيسر.

➢ استخدمي ثلاثة أو أربعة أصابع من يدك اليمنى للمس بلطف ثديك الأيسر بحركات دائرية صغيرة.

➢ ابدئي من الحافة الخارجية وانتقلي ببطء حول الثدي، مغطية المنطقة بأكملها.

➢ انتبهي للمنطقة بين الثدي والإبط.

➢ ابحثي عن تكتلات غير عادية تحت الجلد.

➢ كرري الامتحان على ثديك الأيمن.

الخطوة ٥ (امتحان واقية):

➢ استلقي على ظهرك بيدك الأيسر فوق رأسك ووسادة أو منشفة مطوية تحت كتفك الأيسر.

➢ استخدمي نفس الحركة الدائرية لفحص ثدييك.

➢ كرري العملية على ثديك الأيمن

طرق التدريس:

يمكن إجراء الجلسة باستخدام طرق التدريس المختلفة:

الوسائل السمعية والبصرية: استخدم العناصر المرئية أو الرسوم البيانية أو مقاطع الفيديو لتعزيز الفهم.

المناقشة: قم بإشراك المشاركين في محادثة حول مرض جنون البقر، والإجابة على أي أسئلة.

العرض التوضيحي: قم بإظهار كل خطوة فعليًا، مما يسمح للمشاركين بالمتابعة.

الجلسة الرابعة:

فحص الثدي السريري

أهداف:

١ ـ شرح فحص الثدي السريري :

٢ ـ مناقشة الماموجرام

٣ ـ قائمة الكشف المبكر للإجراء الوقائي

٤ ـ وصف العلاج الطبي لسرطان الثدي

طرق التدريس:

١-مساعدات A.V

٢ ـ المناقشة

٣ ـ التظاهر

الوقت: ٣٠ـ٤٥ دقيقة

مكان: --------------

فحص الثدي السريري:

فحص الثدي السريري (CBE) هو إجراء موحد حيث يقوم مقدم الرعاية الصحية بفحص ثدي المرأة وجدار الصدر والإبطين. يتكون الفحص من :

➢ الفحص البصري للثدي بينما تكون المرأة في وضع مستقيم وذراعيها مسترخيتين ثم ترفعان فوق رأسها.

➢ جس الإبطين والحفريات فوق الترقوة عندما تكون المرأة في وضع مستقيم

➢ ملامسة الثديين أثناء وضعية المرأة المستقيمة والمستلقية. يقوم الفاحص بفحص الثدي بصريًا بحثًا عن التماثل، وجلد الثدي، والهالة، والحلمة بحثًا عن الوذمة، أو الحمامي، أو التجعد، أو التنقير، أو

التقرح، وكلها يمكن أن تكون دليلاً على وجود كتل كامنة. يقوم المزود بتحسس العقد الإبطية الإقليمية. يمكن أن تشير العقد الصلبة أو المتشابكة أو الثابتة المتضخمة إلى السرطان. يعد تدريب CBE ضروريًا كمساهم رئيسي في التشخيص السريع لمرض الأعراض. بالإضافة إلى ذلك، من المحتمل أن يتم استخدامه في المناطق التي لا يتوفر فيها فحص التصوير الشعاعي للثدي.

عدد مرات إجراء فحص الثدي السريري:

يجب على النساء اللاتي تتراوح أعمارهن بين ٢٠ و٣٩ عامًا إجراء فحص سريري للثدي من قبل أخصائي صحي كل ثلاث سنوات. اعتبارًا من سن الأربعين، يجب على النساء إجراء فحص الثدي من قبل متخصصي الرعاية الصحية كل عام.

الماموجرام:

تصوير الثدي بالأشعة السينية هو الطريقة الأكثر فعالية لاكتشاف سرطان الثدي في وقت مبكر. ما يصل إلى عامين قبل أن يصبح الورم كبيرًا بما يكفي للشعور به. تصوير الثدي بالأشعة السينية هو نوع خاص من الأشعة السينية للثدي. كمية الإشعاع المستخدمة في الأشعة السينية قليلة جداً وغير ضارة. يكشف تصوير الثدي بالأشعة السينية عن السرطان لأن السرطان أكثر كثافة (سمكًا) من الجزء الطبيعي من الثدي. إن التخطيط لإجراء تصوير الثدي بالأشعة السينية بعد فترة قصيرة من الدورة الشهرية يجعل الأمر أقل إزعاجًا لأن الثدي قد يكون أقل إيلامًا.

تكرار تصوير الثدي بالأشعة السينية:

يجب على النساء في سن الأربعين وما فوق إجراء تصوير الثدي بالأشعة السينية كل عام. للنساء أقل من ٤٠ لا ينصح. إذا كان لديك عامل خطر للإصابة بسرطان الثدي، مثل التاريخ العائلي لسرطان الثدي، فقد يرغب طبيبك في إجراء تصوير الثدي بالأشعة السينية في كثير من الأحيان أو البدء في إجراء ذلك في وقت أقرب.

الإجراءات الوقائية للكشف المبكر:

➢ الاحتياطات الغذائية: يجب على النساء تجنب الأطعمة الغنية بالدهون والكربوهيدرات وتناول نظام غذائي غني بالألياف. يساعد فيتامين C والبيتا كاروتين والمواد الكيميائية النباتية الموجودة في الفواكه والخضروات والحبوب الكاملة على التحقق من نمو الخلايا السرطانية. الثوم والبروكلي والشاي الأخضر والكركم لها تأثيرات مضادة للسرطان. بروتينات الصويا لها تأثير مخفض للكوليسترول، مما يقلل من خطر الإصابة بسرطان الثدي.

➢ التمارين: التمارين المنتظمة تقي من جميع الأمراض. يوفر النشاط القوي حماية إضافية من خلال رفع سن البلوغ. توصي منظمة الصحة العالمية بممارسة النشاط البدني بانتظام على الأقل ٣ إلى ٤ أيام في الأسبوع لمدة ٢٠ إلى ٣٠ دقيقة يوميًا.

➢ الحماية من الإشعاع: يجب تجنب التعرض المتكرر للإشعاعات مثل الأشعة السينية.

➢ التخطيط لعائلة: الحمل المبكر قبل سن الثلاثين له تأثير وقائي على الثدي.

➢ ممارسات الرضاعة الطبيعية: الرضاعة تقلل من خطر الإصابة بسرطان الثدي. يكون هذا التأثير الوقائي أكبر بالنسبة للنساء اللاتي خضعن لفترات طويلة من الرضاعة الطبيعية خلال حياتهن.

➢ الاستخدام الخاضع للرقابة لحبوب منع الحمل: يجب تجنب حبوب منع الحمل في سن مبكرة ولا ينبغي تناولها لفترة طويلة.

الإدارة الطبية:

✓ **العلاج الجراحي:**

تعد جراحة الحفاظ على الثدي مع العلاج الإشعاعي واستئصال الثدي الجذري المعدل مع أو بدون إعادة البناء من الخيارات الشائعة لسرطان الثدي.

✓ تشريح العقدة الليمفاوية الإبطية: تشريح العقدة الليمفاوية النموذجية، حيث تتم إزالة ١٠ ـ١٥ عقدة ليمفاوية.

✓ جراحة الحفاظ على الثدي (استئصال الورم): تتضمن إزالة الورم بأكمله بعد العلاج الإشعاعي الجراحي.

✓ استئصال الثدي الجذري المعدل: ويشمل إزالة الغدد الليمفاوية في الثدي والغدد الليمفاوية الإبطية. يتم اختياره إذا كان الورم كبيرًا جدًا بحيث لا يمكن استئصاله.

العلاج الإشعاعي:

الحالات الثلاثة التي يمكن فيها استخدام العلاج الإشعاعي لسرطان الثدي.

ـ لتدمير أو منع تكرار المحلية.

ـ لتقليص حجم الورم الكبير.

ـ كعلاج مسكن للألم الناتج عن النقيلة.

يتم تشعيع الثدي يومياً على مدى ٥ – ٦ أسابيع تقريباً. يتم إرسال شعاع خارجي من الإشعاع إلى المنطقة التي يوجد بها الورم الأصلي.

العلاج الكيميائي:

يشير العلاج الكيميائي إلى استخدام الأدوية السامة للخلايا لتدمير الخلايا السرطانية. يستخدم العلاج الكيميائي قبل الجراحة. سيكون العلاج الكيميائي قبل العملية الجراحية أكثر ملاءمة من العلاج بعد العملية الجراحية، فهو يقلل من حجم الورم مما يسمح بإجراء عملية جراحية أقل شمولاً.

References:

Hinkle, J. L., & Cheever, K. H. (2018). Brunner and Suddarth's textbook of medical-surgical nursing. Wolters kluwer india Pvt Ltd.

Pillitteri, A. (2018). Maternal & child health nursing: care of the childbearing & childrearing family.

Appendix D

Lippincott Williams & Wilkins.

Hatfield, N. T. (2013). Introductory maternity and pediatric nursing. Lippincott Williams & Wilkins.

Ricci, S. S., & Kyle, T. (2009). Maternity and pediatric nursing. Lippincott Williams & Wilkins.

Linton, A. D. (2015). Introduction to medical-surgical nursing. Elsevier Health Sciences.

Lewis, S. L., Bucher, L., Heitkemper, M. M., Harding, M. M., Kwong, J., & Roberts, D. (2016). Medical-Surgical Nursing-E-Book: Assessment and Management of Clinical Problems, Single Volume. Elsevier Health Sciences.

Timby, B. K., & Smith, N. E. (2013). Introductory medical-surgical nursing. Lippincott Williams & Wilkins.

Appendix D

Panel of Experts

سنوات الخدمة	مكان العمل	الشهادة والاختصاص	اللقب العلمي	اسم الخبير	ت
جامعة بابل\كلية التمريض	٣٨	دكتوراه في تمريض صحة المجتمع	أستاذ	د. سلمى كاظم جهاد	٢
جامعة بابل\كلية التمريض	٣٧	دكتوراه في تمريض صحة المجتمع	أستاذ	د. امين عجيل الياسري	١
كلية التمريض/جامعة بغداد	٣٧	تمريض البالغين	استاذ	د . حسين هادي عطية	٩
جامعة بغداد/ كلية التمريض	٣٥	دكتوراه في تمريض البالغين	أستاذ	د. هدى باقر حسن	٧
دائرة صحة الديوانية \م. الديوانية للنسائية والاطفال	٣٥	طب نسائية وتوليد	طبيبة اخصائية	د. سوسن علي عبود العبيدي	١٢
جامعة بابل\كلية التمريض	٢٨	دكتوراه في تمريض البالغين	أستاذ	د. شذى سعدي	٣
جامعة بغداد \كلية التمريض	٢٧	دكتوراه في تمريض صحة المجتمع	أستاذ	د. هالة سعدي عبد الواحد	٤
كلية التمريض/جامعة بابل	٢٧	دكتوراه في تمريض البالغين	أستاذ	د. سحر ادهم	٥
كلية التمريض/جامعة بغداد	٢٧	دكتوراه تمريض صحة الاسرة والمجتمع	أستاذ	د. وسام جبار قاسم	٨
دائرة صحة الديوانية \م. الديوانية التعليمي	٢٧	بورد في طب صحة المجتمع	طبيب اختصاص	د. صباح محسن حمزة الزاملي	١١
كلية التمريض/جامعة بغداد	١٦	دكتوراه في تمريض البالغين	أستاذ مساعد	د. صادق عبد الحسين حسن	٦
كلية التمريض/جامعة العميد	١٦	دكتوراه تمريض البالغين	أستاذ مساعد	د .ضياء كريم عبد علي	١٠
كلية التمريض/جامعة الكوفة	١٦	دكتوراه تمريض البالغين	استاذ مساعد	د. ابراهيم علوان كاظم	١٣

Appendix D

Ref. No.:
Date: / /

العدد : ٨٢١٨
التاريخ: ٢٠٢٣/٥/

الـواردة
العدد/ ١٣٣٠
التاريخ ٢٠٢٣/٥/

كلية التربية الاساسية
شعبة الموارد البشرية
الصادرة

الى/ جامعة بابل / كلية التمريض

م/ تقويم لغوي

نهديكم اطيب التحيات ...

كتابكم ذو العدد ١٨٨٢ في ٢٠٢٣/٥/١٧ نعيد اليكم اطروحة طالبة الدراسات العليا /
الدكتوراه (هبة جاسم حافظ عيدان) الموسومة بـ (فاعلية برنامج تعليمي في التوعية والتوجيهات فيما
يتعلق بسرطان الثدي لدى النساء اللاتي يترددن على مراكز الرعاية الصحية الأولية في مدينة
الديوانية) بعد تقويمها لغوياً واسلوبياً من قبل (م.حياة حسن كاظم) وهي صالحة للمناقشة بعد الاخذ
بالملاحظات المثبتة على متنها.

... مع الاحترام ...

المرفقات/
- رسالة الماجستير
- إقرار المقوم اللغوي.

أ.د. فراس سليم حياوي
معاون العميد للشؤون العلمية
٢٠٢٣/٥/

نسخة منه الى/
- مكتب السيد العميد المحترم .. للتفضل بالاطلاع مع الاحترام
- م.حياة حسن كاظم.
- الشؤون العلمية.
- الصادرة.

زينب//

الخلاصة

الخلفية: تشير فعالية البرنامج التعليمي حول وعي المرأة وموقفها فيما يتعلق بسرطان الثدي إلى تأثير ونتائج مبادرة مستهدفة تهدف إلى تعزيز فهم النساء لسرطان الثدي ومخاطره وطرق الكشف عنه وخيارات العلاج. تم تصميم هذه البرامج لزيادة الوعي والمواقف الإيجابية بين النساء ، مما يؤدي في النهاية إلى تحسين الكشف المبكر ، وزيادة الرغبة في طلب المشورة الطبية ، وتحسين الالتزام بممارسات الفحص الموصى بها

المنهجية: استخدمت هذه الدراسة منهجا تجريبيا مسبقا للتحقيق في تأثير برنامج التدخل على الوعي بسرطان الثدي والمواقف بين سكان مدينة الديوانية ، والذي امتد من ٢٠ أكتوبر ٢٠٢١ إلى ١٥ مايو ٢٠٢٣. شملت الدراسة عينة من ٦٠ فردا ، مع جمع البيانات من خلال الاختبارات السابقة للعام الأول والثاني. وقد كفل التحقق الدقيق من قبل المهنيين صحة الاستبيان، وأثبتت دراسة تجريبية موثوقيته. تم جمع البيانات من خلال المقابلات وتحليلها باستخدام كل من التقنيات الإحصائية الوصفية والاستدلالية .

النتائج: أظهرت النتائج أن متوسط العمر ٣١ سنة، معظمهم من النساء المتزوجات المقيمات في المناطق الحضرية والعاطلات عن العمل. كشف التقييم الأولي قبل التدخل أن نسبة كبيرة (٨٥٪ و ٥٠٪) من النساء أظهرن معرفة غير كافية بسرطان الثدي ولدين مواقف غير مواتية تجاهه. وبعد تنفيذ برنامج التدخل، أشارت نتائج ما بعد الاختبار الأول إلى تحسن ملحوظ في كل من المعرفة والمواقف الإيجابية بين النساء (حوالي ٨٥ في المائة و ٦٦,٧ في المائة). واستمرت هذه المكاسب في الاستجابات التي لوحظت بعد شهر.

الاستنتاجات: إن التنفيذ التعاوني لمثل هذه البرامج جنبا إلى جنب مع المتخصصين في التمريض، والذي يتضمن تدخلات مستهدفة للأمهات المرضعات، يثبت أنه فعال في تنمية الوعي وتعزيز المواقف الإيجابية. علاوة على ذلك ، لا يزال التأكيد على أهمية الوقاية من سرطان الثدي من خلال مناهج الفحص المتنوعة أمرا محوريا. وتؤكد الدراسة على الحاجة الملحة للمبادرات المجتمعية وحملات التوعية العامة لمعالجة الفجوات المعرفية السائدة، والدعوة إلى قنوات متعددة الأوجه مثل الجلسات الإعلامية ووسائل الإعلام.

فاعلية برنامج تعليمي في التوعية والتوجهات فيما يتعلق بسرطان الثدي لدى النساء

أطروحة مقدمة الى

مجلــس كليــة التمريض ، جامعة بابل كجزء

من متطلبات نيل درجة الدكتوراه فلسفة في التمريض

من قبل الطالب

هبة جاسم حافظ

بإشــــراف

أ.د.فخريــــه جابر محيبس   أ.د.م. ميس هادي جبر