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Psychosocial Impact of Breast Cancer on Women in Babil

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For the Degree of Philosophy of Doctor in Nursing

BY

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بسم الله الرحمن الرحيم

وَلَنَبْلُوَنَّكُمْ بِشَيْءٍ مِنَ الْخَوْفِ وَالْجُوعِ وَنَقْصٍ مِنَ الْأَمْوَالِ
وَالْأَنْفُسِ وَالثَّمَرَاتِ وَبَشِّرِ الصَّابِرِينَ * الَّذِينَ إِذَا أَصَابَتْهُمْ
مُصِيبَةٌ قَالُوا إِنَّا لِلَّهِ وَإِنَّا إِلَيْهِ رَاجِعُونَ

صدق الله العظيم

سورة البقرة اية رقم (١٥٥-١٥٦)

Dedication

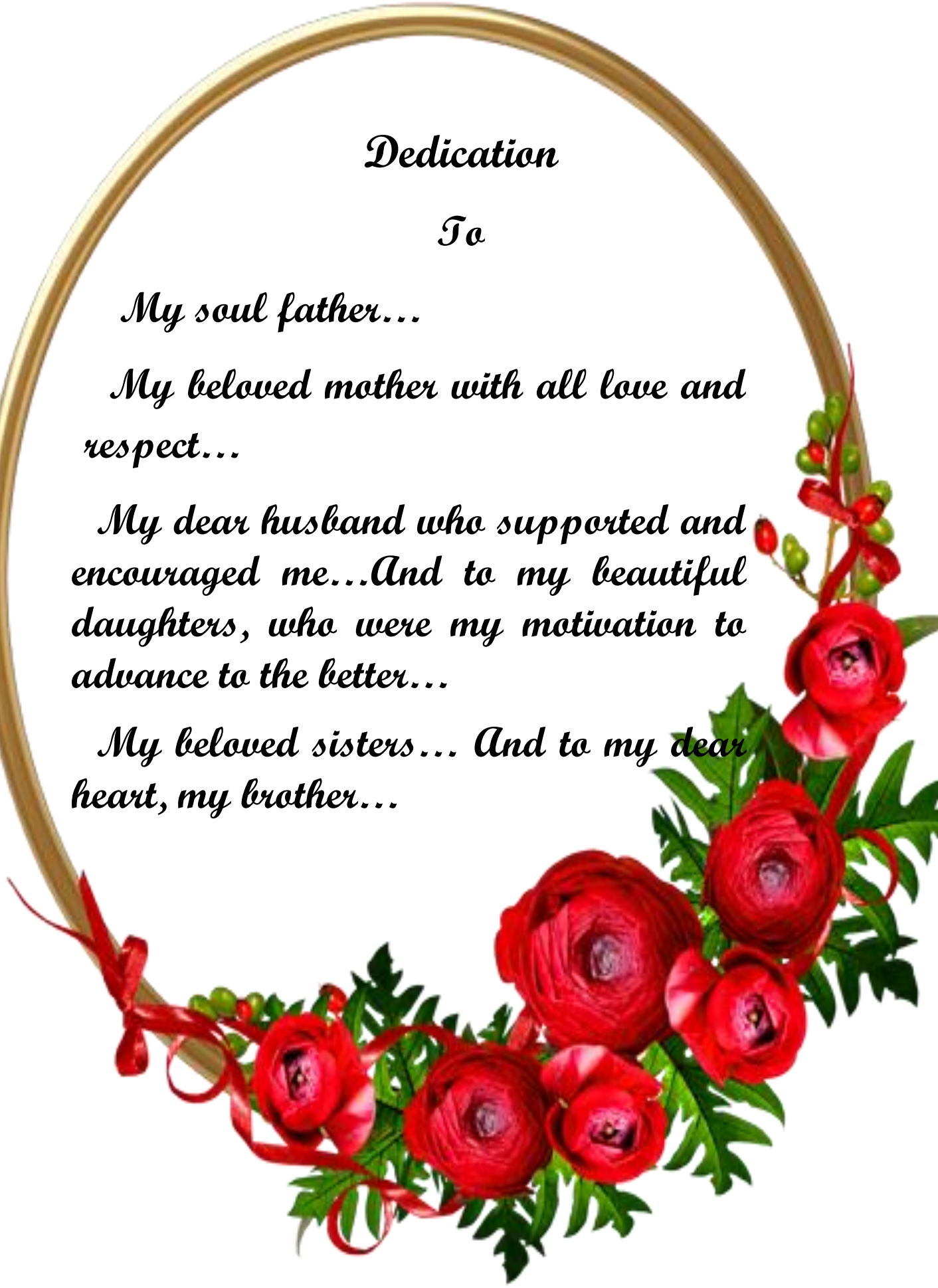
To

My soul father…

My beloved mother with all love and respect…

My dear husband who supported and encouraged me…And to my beautiful daughters, who were my motivation to advance to the better…

My beloved sisters… And to my dear heart, my brother…



Academic Supervisors Certification

We certify that this thesis entitled **(Psychsocial Impact of Breast Cancer on Women in Babil)** which is submitted by **Hadeel Makey Fadhel,** and prepared under our supervision at the College of Nursing, University of Babylon, in partial fulfillment of the requirements for the degree of philosophy of doctorate in nursing.

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Abstract

Breast cancer is one of the most common malignancies, in the developed and developing world alike. A significant number of women are susceptible to developing symptoms of psychosocial difficulties, including depression, anxiety, stress, loss of self image, isolation within family and community, difficulties with social provision, social effectiveness and social responsibilities.

A descriptive, cross-sectional design study was used to assess the psychosocial impact of breast cancer on women in babil. The period of the study was from March 13th 2021 to the March 13th 2023. The study was conducted in the Babylon Oncology Center at Marjan Medical City / Babylon Province on 100 convenient sample.

The questionnaire instrument was selected as a tool for gathering information that will help produce the study's desired outcomes. The questionnaire ware consist of four parts: the first related to socio-demographic characteristics, the second related to clinical information, third related to psychological aspects, and the fourth part related to social aspects.

The main results revealed that the majority of women with BC (68%) had sever anxiety, while (51%) of study sample had moderate depression and stress, (56%) of study sample were feeling of loss of self-image, for social isolation were (42%) sever isolation within family and (56%) moderate isolation within friends, while social provision were mild (57), while (69%) for feel loss of social effectiveness, (56%) were mild feel loss of social responsibility.

Recommendation the Ministry of Health to build a social support program for women with breast cancer that provides social activities that

motivate patients to engage in society and avoid isolation, in cooperation with patients' families and friends.

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List of Abbreviations

Items	Meaning
ABCD	Assessment of Body-Image Cognitive Distortions
AD	Anno Domini
AJCC	American Joint Committee on Cancer
ANOVA	Analysis of Variance
BC	Breast Cancer
BRCA1	BReast CAncer gene 1
BRCA2	BReast CAncer gene 2
BSE	Breast Self-Examination
CD-RISC	Connor-Davidson Resilience Scale
CE	Contrast Enhanced
CT	Computer-aided Tomography
DALYs	Disability Adjusted Life Years
DCE-MRI	Dynamic Contrast Enhanced MRI
DCIS	Ductal carcinoma in situ
Df	Dgree of Freedom
DNA	Deoxyribonucleic acid
DWI	Diffusion-Weighted Imaging
EMR	Eastern Mediterranean Region
ER	Estrogen Receptors
F	Frequency
HER2	Human Epidermal Growth Factor Receptor 2
HRT	Hormone Replacement Therapy
ICR	Institite of Cancer Research
IDC	Invasive Ductal Carcinoma
IHC	Immunohistochemistry

ILC	Invasive Lobular Carcinoma
IMRT	Intensity Modulated Radio Therapy
IV	Intravenous
LCIS	Lobular Carcinoma In Situ
M	Distant Metastasis
MDI	Scale of depression
MRI	Magnetic Resonance Imaging
MRS	Magnetic Resonance Spectroscopy
MSC	Mammary Secretory Carcinoma
N	Spread of Cancer to Lymph Nodes
N	Number of Sample
NHSBSP	National Health Service Breast Screening Programme
PET	Positron Emission Tomography
PR	Progesterone Receptors
QOL	Quality Of Life
QSC	Stress in Cancer Patients
RNA	Ribonucleic acid
SD	Stander Deviation
SIAs	Psychological Impact Theory and Social Impacts
Sig.	Significant
SLNB	Sentinel Lymph Node Biopsy
SPSS	Statistical Package for Social Science
STIA	State-Trait Anxiety Inventory
T	Tumour
TCho	Choline containing compounds
UICC	Union for International Cancer Control
US	Ultrasound

WHO	World Health Organization

List of Symbols

Symbol	Meaning
%	Percentage
vs.	Versus
±	Plus minus
>	More than
<	Less than

Chapter One

INTRODUCTION

Chapter One

Introduction

1.1. Background

Diseases are among the problems that threaten human societies, but the most important of these are life-threatening diseases. Cancer is at the top of the list of these diseases, and recent studies have proven the spread of this disease in developing countries, and expected an increase in the incidence of it, and that it will become one of the biggest health problems in them (Fisher *et al*., 2020).

Cancer has been and still one of the most important challenges in our time until now, and breast cancer is one of the most common malignancies, as it comes at the forefront of the types of cancer that affect women in the developed and developing world alike, according to the World Health Organization 2013(Gatti-Mays *et al.*, 2019).

Breast cancer develops from breast tissue, twenty-three percent of the 1.1 million new cases of cancer identified in women each year are due to breast cancer. More people die from this than every other kind of cancer combined (Kabel & Baali, 2015), (Tan *et al.*, 2020)

Before the 19th century, when a dramatic increase in life expectancy resulted from the elimination of infectious illnesses and improved sanitation, this kind of cell proliferation was very uncommon. Before, the majority of women passed away before they might have gotten breast cancer (Mustafa *et* al., 2016).

William Stewart Halsted's begin to conducting radical mastectomy surgeries in 1882, it was significantly facilitated due to the development of general surgical technology, in particular the aseptic approach and anesthesia. These two developments were especially important for this type of medical surgery (Lukong, 2017).

The lining of milk ducts and the lobules that stream the milk to the ducts are the most prevalent sites of breast cancer development. Certain cancers, including ductal carcinoma in situ, arise from non-invasive lesions (Kabel & Baali, 2015), (Badve & Gökmen-Polar, 2019).

A breast lump, dimples on the skin, a change in breast form, an inverted the nipple, leaking from nipple or a scaly, red area on the skin are all potential signs of BC. Bone pain, swelling lymph nodes, difficulty breathing, and yellow skin are all symptoms of spreading the breast cancer (Dalvi & Solanki, 2021), (Begum *et al*., 2019).

Around 18 distinct forms of breast cancer have been identified, ductal carcinomas are those that form in the ducts, whereas lobular carcinomas are those that form in the lobules, which are the most common types (Motlagh *et al*., 2018), (Sandhu *et al*., 2015).

Factors that increase the likelihood of a person developing breast cancer include being overweight or obese, not getting enough exercise, drinking excessive amounts of alcohol, using hormone replacement therapy after menopause, being exposed to ionizing radiation, starting menstruation at a young age, delaying or never having children, reaching advanced years, and having a personal or the past of the family in regard to BC (Sauter, 2018).

Around five-ten percent of instances are the consequence of a genetic predisposing factor acquired from an individual's family. This propensity may be caused by a number of different genes, including BRCA1 and BRCA2. (Petrucelli *et al*., 2016).

A BC diagnosis is verified by performing a biopsy on the suspicious tissue. When a breast cancer diagnosis has been established, more tests are performed to assess whether or not the disease has metastasis to other body tissues and which therapies will be most successful (Guo *et al*., 2018), (Akram *et al*., 2017).

Mammography is a standard screening for breast cancer, but it has limitations, which are less effective in women under fourteen years and those with dense breasts, it is fewer sensitive to tiny lesion (under 1 millimetre, around 100,000 cells), and it does not offer any information about how the illness may eventually progress (Onega *et al*., 2016).

Whereas Contrast Enhanced (CE) digital mammography outperforms both traditional mammography and ultrasound (US) in diagnosing breast cancer in dense breast, it is not generally accessible because to its high cost and radiation risks (Lewis *et al*., 2017).

The thickness of breast tissue and lesion detection using US has been employed as a complementary diagnostic imaging technique to mammography (Ozmen *et al*., 2015).

Another diagnostic technique is a Magnetic Resonance Imaging (MRI) has the potential to identify tiny lesions that can't be seen by mammography; nevertheless, it is also costly and has limited specificity, which might lead to over-diagnosis in certain cases (Roganovic *et al*., 2015).

Surgery, radiation therapy, chemotherapy, hormone therapy, and targeted treatments are the five main pillars of most treatment approaches. Some treatments are localized, meaning they only affect the region immediately around the tumor. Several other treatments are systemic, meaning they use anti-cancer drugs on a whole-body level (Akram *et al*., 2017).

BC is the most common malignancy disease worldwide, with an estimated 4.4 million females having been diagnosed within the previous 5 years and still living (Tan *et al.,* 2020).

In 2012, breast cancer had the greatest incidence (43.4%), as well as the highest death rate (12.9%), especially in low income nations (Nuraini *et al*., 2018), (Ilbawi & Velazquez-Berumen, 2018).

North America, Australia, and northern and western Europe have the greatest incidence rates, whereas broad swaths of Africa and Asia have some of the lowest. Since people tend to live longer in wealthy nations, there is less variation in the death rate there (Torre *et al.*, 2015).

Breast cancer detection methods vary widely around the world because of the scarcity of healthcare infrastructure and its technique in developing nations. The majority of people use public healthcare, which might slow down the tumor diagnostic process (Rivera-Franco *et al*., 2018).

The breast is the most often affected organ by cancer in the Iraqi population as a whole, even exceeding lung cancer as the most common kind. Early identification and screening for breast cancer, particularly when accompanied with appropriate treatment, gives the best immediate expectation for a decrease in the death rate associated with breast cancer, as recommended by the World Health Organization (Coleman, 2017).

The Iraqi National Breast Cancer Screening Program was established in 2001, the aim of the program is to reduce the severity of the disease at the time of diagnosis. Since then, prominent hospitals in all Iraqi regions have added facilities and clinics dedicated to the early detection of breast tumors (Abdulghany *et al*., 2021).

Scientists in Iraq have launched the Iraqi National Cancer Research Program to investigate the rising rates of cancer and identify the underlying biological and environmental causes. In practically all nations in the Eastern Mediterranean Area, breast cancer is the most often reported form of malignancy. Premenopausal women seem to be disproportionately affected by the rising incidence rate in Iraq (Aljubori, 2018).

Breast cancer was the most common malignancy in 2016, with 25, 556 new cases recorded by the Iraqi Cancer Registry; it was also the second leading cause of death in the country, behind only cardiovascular disease (Al-Gburi *et al.*, 2021).

According to the most current ICR data, the incidence cases of cancer in 2019 were 35,864, with an incidence rate of 92 per 100,000 persons in Iraq. Breast cancer was the most frequent malignancy, accounting for 19.8% of all cancer cases (Al Alwan, 2022).

Depression after a mastectomy, anxiety, embarrassment, and suicide ideation/attempted are the most common psychological impact of breast cancer. It has been noted that many people experience significant reductions in quality of life (QOL) due to psychological disorders. Thus, it is important for physicians to inquire about their psychological adjustment in order to detect and treat such problems at earliest diagnosis (Caruso *et al*., 2017 a,b), (Al-Attar *et al*., 2016).

There has been a steady increase in the incidence rate of BC in Iraq, and it is related with a number of clear possible risk factors. These risk variables may work in conjunction with one another or in a specific order to begin or promote the development of cancer cells (Aljubori, 2018).

It is a well-known fact that breast cancer may impact both women and their spouses. They both tend to suffer a variety of psychological distresses, such as anxiety, depression, avoidance of communication, sexual issues, isolation from one another, and/or the end of the relationship (Costa *et al*., 2016).

The most common females who are diagnosed with BC may have a variety of unfavourable responses, which can be emotionally and physically taxing (Liamputtong & Suwankhong, 2016).

A significant number of women are susceptible to developing symptoms of psychological problems, including depression, anxiety, exhaustion, pain, difficulties focusing, isolation within family and community, anxieties about sexuality, and self-blame feeling (Galvan, 2021).

As a result, procedures like a lumpectomy, mastectomy, or reconstruction of breast may have a negative effect on a woman's sense of self-worth and her confidence in her own beauty, as well as cause feminine difficulties and a resulting strain on her relationships with other people especially with her partner (Ng *et al.*, 2017), (Harmer, 2006).

Infertility, hair loss, exhaustion, weight gain or weight loss, reduced libido, and menopausal symptoms are just some of the negative side effects of radiation, chemotherapy, and adjuvant therapy that may pose a major danger to a sense of woman about herself and her femininity (Benjamin, 2021).

When woman lose the emblems of her femininity this leads to a negative sense about her body image, poor self-esteem, social isolation, a false self-perception, and develop the relationship problems or interpersonal issues with her family or friends (Sah, 2019).

Some women may experience cancer stigma as a consequence of treatment-related changes to their appearance, such as side effect of chemotherapy (hair loss) or as a results of post-mastectomy (loss breast (one or both of them) (Daniel *et al*., 2020).

Anxiety is a common response to cancer, and it gets worse for women once they learn they have breast cancer because they feel like their situation is dire and they are heading toward death. People who have cancer will notice that their anxiety levels fluctuate over time (Glassey *et al*., 2018).

Patients with breast cancer and concurrent depression experience severe pain, exhaustion, significantly reduced QOL, and even lower overall survival rates (Vin-Raviv *et al*., 2015).

Breast cancer patients may experience increased social and social rejection and as a result of the combined effects of the disease's

psychological and physical stresses. Consequentially, they suffer a decline in their psychological, emotional and physical health (Borgi *et al*., 2020).

This chronic condition is considered a psychologically traumatic disease, and given the symbolic importance of the breast in the formation of both sexual identity, body image, and self-esteem for women, in addition to its biological and sexual role alike, its injury in addition to its removal in most cases, in order to preserve life and the lack of a deterioration of the health condition, it in one way or another will affect the psychological life of the injured and life in general in a negative way (Triberti *et al*., 2019), (Samuels *et al*., 2019).

Breast cancer survivors who have negative body images report being unhappy with their appearance, feeling as though their femininity and body integrity have been lost, being reluctant to go naked, experiencing a decrease in sexual attraction, being self-conscious of their appearance, and being unhappy with surgical scars (Afriyanti & Wenni, 2018).

A breast cancer diagnosis can put a financial strain on families by causing the head of the household or a spouse who has the disease to lose their job (Çömez & Karayurt, 2016).

Return to work may be favourably impacted by social support from family and friends, occupational health services, and proper workplace accommodations (Dorland *et al*., 2016).

Social support can be described as an interactive process in which specific behaviours or acts might have a favourable impact on an individual's social, psychological, or physical well-being (Feeney & Collins, 2015).

The degree to which family members are able to assist their patient during cancer treatment depends on a number of factors, including the nature of the relationship between the patient and their family members prior to the diagnosis, the family members' prior exposure to serious illness,

and the nature of the role changes that may be required as a result of the cancer diagnosis (Ginter & Braun, 2019), (LeSeure *et al.*, 2015).

1.2. Importance of Study

BC has the highest rate of invasive cancer in women all over the world (McGuire *et al*., 2015).

With 2.09 million new cases in 2018, lung and breast cancer are the top two cancers in terms of prevalence. Cancer of the breast affects one in seven women (14% of all cases). (Skin cancer, the most prevalent kind of cancer, is almost always curable and seldom fatal, hence it is not included in cancer mortality rates) (Wang *et al*., 2021).

BC accounts for 22.9% of all female malignancies and sixteen percent of all generalized cancers affecting females overall. It was the major frequent kind of cancer found in females in 2012, accounting for 25.2% of all invasive cancer found in females, making it the most prevalent form of cancer in females (Mattiuzzi & Lippi, 2019).

Lower rates of breast cancer are seen in less-developed regions, whereas higher rates are seen in more-developed regions. "Here are the age-standardized yearly incidence rates (per 100,000 women) for each of the twelve regions of the globe. The numbers are as follows: 18 in Eastern Asia, 22 in South Central Asia and sub-Saharan Africa, 26 in South-Eastern Asia, 26, 28 in North Africa and Western Asia, 42 in South and Central America, 42, 49 in Eastern Europe, 56 in Southern Europe, 73 in Northern Europe, 74 in Oceania, 78 in Western Europe, and 90 in North America". Women with breast cancer have a 1 in 20 (in the United States) to 1 in 2 (in certain regions of Africa) chance of developing metastatic disease (Francies *et al.*, 2020), (Momenimovahed & Salehiniya, 2019).

During the 1970s, the number of reported instances has skyrocketed, a situation that may be traced in part to contemporary ways of living. Just 5 percent of all breast cancers develop in women younger than

40, therefore aging is a major risk factor. More than 41,000 women in England were diagnosed with breast cancer in 2011, with the majority of these occurrences occurring in women aged 50 and over. In 2015, around 2.8 million American women were diagnosed with breast cancer, according to official data (Cao *et al*., 2021).

The annual incidence rates of BC adjusted by age in the US increased from 102 in the 1970s to 141 in the latter half of the '90s. Nonetheless, the number of age-adjusted mortality from BC per 100,000 female climbed little from 31.4 in 1975 to 33.2 in 1989 (Dibden *et al*., 2020).

The Carmen Cancer Center in the United States of America states that the number of breast cancer cases diagnosed in 1998 was only about (178,000) of whom (900,43) died As a result of this disease, in the Arab countries, the diagnosed cases of cancer registered with then between 1995-2000 amounted to about 3,645 cancer cases, and the average age of women with cancer is 51 years (Oeffinger *et al.,* 2015), (Rock *et al.,* 2020).

In Iraq, there were 3845 cases estimated in 2011.This number rose to 4542 in 2014 according to a World Health Organization report. In contrast, the new cases of BC in 2020 were 7515 (Alwan *et al.,* 2022).

The trend of the incidence rate of new cases of cancer in Iraq increased from the year 2000 (52.00/100,000) to the year 2019 (91.66/100,000). Breast cancer is the main cause of mortality among Iraqi women, accounting for about one-third of all cancer cases recorded in the country in 2019 (Al-Hashimi 2021).

According to estimates by the Central Statistical Organization, the country's population is expected to increase from about 36 million in 2016 to about 51 million by 2030, which will raise the number of cancer cases to about 460,000, assuming that environmental and therapeutic factors are proven (Central Statistical Organization, 2016).

The report (Women and Men in Iraq Development Statistics for 2012) attributes the steady rise in cancer cases to several reasons, including radioactive contamination, and the lack of care and health awareness among Iraqis. The World Bank report in 2014 on the intensity of carbon dioxide, which is one of the hazardous pollutants, reveals that Iraq tops the list of countries in Asia and North Africa at a rate of 3.4, while it stands second in the world after Mongolia in the intensity of carbon emissions, outperforming all from China and South Korea. Environmental activists warn of the high levels of pollution in the rivers as a result of the discharge of polluted materials into them directly without treatment and which are reused, in addition to the pollution caused by weapons during the wars in Iraq since the eighties of the last century. In addition to pollution, poor awareness of the disease is a negative factor that reduces the chances of infected women to quickly discover and confront the disease. The rate of early detection in developed countries reaches 80%, but it does not exceed 20% in Iraq, due to the fear of infected women to disclose the symptoms they suffer from, in addition to the weakness of programs aimed at educating women about the importance of early examinations and how to conduct them (Jameel *et al.*, 2021), (Hamid A. Hassoun, 2023).

A woman's body is particularly sensitive, and psychological needs always push her to search for perfection for her body members, and her health condition, as she is exposed to anxiety and psychological pressures related to her body image and self-view, which necessarily affects the level of psychological and social compatibility among women with breast cancer, which increases the severity the problem (Sung *et al.*, 2021).

The attention and follow-up doubled the appreciation of what the woman suffers from, what she goes through, the psychological impact of that, and the extent of her compatibility and follow-up to her regular and natural life. Interested and researchers have played the greatest role in

paying attention to the psychological and social compatibility of women, especially at the time of illness, as achieving psychological and social health is the goal of every human being, and it is the goal of all mental health workers. A disease that affects women is a serious disease such as breast cancer, which affects many women, as the number of cases diagnosed with breast cancer is at least 9% annually in the Arab countries (Jafari *et al*., 2018).

Receiving the news of cancer, whatever its kind, is a sudden event, as the sufferers live psychological trauma, so the news of the injury is strong and violent because it represents an event outside the daily experience of the individual, and it threatens to end the life, so receives a horror and panic, which has negative effects that affect the life in various as anxiety explodes and explicit psychological suffering begins, as the obsession with death appears that threatens life, the psychological manifestations accompanying the stages of disbelief, hysteria and realism appear, which need psychological rehabilitation in order for the individual to fit naturally in society (Man *et al*., 2018).

Compatibility problems are common in women with cancer, which reflect their social behavior, where anxiety is the most common form of psychological stress, which increases at specific times: upon initial examination of suspected symptoms to determine the diagnosis, when the initial treatment ends and then the responsibility of the patient to examine subsequent symptoms and when the disease is repeated, as well as when the prognosis of the disease is poor, and finally at the final stage of the disease (Kim & Lwin, 2017).

There are many possible responses to dealing with disease, and this varies between people as it depends on the surrounding circumstances. Examples of these responses are fighting spirit: the tendency to view illness as a challenge, and helplessness: the tendency to feel lost and unable to do

anything in the face of cancer. Fatalism: the tendency to accept things as they are and not make any attempt to control it, preoccupation with anxiety: the tendency to focus on cancer, allowing the disease to control and increasing anxiety, and finally avoidance and withdrawal: the tendency to avoid disturbing thoughts and prevent any thinking related to the disease as a result of reduced problems. Psychological and social use of the method of indifference (Kvillemo & Bränström, 2014).

Scientists and researchers in the field of psychological and social sciences consider that physical disorders cause psychological disorders, which affect the social of the individual, as it was found that any defect at the level of membership leads to psychological imbalance of the affected individual because the physical image is of great importance to the individual in forming his sexual identity on the one hand, and in the formation of his social behaviour on the other hand, and because the psychological aspect of the patient is directly related to the acceptance or non-acceptance of the pathological condition, researchers have recently turned to studies that reveal the relationship between various organic diseases and show the psychological and social impact resulting from those diseases (Furman *et al.*, 2019).

Breast cancer is considered a psychologically traumatic disease, and given the symbolic importance of the breast in the formation of both sexual identity, body image, and self-esteem for women, in addition to its biological and sexual role alike, its injury in addition to its removal in most cases, in order to preserve life and the lack of deterioration of the health status, it will, in one way or another, affect the psychological and social life of the patient and life in general in a negative way. Aspects that threaten the behaviour of the individual with breast cancer must be taken in to consideration (Rezaei *et al.*, 2016).

The negative impact is manifested through the victim's bad psychological pension, which is characterized by low self-esteem and loss of a sense of sexual identity, self-humiliation and blame for what happened, depression, isolation, escaping from the truth...etc., as a result of distorting the image of the body and losing the most important organs for women, which causes In the occurrence of a number of psychological problems that require the adoption of rehabilitation institutions in the individual's acceptance of his personality in order to coexist in society according to his peers (Martino & Freda, 2016), (Samuels *et al*., 2019).

Approximately (90) cases of breast cancer are discovered annually in the Babylon provinces, which exacerbates the number of female patients and their problems related to the disease, especially with regard to psychological and social problems (Shamki & Shamki 2018), (Ibrahim & Shamki 2018)

1.3. Statement of the Problem

Psychosocial Impact of Breast Cancer on Women

1.4. Objectives of the Study

The objectives of the study are to:

1. Identify socio-demographic characteristics of women diagnosed with BC.
2. Assess the psychological status of study sample.
3. Assess the social status of women diagnosed with BC.
4. Identify the association between socio-demographic characteristics and clinical information and psychosocial states.
5. Idetify the association between psychological and social states among those women.

1.5. Definitions of Terms

1.5.1. Psychological impact

a. Theoretical

The psychological impacts of cancer include changes to the patient's way of thinking, emotions, mood, belief system, coping mechanisms, and interpersonal connections within family, friends, and colleagues at work (Toledo *et al*., 2021).

b. Operational

Health problems in regard to common psychological aspects related to chronic disease (breast cancer) in presence of specific factors such as lack of psychological support.

1.5.2. Social Impact

a. Theoretical

Any significant or negative changes hinder or at least increase social challenges (Matino, 2019).

b. Operational

The condition in which the disease can produce and provoke the patient.

Chapter Two

REVIEW OF LITERATURE

Chapter Two

Review of Literature

Part I: Overview of the Disease

2.1. History of Breast Cancer

Breast cancer was the most often discussed variety of the disease in historical writings because of its high profile. Cancers of the internal organs were mostly unseen to ancient medicine since autopsies were uncommon (Lukong, 2017).

Nonetheless, breast cancer may be felt subcutaneously, and in its late stages commonly manifested as fungating lesions, in which the tumor became necrotic and ulceration of the skin, dim pus, leaking fetid (Rupert & Fehl, 2020).

Breast cancer has been documented in Egypt since the Sixth Dynasty, 4,200 years ago. Examination of the bones of a woman buried in the Qubbet al-Hawa cemetery revealed the usual severe damage caused by the spread of breast cancer in her body (Mourad & Stonestreet, 2015).

According to the Edwin Smith Papyrus, eight different breast cancers or ulcers were cauterized. As the text states, (There is no therapy) for this illness. Medical practitioners have been documenting incidents like these for decades, all with the same resolution. According to humoralism, which was the foundation of medicine from the time of the ancient Greeks until the early modern period, it was thought that breast cancer was often caused by imbalances in the basic fluids that regulated the body, namely an excess of black bile (Tilli, 2021), (Fawzy *et al*., 2021).

Several other surgeons have theorized that a build-up of milk in the mammary ducts causes tumors to form in that area. Malignant alterations in breast tissue have been linked to trauma, which has prompted speculation

that this injury may be the actual origin of breast cancer. Breast lump and swelling discoveries have sparked debates concerning malignant vs benign phases of breast cancer (Akram *et al*., 2017).

Aetios of Amida, court physician to Theodora, first suggested performing a mastectomy for breast cancer in AD 548. However, it wasn't until the 17th century that doctors gained a better knowledge and perception of the circulatory system and made the connection between breast cancer and the lymph nodes in the armpit (Ezugwu & Nzekwe 2015).

French surgeon Jean Louis Petit, realizing that removing the lymph nodes in the axillary along with the breast tissue lowered the likelihood of cancer recurrence, and he first began performing these procedures in the early 18th century (Faguet, 2015).

In the early stages of breast cancer, doctors were more cautious in their therapy recommendations. Traditional therapies, such as the alkaline arsenic, were combined with detox purges and bloodletting in an effort to reduce acidity in these patients (De Moulin, 2012).

When Anne of Austria, the Archduchess of Austria, was first diagnosed with BC in 1664, the first therapy she received was compresses soaked in hemlock juice. After seeing that the size of the lumps was increased the King's physician began treating them with ointments made from arsenic. The kingly patient suffered excruciatingly and passed away in the year 1666 (De Moulin, 2012).

Each breast cancer therapy that was unsuccessful resulted in the quest for new cures, which in turn spawned a market for remedies that were marketed and sold by quacks, pharmacists (chemists), herbalists and apothecaries. During this time period, breast cancer was a very common kind of cancer (Boddice, 2014).

In the 17th century, surgeon Bernard Peyrilhe expanded on Petit's work by removing the pectoral muscle behind the breast because he believed it significantly improved the prognosis. Surgeons like Nicolaes Tulp in the 17th century said that the lone therapy is a timely surgery, but doctors did not agree with this because of the poor outcomes and the significant danger to the patient (Kaartinen, 2015).

In the middle of the 17th century, the renowned surgeon Richard Wiseman documented that after 12 surgeries of mastectomy, two women died through the surgery, eight women died presently after the surgery from cancer progression, and only two of the 12 women were cured. This information was gathered from a group of 12 women who had all undergone the procedure (Faguet, 2015).

Due to the absence of anesthetics and antiseptics, a mastectomy was a difficult and sometimes life-threatening procedure. Several different anatomical discoveries were made in the 18th century, and these findings were met with new hypotheses concerning the origins and progression of breast cancer. Breast cancer, according to John Hunter, an investigative surgeon, is caused by a leak in the brain's spinal fluid (Winchester *et al*., 2006).

Different doctors had different ideas about what kind of emergency medical care was required for breast cancer patients. It was surgeon Benjamin Bell who advocated to a complete mastectomy, even when just a small area was afflicted (Bell, 2011).

In the 19th century, when life expectancy increased dramatically due to advances in cleanliness and the eradication of lethal infectious illnesses the breast cancer incidence was began to rise gradually, but before this century the breast cancer was still quite rare. Women with breast cancer used to die at a much younger age than they do now (Mustafa *et al*., 2016).

Through the development of technology related to general surgery and the development of anesthesia and sterilization technique in 1882, surgeon William Stewart began to remove all breast tissue through radical mastectomy (Lukong, 2017).

Halsted performed operations to remove both breasts, chest muscles, and lymph nodes associated with the breast to prevent recurrence of breast cancer, as this often led to disability and pain for long-term duration (Zurrida & Veronesi, 2015).

The rates of survival women with breast cancer were 10% for long 20 years only, but that rate was elevated to 50% after the advanced of radical mastectomy by surgeon Halsted (Bland *et al*., 2018).

The staging of breast cancer, the progression of BC, and the extent to which the cancer has metastasized and spread to other parts of the body were determined in the 1920s and 1930s (Lukong, 2017).

In the fifties of the last century, reliance on breast cancer treatment was on operations to remove the tumor and preserve the breast, then followed by radiotherapy. In the United States of America, the basic treatment was by relying on radical mastectomy until the 1970s (Keränen, 2010).

The development of preventive measures to reduce the incidence of breast cancer, which have proven effective, came after a new understanding of malignant cancer tumor, and it was considered a systemic disease in addition to being a localized disease (Dodiyi-Manuel & Wakama, 2014).

2.2. General Overview

In order for the body to develop new tissues and repair old ones, cell division and growth must occur. On the other hand, breast cancer develops when the cells that normally make up the tissue of the breast stop dying and instead divide indefinitely (Zhu & Thompson, 2019).

Neoplasms are tumors caused by the uncontrolled proliferation of cells. A breast lump or other breast deformations such dimpling of the skin, nipple leakage, or a change in skin color or surface may or may not be the first sign of one of these main cancers (Fadaka *et al*., 2017).

Early-stage breast cancer is defined as cancer that has not progressed beyond the breast or its surrounding tissue and lymph nodes. (Tungsukruthai *et al*., 2018).

Metastesis Used to characterize breast cancer that has not moved beyond the original site of diagnosis only but has been found in a sizable portion of one or both breasts, into nearby skin or muscle of the chest, and/or to nearby lymph nodes (Lovelace *et al*., 2019).

BC is defined in related to its types as either invasive or non-invasive cancer. Non-invasive BC, also known as cancer in situ, is originate in the ducts of milk without indication of metastasis to the other surrounding tissue of the breast (Cserni, 2020), (Yeong *et al*., 2017).

Ductal carcinoma in situ (DCIS) is the most prevalent kind, however it was formerly thought to be rare and was often seen in patients who presented with palpable tumors and extensive nipple discharges in the 1980s (Petridis *et al*., 2016).

Women usually appear asymptomatically with non-palpable tumors, but the fast rise in the prevalence of ductal carcinoma in situ due to improvements in mammography technology and increased use of mammography screening has changed the rate of (DCIS) (Pan *et al*., 2017).

While the ductal carcinoma in situ (DCIS) may proceed into invasive breast cancer if left untreated, it is predicted that around two-thirds of DCIS patients will not develop into invasive tumors (Kanbayashi & Iwata, 2017).

2.3. Breast Cancer's Development

Human cells undergo regulated mitosis, wherein they divide and die after a certain number of generations. Progenitor cells serve as a reservoir from which new cells are generated (Liu *et al*., 2019).

Malignancy is defined as the transmission of malignant phenotype from the parent cell to the daughter cell. This implies that the DNA is the source of the underlying malignant lesion. Multiple irreversible mutations in genes essential for cell development can cause cancer. Because the DNA repair network is so crucial for the genome's integrity, its loss, whether inherited or acquired, is harmful and can lead to increased genomic instability, leading to cancer. Although mammalian cells have a robust DNA repair and free radical scavenging system, specific DNA lesions caused by intrinsic and extrinsic mutagenesis may likely evade these DNA monitoring mechanisms and represent an early step in human carcinogenesis. The DNA inside a cell is grouped into a large number of individual genes, each containing a set of instructions that tell the cell what functions to perform, as well as how to grow and divide (Aananda *et al*., 2021).

Alterations in the structure of the breast tissues cause breast cancer to develop. Often, the anomaly occurs in the milk ducts lining or lobules (Feng *et al*., 2018).

The tumors characteristic of breast cancer develops when breast cells multiply uncontrollably. When the rapidly dividing tumor cells spread to non-tumorigenic tissues and organs, it is call malignant (Chhichholiya *et al*., 2021).

In comparison to neighboring cells, the cancer cell expand rapidly. Tumor development varies widely amongst individuals, and it accelerates in young women (Miller *et al*., 2016).

In the absence of therapy, the malignancy progresses irreversibly. The BC woman may be die in the initial stage if the tumor is not surgically removed (Torres-Guzmán *et al*., 2017).

It might be difficult for both the patient and the doctor to notice the first phases of abnormal proliferation of breast cell. A typical method to detect this case is a mammography (Barba *et al*., 2021), (Lobbes *et al*., 2021).

2.4. Signs and Symptoms

Approximately 80% of women who are diagnosed with BC discovered their disease through touch and senses the tumor by fingertips. BC mostly existent as a tumor different in its structure and density from the original tissue of the breast (Shaikh *et al*., 2021).

In addition to a lump, additional symptoms of BC could include a change in breast size or form, a change in the position or form of a nipple, a nipple rash on/or around it, discharge from nipple, persistent discomfort in the breast and armpit, and swelling around the collarbone or under the arm (Watson, 2008).

Breast pain (also known as mastodynia) is not a good indicator of whether or not a woman has breast cancer, but it might point to other problems with her breasts (Seo *et al*., 2019).

Paget's illness of the breast is another cluster of signs and symptoms associated with BC. Nipple skin abnormalities, such as redness, discolouration, or slight flaking, are the hallmark of this illness (Narendranath *et al*., 2020).

When Paget's disease has progressed to its latter stages, the patient may experience a variety of uncomfortable sensations, such as itching, tingling, heightened sensitivity, and burning pain. Exudation from the nipple is also possible. Around half of women with Paget's disease of the

breast also have a breast lump at the time of diagnosis (Begum *et al*., 2016).

The red and swollen regions produced on top of the breast are characteristic of inflammatory BC, a rare but aggressive type of BC that accounts for fewer than five percent of all BC cases. Inflammatory breast cancer's outward manifestations are caused when cancer cells clog lymph arteries (Faguy, 2018).

Women who are overweight and younger women are more likely to be diagnosed with inflammatory breast cancer. Since it doesn't always manifest as a lump, it might be difficult to diagnose immediately (Dietze *et al*., 2015).

An uncommon variant of the secretory carcinomas, Mammary Secretory Carcinoma (MSC) affects just the breast. MSC causes 80% of pediatric breast cancers and frequently affects adulthood (Knaus & Grabowksi, 2021), (Stevens & Parekh, 2016).

MSC are generally growing slowly, no pain, tiny tumors in the breast duct that have infiltrated the tissue surrounding their original ducts, commonly progressed to lymph nodes of axillary or / and sentinel lymph nodes, but seldom spread to distant regions (Loo *et al*., 2022).

Mammary secretory carcinoma has a 20-year survival rate of 93.16% because to its moderate development and little metastases (Gong *et al*., 2021).

Metastatic tumors are secondary tumors that spread from the original malignant tumors. Metastatic symptoms vary by tumor's site such as: bone, liver, lung, and brain metastases (Chernock & Lewis, 2015).

Joint and bone pain, weight loss without specific cause, jaundice, and symptoms of neurological system are common stage 4 cancer symptoms. These symptoms indicate many different diseases and not specific for BC disease (Peart, 2017).

In very rare cases, breast cancer may spread to extremely rare places such as peripancreatic lymph nodes, resulting in biliary blockage and making diagnosis more challenging (Perera *et al*., 2020).

Most breast symptoms, including lumps, are not cancerous. Fewer than 20% of lumps are malignant, while benign breast disorders including mastitis and fibro adenoma produce most breast disorder symptoms (Stachs *et al*., 2019), (Valeur *et al*., 2015).

There are a number of breast cancer symptoms that may be used to diagnose the disease. One or more hard masses, or lumps, of any size, form, structure, and edges texture present in one or both breasts (Mitsuk, 2016).

Symptoms of inflaming breast are: change in breast colour (redness), swelling, and fever affecting part or the entire breast. Variations in breast skin, such as new folds, discoloration, or thickness. Breast soreness that lasts for more than a few days and has no obvious reason (in various cases, BC develops without pain) (Peart, 2015).

Retraction of the nipple (If the shape of the nipple was before the disease, it has another shape), discolouration, flaking, ulcers on the nipple, drainage (including translucent liquid or blood), without any cause. Lymph nodes that have been swollen for more than two weeks under the armpit or below the collarbone (Tan, 2016).

2.5. Stages of Breast Cancer

Breast cancer staging involves numerous tumor development criteria, according to the American Joint Committee on Cancer (AJCC) the three features used to stage breast cancer are: the size of the primary breast tumour (T), the spread of cancer to lymph nodes (N) and distant metastasis (M) (Yerukala Srinivasulu *et al*., 2018).

A primary tumor cannot be assessed classified as TX, while (Tis) for (DCIS), tumor with a diameter less than 2 cm is (T1), 2–5 cm is (T2),

5–10 cm is (T3), and 10 cm or more is (T4): (T4a) extension of the tumor to the chest wall, (T4b) ulceration and/or edema of the skin; Spreading to axillary nodes: (N0) means no palpable axillary nodes, (N1) means regional mobile axillary nodes, (N2) with regional fixed nodes and (N3) with cancer in internal mammary lymph nodes. Metastatic state (M0) refers to no metastasis, and (M1) signifies a distance metastasis (Uddin, 2020), (Walker & William 2018).

These findings inform both the diagnosis and the treatment plan. Survival rates are consistently determined by tracking the experiences of those who have been diagnosed with and cured for cancer previous 5 years (Huang & Fang, 2018).

2.5.1. Stage 0 of Breast Cancer

This indicates the development of breast cancer cells but not their metastasis to nearby tissues, axillary lymph nodes, or other parts or organs of the body. The terms lobular carcinoma in situ and ductal carcinoma in situ are often used to refer to the earliest stages of cancer (stage 0), the (TNM) in 0 Stage are (Tis, N0, M0). The five year survival rate for BC women at stage 0 is about 100% (National Cancer Institute, 2016).

2.5.2. Stage I of Breast Cancer

This stage describes invasive BC and a tumor size is less than two cm but has not yet exist in other organs or the lymph nodes (not metastasized), IA and IB are the two subcategories this stage (Mahmood *et al*., 2015).

Invasive breast cancer is classified as stage IA if the tumor is less than 2 centimeters in diameter, no lymph nodes are affected, and the disease has not metastasis to other parts of the body, the (TNM) in stage IA are (T1, N0, M0). The cancer classify as stage IA because those two characteristics make it less aggressive (Goldberg *et al.,* 2019), (Hoppe *et al.,* 2019).

Stage IB defines as invasive breast tumor in which there is no cancer cells in the breast, instead of that there is a tiny cluster of tumor larger than two mm but not more than two mm are originate in the lymph nodes or there is a lump in the breast that is no greater than two cm. In microscopic invasion, the cancer cells have just started to invade the tissue outside the lining of the duct or lobule, but the invading cancer cells can't measure more than 1 mm, the (TNM) in IB stage are (T0, N1, M0) or (T1, N1, M0) (Trayes & Cokenakes, 2021), (ACS, 2016 a).

2.5.3. Stage II of Breast Cancer

Stage II is divided into subdivisions known as IIA and IIB: Stage IIA defines as invasive BC in which malignant mass (greater than 2 mm) is originate in 1 to 3 lymph nodes of axillary and no tumour can be originate in the breast, or tumor originate near the sternum in the lymph node (It can be found through biopsy) or the lump sized two cm or lesser and has metastasised to the lymph nodes of axillary or the lump is greater than two cm but not greater than five cm and has not metastasised to lymph nodes of the axillary. The (TNM) in IIA stage are (T0, N1, M0) or (T1, N1, M0) or (T2, N0, M0) (Soultani *et al*., 2017), (Weiss, 2013).

Stage IIB indicates the lump is greater than two cm but no more than five cm, cancer has metastasis to one to three axillary lymph nodes or to lymph nodes nearby the breastbone that were determined by a biopsy, or the lumb is greater than five cm but has not metastasised to the lymph node of axillary. The (TNM) in IIB stage are (T2, N1, M0) or (T3, N0, M0). The 5-year survival rate for those in the second stage is around 93% (Kanathezath *et al.*,2021), (Weiss, 2013).

2.5.4. Stage III of Breast Cancer

Stage III is divided into subdivisions known as IIIA, IIIB and IIIC: Stage IIIA indicates that tumor is discovered in 4 to 9 axillary lymph nodes or around the breastbone during imaging or a physical exam and no tumor

found in the breast or the tumor in the breast is greater than 5 cm, lymph nodes contain tiny groupings of breast cancer cells (0.2–2 mm) or cancer has progressed to 1 to 3 lymph nodes of axillary or to the lymph nodes near the sternum which discovered during the biopsy of lymph node and the mass is larger than 5 cm. The (TNM) in IIIA stage are (T0, N2, M0) or (T1, N2, M0) or (T2, N2, M0) or (T3, N1, M0) or (T3, N2, M0) (NCI, 2016), (Gabriel *et al.,* 2017).

Stage IIIB: The cells that make up metastasised to the chest wall or/and breast skin resulting in edema or an ulcer causes swollen or ulcerated breasts or inflammatory breast cancer and metastasis to up to nine lymph nodes of axillary or metastasis to lymph nodes nearby the sternum. The (TNM) in IIIB stage are (T4, N0, M0) or (T4, N1, M0) or (T4, N2, M0) (Koh & Kim 2019), (Swainston, 2013).

Stage III C**:** is a tumor has speared to more than 10 lymph nodes above or under the clavicle. The (TNM) in IIIC stage are (Any T, N3, M0). It is estimated that 72% of those who reach third stage will still be alive after 5 years (Prat *et al.*, 2015), (ACS, 2016 b).

2.5.5. Stage IV of Breast Cancer

At fourth stage the disease has metastasized to other parts of the body such as lungs, liver, brain, bones, and skin; surrounding lymph nodes; and distant lymph nodes. Advanced metastatic breast cancer, often known as stage IV breast cancer, is characterized by the spread of cancer cells throughout the body. The (TNM) in IV stage are (any T, any N, M1). The average 5-year survival rate at the fourth stage is 22%. (NCI, 2016), (Lee *et al.,* 2016).

Only 5 to 12% of stage I and II breast cancer patients die within the first 10 years of diagnosis, but over 60% of stage III and 90% of stage IV breast cancer patients die within the first 10 years (Ogunkorode, 2019).

2.6. Classification of Breast Cancer

The development of the tumor is used to determine the stage of breast cancer. There are two broad categories of tumors: benign and malignant. Cancer that has the ability to spread from its original site is called malignant, whereas benign tumors has't the ability for metastasis. Breast cancer categorization employs four distinct systems (Ferreira *et al*., 2018), (Araújo, 2017).

Pathology: Histological features, or microscopic anatomy as seen under a microscope, are used to categorize this tumors. The lobules and the epithelium lining the ducts are the primary source of most breast malignancies, which are respectively referred to as lobular carcinoma and ductal carcinoma (Kabel & Baali, 2015).

When precancerous or cancerous cells form in a specific tissue compartment, such the mammary duct, without spreading to other areas of the body, this is called a carcinoma in situ or non-invasive carcinoma. Whereas if the cancer cells spreads beyond its original tissue compartment it's called invasive carcinoma (Suryachandra & Reddy, 2016).

Grade of the tumor: The histological grade is determined under a microscope, cancer cells are given a grade when they are removed from the breast and checked in the lab. The grade is based on how much the cancer cells look like normal cells and its used to help predict the outcome (prognosis) and to help figure out what treatments might work best (Henry *et al*., 2020)

BC cells are graded according to how abnormal they seem in comparison to healthy breast tissue. During normal development, cells in an organ like the breast undergo a process called differentiation, during which they take on specialized shapes and forms that are appropriate for their roles in the body (Kabel & Baali, 2015).

Tumor grades are divided into (3) subgroups. A low grade / well-differentiated tumor (grade 1): resembles normal tissue, usually the cancer is slower-growing and less likely to spread. High grade / poorly differentiated tumor (grade 3): contains cells that are not properly structured, giving it a distinct appearance from normal tissue and it is a cancer that develops and spreads more quickly than others. Moderately/ intermediate tumors (grade 2): are somewhere in between, the cancer cells are developed quicker than a grade (1) but slower than a grade (3) (Henry et al., 2020), (Mustafa *et al*., 2016).

Cancer cells are unable to maintain their differentiation. Disorganization of the milk duct cells occurs in cancer, which disrupts their normal function. The cell division is out of control (Khan & Ahmad 2019).

The nuclei of cells start to diverge in its building process. These cells often contain estrogen and progesterone receptors, which pathologists use to classify them as (low grade) well differentiation (ER & PR positive). The cells that are (high grade) highly differentiation occur because they lack the characteristics of normal breast cells (Suryachandra & Reddy, 2016).

A worse prognosis of breast tumors occur when the tumors with poorly differentiated tissue (tissue that is least similar to normal tissue of breast) (Kabel & Baali, 2015).

By measuring gene and protein expression, we can better predict breast cancer outcomes. Human Epidermal Growth Factor Receptor 2 (HER2), the estrogen receptor, and the progesterone receptor are all examined in tumors for their protein expression. The results of these examinations will aid in selecting the most appropriate course of therapy (Narzieyva & Jonibekov, 2020).

Stage of the tumor**:** The TNM staging system for breast cancer is the most popular system currently in use. The tumor's location, the lymph

node involvement, and the presence of further metastases are all factors. (Medina *et al*., 2020).

Cells have receptors in their membranes, cytoplasm, and nuclei. Hormones and other chemical messengers attach to their respective receptors and trigger cellular responses (Cruz-Ramos *et al*., 2019).

Both normal and cancerous cells of breast contain receptors for the female hormones progesterone and estrogen and their growth is stimulated by these substances (Allison *et al*., 2020).

The current categorization of BC cells places an emphasis on 3 receptors: "the estrogen receptor (ER), the progesterone receptor (PR), and HER2/neu. Depending on the presence or absence of these receptors, cells are classified as HER2 positive (HER2+), HER2 negative (HER2), ER positive (ER+), PR positive (PR+), or PR negative (PR) (HER2-)" (Waks *et al*., 2019), (Trebo *et al*., 2020).

DNA-based categorization: Looking at the DNA or RNA of cancer cells using a variety of laboratory techniques may be necessary to understand the specifics of a certain breast cancer. Treatment decisions may be influenced by the presence of certain DNA mutations or gene expression patterns in cancer cells. These changes may be targeted directly, or their presence may be used to predict the efficacy of nonspecific treatments (Zhao *et al*., 2020).

2.7. Type of Breast Cancer

There are many different types of breast cancer defined by where in the breast they begin to grow, how much they have grown or spread, and certain features that influence how the cancer behaves

Several forms of breast cancer are classified according to where the cancer first develops in the breast, if there is/isn't a metastasis, and other factors that affect the disease's behavior. Breast cancer types will help for the best treatment options (Nyayapathi *et al*., 2019).

1- Invasive breast cancer: When a diagnosis of BC includes the word invasive or infiltrating, it suggests the disease has metastasised to other tissue, part, or organ of the body. As their names imply, invasive breast cancer may be divided into two distinct categories based on where the tumor first develops inside the breast: Invasive ductal carcinoma (IDC) it is begins in the milk ducts. It accounts for the vast majority of cases of breast cancer. It is the most common form of breast cancer, it accounts for 50% to 70% of invasive breast cancers (Nedrud *et al*., 2022).

B) Invasive lobular carcinoma (ILC) the tumor initiate in the lobules. Around 10% of all invasive BC are (ILC) (Clark *et al.*, 2019).

C) Triple-negative breast cancer is an aggressive type of invasive breast cancer that based on immunohistochemistry (IHC) tests which are negative HER2 proteins and negative for progesterone and estrogen hormones (Yin *et al.*, 2020)

2- Non-invasive breast cancer or BC in situ: This type of BC doesn't metastasis to other tissue in the breast and remained in region where it initiated . It's also named as (precancers). There are 2 common kinds of non-invasive BC: A) Ductal carcinoma in situ (DCIS) this type of BC cells has initiated and developed in the milk ducts and remain stationary in this part of breast. Although DCIS itself is not fetal, it does raise the chance of developing invasive BC in the future (Kitamura *et al.*, 2019)

B) Lobular carcinoma in situ (LCIS) this type of BC cells has initiated and developed in the breast lobular and remain stationary in this part of breast (Mallory *et al.*, 2022).

It is expected that just one third of ductal carcinoma in situ (DCIU) instances would grow into invasive tumors if left untreated (Kanbayashi & Iwata, 2017).

Areas of necrosis (cancer cells that have died) are also noticed. Necrosis is an indication that the tumor is expanding rapidly. If dead and

dying cells clog a breast duct, doctors may use the term comedo necrosis to describe the condition. There is a strong correlation between comedo necrosis and DCIS of high grade, which increases the likelihood of the condition progressing to invasive BC (Tomlinson *et al.*, 2021).

2.8. Risk Factors & Predisposing Factors

The determined reasons of BC are unknown. Aging, genetic susceptibility, and estrogen and progesterone hormones have essential roles in the BC development, though the precise roles of these variables in the progression of the tumor are unclear (Kamińska *et al.*, 2015).

Family history of BC, menstrual and menopausal history, age at first pregnancy, age at menopause, usage of hormone replacement therapy (HRT), and body mass index are the standard factors included in risk assessment models of BC (Evans *et al*., 2016).

Abortion, breast size, deodorant / antiperspirant use, bra use, and so on have no bearing on the risk of developing BC (Colditz *et al.*, 2015).

Artificial breasts, or implantation of breast, do not cause cancer. Nevertheless, since minor scars may be left behind in the breast tissue following surgery for breast augmentation or correction of breast form, the risk of getting cancer in these women may be somewhat greater than typical (Scars may cause alterations in cell development) (Rohrich *et al.*, 2019).

Puncture wounds to the breast may cause scarring, which has been linked to the raised of risk of BC. Although while taking contraceptives orally are related to a modest increase in BC risk, that risk returns to normal after a few years of a woman stopping her drug (Feng *et al*., 2018), (Mitsuk, 2016).

In women who have smoked heavily for a long time, tobacco use may increase their risk of developing cancer of the mammary gland (Wong *et al*., 2020).

The fact that the possibility of acquiring breast cancer grows with age, and that many women do not have an accurate understanding of their own personal risk, is a major issue related to breast cancer (Ganz & Goodwin, 2015).

In the United States, recent studies have estimated that every woman has 12% of risk chance of acquiring BC sometime in her lifetime. This translates to 12–13 cases of BC for every 100 women (Oeffinger *et al*., 2015).

Women under the age of 40 have a lower chance of acquiring breast cancer than women beyond the age of 40, and its account for almost 95% of all cancer diagnoses (An *et al*., 2015).

A woman's genetic susceptibility to the illness, in addition to age, are a risk factor for the development of BC. Age and sex are the two most significant factors that increase the risk of getting BC (Sun *et al*., 2017) (Kleibl & Kristensen, 2016).

The BRCA1 and BRCA2 genes are responsible for around 5-10% of all cases of breast cancer. Lifetime risks of 50-85% for having breast cancer and 20-40% for developing ovarian cancer are associated with mutations in these genes (Fernández & Reigosa, 2020), (Alshammari, 2019).

A live relative with BC is necessary for genetic screening, however women with a strong BC history within their family, candidates for this procedures include those who have had two close relatives, such as a mother and a sister or daughter, diagnosed with breast cancer before the age of 50 (Brewer *et al.*, 2017).

The family history of breast cancer (genetic predisposition), overweight, dense breast, exposure to ionizing radiation, short lactation period, and low physical activity are contribute with breast cancer disease (James *et al*., 2015).

Some women are more likely than others to acquire breast cancer: Exogenous hormone intake (hormonal contraceptive use and hormone replacement therapy), genetic susceptibility, factors affecting endogenous hormone levels (later age at menopause, later age at first birth, fewer children, nulliparity, shorter durations of breastfeeding, and early age at menarche), lifestyle patterns (physical inactivity, smoking, and high alcohol consumption), anthropometric characteristics (weight gain during adulthood, greater weight, and higher percent body fat), and dietary factors all contribute to the development of BC (Nelson *et al.,* 2012), (Winters *et al.*, 2017), (Brinton *et al.*, 2018).

Have high body mass index, childlessness, or having children beyond thirteen years of age, as well as drinking large amounts of alcohol, are factors that have been linked to an increased risk of breast cancer. It has been discovered that smoking has either very little or no impact (Fekjær, 2007).

After menopause, women who are overweight or obese have a higher rate of oestrogen production, which means that their chance of getting breast cancer is higher than other women (Al-Ajmi *et al*., 2018).

The chance of recurrence and the risk of death from any cause are both greater in survivors of breast cancer who are overweight or obese (Shaikh *et al.*, 2020).

In addition, women who have a benign (non-cancerous) breast condition may have a raised a chance of acquiring BC, either in the afflicted breast or in a breast that has not been affected before (Zeinomar *et al*., 2019).

Lifestyle factors such as physical activity deficiency, use of alcoholic beverages, smoking, and the obesity are a risk factors for not only developing BC but also raising the possibility of a second cancer diagnosis (BC recurrence) and the development of contralateral BC in patients who

have previously been diagnosed with BC (Cava *et al.,* 2022), (Chaurasia & Pal, 2017).

The environment has a great influence, as it is likely responsible for the difference in breast cancer rates between countries according to different dietary habits. Researchers have long measured that breast cancer rates among immigrants change until they reach rates similar to rates in the host country after a few generations. This is attributed to immigrants changing their diet according to the host country's system. Japanese after their arrival in the United States (Leong *et al.,* 2010), (Michels, 2002).

2.9. Diagnosis of breast cancer

BC is one of the top reasons of cancer-related deaths among women globally. Effective therapy and a favourable prognosis are essential for a increased survival rate and reduced risk of death in BC patients if they are diagnosed and treated early. There are many tests used for diagnosing breast cancer, not all tests described will be used for every person (Iranmakani *et al.*, 2020), (Zhang *et al.*, 2018).

The current two primary pillars to be addressed for efficient treatment of BC are early detection of the disease and rapid therapy after diagnosis (Bhushan *et al.*, 2021).

2.9.1. Mammography

Mammogram is a breast x-ray that can expose malignant or benign tumor. It is conducted by put on through the breast a minor dosage of radiotherapy after compressed the breast between 2 plates to manufacture an image of x-ray, it can be used for both diagnosis and screening (Bhan, 2013).

Mammogram is done as an effort for early detection about any breast cancer signs, even before occur of any symptoms, to reduce death by early finding or with presence of symptoms, for example, feel of a lump in the breast (Sundaram *et al.*, 2014).

False negative rates are especially high in women with dense breasts because to mammography's lower sensitivity induced by the masking effect of dense breast tissue (Duffy *et al*., 2018).

False positive mammograms may affect women emotionally and prompt them to change their screening habits. Women who were given false positives increased the frequency with which they checked their breasts. (Coleman, 2017), (Bond *et al*., 2015).

2.9.2. Magnetic Resonance Imaging

MRI is a diagnostic non-ionizing and non-invasive imaging tool BC that apply a magnetic field and low-energy radio frequency waves to get complete breast structures image (Graves *et al.*, 2015).

MRI can be performed to measure the tumor size and explore the presence of metastasis in patient who has been detected with BC at previous time. MRI use to measure the size of tumor which is less than or equal to 2 cm (Jethava et al., 2015).

A suspected malignancies that are not detect through clinical, mammographic, and ultrasound can be discover through MRI (Torrisi *et al.*, 2019).

The abnormal tissue of breast encompassed the actual lesion larger tumors are often overestimated. So, it is essential to assess these findings histologically before any operating interference (Alaref *et al.*, 2021).

2.9.3. Dynamic Contrast Enhanced MRI (DCE-MRI)

DCE-MRI is a quantitative and non-invasive imaging method that assesses tissue interstitial space composition, vascularization, and tumor distinction without causing any harm to the patient (Rahbar *et al.*, 2016).

Tumor angiogenesis may be shown using this imaging technique, which is helpful for recurrence and overall survival prediction in patients with BC (Choi *et al.*, 2016).

2.9.4. Magnetic Resonance Elastography

Mechanical characteristics of tissues may be characterised in vivo with the use of MRE and also can determine the degree to which breast tissues are viscous (Patel *et al.,* 2021), (Glaser *et al.*, 2012).

The increased quantity of cells, proteoglycans, and collagen in breast tumors makes them stiffer than the normal tissue around them or non-cancerous lump, so MRE is useful detecting whether the lesion is malignant or benign (Hawley *et al.*, 2017).

2.9.5. Diffusion-Weighted Imaging

(DWI) is a non-contrast enhancing method of magnetic resonance imaging, its a rapid technique that measures the mobility of water molecules within tissue, reflecting the cellular microenvironment (Durur, 2019).

DWI breast cancers typically exhibit reduced diffusivity and appear hyperintense to surrounding tissues. DWI can detect breast cancer without the costs and safety concerns associated with dynamic contrast material–enhanced MRI, and to identify residual or recurrent tumors in follow-up examinations (Messina *et al.,* 2020), (Amornsiripanitch *et al.,* 2019).

2.9.6. Magnetic resonance spectroscopy

MRS is being explored as an additional tool for improving specificity in BC detection, using multiparametric MRI (Prvulovic *et al.,* 2021).

By applying strong magnetic fields to bodily fluids, MRS may determine the chemical composition of the breast and offers unique information associated with the malignant transformation in a non-invasive manner. MRS is based on the detection of increased levels of choline containing compounds (tCho) in malignant breast lesions which have been shown to differentiate them from benign lesions (Sharma *et al.,* 2019).

2.9.7. "Positron Emission Tomography (PET) Scanning and PET in Conjunction with Computer-aided Tomography (CT) Scanning (PET-CT)"

PET technique has become an integral part of oncology practice. Combining PET with CT, as in PET-CT, allows for very precise anatomical depictions of the body. Clinical application in the study of primary tumors has been made possible by the increased spatial resolution and sensitivity of breast-specific PET scanners (Kawada *et al.*, 2016), (Hsu *et al.*, 2016).

2.9.8. Biopsy

The majority of suspicious breast lesions require further diagnostic workup with a biopsy and pathology diagnosis to determine management. A biopsy involves taking a tiny sample of tissue for microscopic analysis (Versaggi & De Leucio, 2020)

Biopsy by use of a fine needle: A little sample of cells is taken using a fine needle during this sort of biopsy; biopsy by use of a core needle: With this biopsy technique, a bigger tissue sample is removed using a larger needle; Surgical biopsy: This type of biopsy surgically removes the largest amount of tissue (Bhushan *et al.*, 2021).

To assess whether metastases has occurred in patients with early-stage BC, Sentinel Lymph Node Biopsy (SLNB) is a radical, least intrusive approach. It is often performed to decide on the best course of treatment based on the extent of nodal metastasis (Lyman *et al.*, 2017).

2.9.9. Ultrasound

It's a supplementary technique for distinguishing benign from malignant breast tumors by gauging their relative consistency or hardness. Widespread accessibility and lack of radiation exposure for the patient are two major pluses of this method (Banerjee et al., 2020), (Skerl *et al.*, 2016), (Sridharan *et al.*, 2015).

2.9.10. Breast Self-Examination

The term breast self-examination (BSE) is used to describe a practice in which a woman is familiar with her normal breast appearance and then checks for any abnormalities, such as a change in breast shape, or size, a change in the texture and colour of skin, lump presence, nipples discharge, enlargement, and armpits or breasts pain (Abdalrahim, 2016).

The majority of BC were discovered by the women themselves, and it has long been emphasized to women that increased awareness of the breast may lead to increased odds of their survival by an early diagnosis and treatment of BC (Albeshan *et al*., 2020).

BSE is a crucial but insufficient tool for early cancer detection. It's a low-cost procedure that can be done in the comfort of one's own home without the need for expensive or time-consuming specialized training. Breast self-examination teaches women how their breasts should look, which may aid in the detection of abnormalities in the tissue of mammary gland later in their life (Akhtari-Zavare *et al*., 2015).

Every month, ideally on the first day following the end of menstruation, women over the age of 20 should self-examine their breasts, as recommended by experts from the Population Programme for Early BC Detection undertaken as part of a nationwide Plan to combat cancer in Poland. Postmenopausal women should check their breasts monthly, ideally each month on the same day (Kamińska *et al*., 2017).

The sensitivity to BSE is just between 12 and 14%. It also has a high rate of producing false positive findings, which is another one of its drawbacks; as a consequence, BSE should always be supplemented with an objective imaging assessment (Godavarty *et al*., 2015).

2.10. Prevention of Breast Cancer

Several risk factors probably both initiate and sustain BC. Age and gender (being a woman) are two risk variables that cannot be changed (Torre *et al*., 2015).

Breastfeeding is thought to have several protective benefits, one of which is related to the production of oestrogen and thus link to the development of breast cancer; however, a precise relationship between the two has not been established (Parida &Sharma, 2019).

The government has spent a lot of money on public education initiatives to spread the word about BC preventive / delaying strategies (Figueiredo *et al*., 2017).

According to recent findings, the BC risk for women who have their first child at a young age and breastfeed their infant with their milk is much lower than the risk for other women (Lyons *et al*., 2020).

Having children at a healthy age and breastfeeding them immediately after delivery are two important factors that researchers say may greatly reduce the rate of incidence of BC in industrialised nations (Scoccianti *et al*., 2015).

Around 35% of all cancers, including BC, may be avoided. To reduce cancer rates and associated healthcare costs, prevention is the most financially viable long-term approach. WHO is making concerted efforts to raise awareness among women all around the globe. In addition to free clinics, women in developing nations have access to local language health education materials that include topics including proper nutrition, exercise, and prevention of BC disease (WHO, 2009).

One of the goals of the World Health Organization is to reduce the number of deaths that are caused by BC among women all over the globe (Figueiredo *et al*., 2018).

Women who have a high lifetime risk of developing breast cancer may also recommend to taking raloxifene and tamoxifen medicine (Owens *et al*., 2019).

According to the Union for International Cancer control (UICC) the World Cancer Declaration Target Report indicate that Iraq has achieved tremendous progress in the area of prevention by passing tobacco control laws, restricting the access of alcoholic beverages to the general population; fostering public mobilization efforts on tobacco reduction and early breast cancer diagnosis, hours a week of physical exercise, maintaining a healthy diet, and anthropometric screening in schools (Tobacco Control Laws, 2021), (Alwan & Kerr 2018), (WHO, 2015).

The primary goal of the National Health Service Breast Screening Program (NHSBSP) is to offer early diagnosis and consequently minimize mortality from breast cancer. There are those who claim the NHSBSP is harmful because of over diagnosis and false-positive test findings, however they do not seem to exceed the advantages in terms of lives saved (French *et al.*, 2018).

2.11. Treatment of Breast Cancer

According to the assessment and diagnosis of BC and its metastasis, a preoperative (neoadjuvant) general therapy can determine before surgical removal of the tumour, the downstage tumours allowing breast-conserving surgery, rather than mastectomy (Selli & Sims, 2019).

The primary goal of this therapy is to shrink the tumour before surgery, making it more amenable to surgical removal, the neoadjuvant setting offers a valuable opportunity to monitor individual tumour response (Wang *et al*., 2017).

2.11.1. Surgery

A tumour in the mammary gland may be removed surgically in one of two ways: either by performing a total mastectomy, in which the whole

gland is removed, or by performing a lumpectomy, in which just the tumour is removed (Kaidar *et al*., 2021), (Li *et al*., 2019).

Lymph nodes that have been invaded by a tumour are also removed during surgery. Radiotherapy is often administered after surgery in which just the tumour and not the whole breast is removed (Franceschini *et al*., 2015).

After the tumour has been removed, surgeons are often able to quickly place a temporary artificial implant to restore the missing tissue and improve the patient's appearance. Long-term implants, which may restore breast form entirely, can be substituted for temporary implants over time, and there is no increased risk of BC with their use (Kaplan & Rohrich, 2021).

2.11.2. Radiotherapy

During radiation treatment, X-rays are utilised to irradiate the tumour site and destroy any remaining cells of cancer. When just the tumour is removed during surgery and not the whole breast, or when the tumours have metastasised to other tissue / organs of the body, radiotherapy is often recommended (Kim *et al*., 2021), (Song *et al*., 2017).

Linear accelerators are used in "Intensity Modulated Radio Therapy (IMRT)" to target the tumour with radiation. Although tomotherapy is technically an IMRT technique, it employs a separate treatment planning method (Saw *et al*., 2018), (Rehman *et al*., 2018).

It is an innovative approach to radiotherapy in which imaging methods (CT and MRI) are utilised to construct a picture of the tumour and determine the dose of radiation to be administered. It aids in improving treatment accuracy and diverting radiation away from vital organs like the lungs and heart (Beaton *et al*., 2019).

There has been little to no response to radiation or chemotherapy treatment for the very uncommon instances of mammary secretory carcinoma that has spread to other organs (Mortensen *et al*., 2021).

2.11.3. Chemotherapy

As a kind of cancer treatment, chemotherapy employs chemicals that may either stop the cell's growth of cancer or kill them off (Pérez & Fernández, 2015).

Chemotherapy for BC may be administered orally or via an intravenous line, depending on the individual patient's condition. Cyclic administration of chemotherapy is the norm (Schwartzberg *et al*., 2020).

Chemotherapy after the operation continues for several months, which is called adjuvant, and the full course consists of several cycles (Proietti *et al*., 2017).

This kind of therapy is essential for eliminating any lingering cells of cancer in women after surgical removal. This therapy is effective in eliminating tumour metastases and reducing the likelihood of future tumour growth (Peart, 2017).

2.11.4. Target Therapy

It is a novel kind of BC treatment that employs medications targeting the protein HER2, these drugs have less adverse effects than the medication used for chemotherapy (Wang & Xu, 2019), (Oun *et al*., 2018).

Trastuzumab (Trastuzumab) and pertuzumab (Pertuzumab) are two of the most important medications used in Target treatment (Pertuzumab). These medications are a more effective and safer option when used together to treat breast cancer because they bind to the HER2 protein, preventing it from doing its effective role and slowing cells proliferation of the cancer. To kill cancer cells, these medications are thought to also aid the immune system's cells (De & Biswas, 2020), (Chen *et al.*, 2019).

IV injuction is the method of choice when using trastuzumab (Once a week or once every three weeks) the duration of therapy is one year. (Joensuu *et al*., 2018).

The BC management with target therapy may begin either before or after surgery, and it can be paired with chemotherapy in certain instances. This therapy improves the efficacy of BC managment and decreases the chance of tumour recurrence (Cats *et al*., 2018).

2.11.5. Hormone Therapy

If the cancer cells tests are reveal positive for progesterone (PR+) and oestrogen (ER+) hormones, that is mean the breast cancer cells contain estrogen or progesterone receptors, for that may be given hormone therapy to block hormones in the body that might help in the growth of cancer. This may be done by using special drugs or by surgery to remove organs that make hormones, such as the ovaries (Lim *et al*., 2016).

Two forms of hormone therapy exist: combined oestrogen and progesterone (EPT) and estradiol only (ET). The mortality and recurrence rates of BC may be lowered with the use of hormonal treatment (Mikkola *et al*., 2016).

One of the most widespread chemotherapy medications is tamoxifen. This compound inhibits the estrogen and progesteron effects on tissue of the breast (Lumachi *et al*., 2015).

Preventatively and therapeutically, it is used. It has been shown that this medication inhibits the ability of breast tissue to respond to oestrogen, while stimulating oestrogen receptors in the skeletal system and in the uterus (Begam *et al*., 2017).

In high-risk women, using tamoxifen for 5 years has been shown to lower the likelihood of getting malignancies by as much as 45%. Tamoxifen has the potential to induce significant and even life-threatening

adverse effects. Consequently, it is imperative that you see your doctor before using this medication (Nazarali & Narod, 2014).

Aromatase inhibitors are yet another type of chemotherapy drug (anastrozole, letrozole, exemestane). These medicines are prescribed to BC patient at menopausal time only because they inhibit the synthesis of oestrogen in adipose tissue. They work similarly to tamoxifen in lowering cancer recurrence rates. They may be taken in combination with tamoxifen, which enhancements the treatment's efficacy (Yan *et al*., 2015), (Lumachi *et al*., 2015).

2.12. Nursing Role in Breast Cancer

Nurses perform a crucial role in physical and psychosocial support of women with breast cancer. However, only few reviews have explored and discussed the roles and interventions carried out by specialised nurses in breast cancer care (Hussain *et al.*, 2020).

The nurses' role can be to meet breast cancer patients in a variety of settings. Women are routinely evaluated for breast cancer and nurses may be involved in performing mammograms. Once diagnosed, nurses will have roles in patient treatment including both outpatient and hospital. Nurses provide support and education to their patients before, during and after breast cancer treatment. The nurses should be knowledgeable about the different breast cancer screening modalities and risk factors for breast cancer, and the screening practices for breast cancer (i.e., clinical breast examinations, ultrasound, and/or mammography screening) (Wu & Chen 2017).

Oncology nurses can provide high-quality care for oncology patients, especially in oncology prevention, screening, diagnosis, active treatment, palliative care, and rehabilitation care. They also play a crucial role in collaboration with a multidisciplinary medical team. Oncology nurses are

clinical experts in evidence-based nursing practice in a specialized field (Zhang *et al.,* 2021).

Oncology nurses have an in-depth understanding of the impact cancer and cancer treatment can have on the body. They are well versed in side effect management and are there to help mitigate the patient's symptoms. Whether it is fatigue, GI upsets, problems with skin or sexual dysfunction. The oncology nurses provide a range of supportive care measures to cancer patients, such as pain management, nutritional support, and skin care. From diagnosis to hospitalization, treatment and discharge, oncology nurses deliver personalized, holistic services that cater to patients' individual needs while fully respecting the patient's personality and rights. The oncology nurse can likely recommend both pharmacologic and non-pharmacologic interventions for a wide range of issues. They also serves as one of the greatest advocates. They will ensure that the issues are heard and connect the patient to the various members of healthcare team to address the patient's concerns (Gong, 2020), (Xie, 2019).

The oncology nurse has knowledge of the impact of cancer treatment and cancer on the mental health of patients and their families. They are often the biggest cheerleader for patients. One of the oncology nurse's duties is to listen and talk about things like body image, distress, and anxiety, as well as relationships or intimate relationships. The oncology nurse will likely connect breast cancer patients to needed resources within your healthcare organization and in the community. She should also have experience with how to escalate patient care in the event of an acute mental health crisis (Li *et al.,* 2023).

Surgery is the main treatment for breast cancer and can obtain a good curative effect. However, surgery also results in trauma and stress for patients, leaving them prone to a variety of postoperative complications, which can affect the treatment effect and prognosis (Deluche *et al.*, 2018).

Establishing the relationship between the patient and the nurse: One of the duties of the nurses is to conduct an activity with the patients who are about to undergo breast cancer surgery after their admission to the hospital to understand their psychological state, family environment, social relations, economic situation, and awareness of breast cancer. Nurses have to establish a good relationship with patients and address them as relatives. -Health education: the nurse should explain to patients the operating room environment and operation principle to ensure that patients have a certain understanding of breast cancer surgery. Nurses encourage patients to ask questions, providing accurate and comprehensive answers to familiarize patients with the tools and equipment that will be used during the procedure. Moreover, the nurses introduce the surgical medical staff to the patient to improve their knowledge. -Psychiatric nursing: Nurses accompany patients throughout the entire process, and provide timely targeted guidance when patients are under psychological pressure, such as shifting their attention, talking, etc., to guide patients to meditate and enjoy. Relaxed and happy thoughts. Nurses also accompany patients during the operation and help them go through the process smoothly (Fan, *et al.*, 2021).

2.13. Prevalence of Breast Cancer

BC has been the most prevalent female cancer in industrialised nations for over (3) decades and its prevalence has been rising in many areas of the globe throughout that time (Rawla & Barsouk, 2019).

WHO projected that the incidence of breast cancer were 19.3 million in 2020 and ten million deaths of cancer disease (Sung *et al.,* 2021).

Cancer is one of the most common diseases around the world and the second leading cause of death after cardiovascular disease. Breast cancer is the most prevalent cancer type among Iraqi women, as it

represents the highest percentage of malignant tumors in women until 2018 (Alrawi, 2022).

In Iraq, BC is very common kind of malignancy among the population in general; responsible for about one third of the registered female cancers and almost one quarter of females' deaths from the disease. The peak age incidence rates are noted among middle aged women who often present with advanced stages documenting high mortality incidence ratios (Ebrahim, 2014).

Breast cancer has emerged as a serious issue in Iraqi public health, and is expected to become much more so as the country's population grows, many people are still misdiagnosed or not identified until a late stage of the disease, and around 90% learn of their illness via chance (Al-Gburi *et al.*, 2021).

Among Iraqi people, the cancer incidence rate is 134.9 per 100,000 people and the death rate is 84.7 per 100,000 people when adjusted for age. In 2040, low- and middle-income nations would bear more than 60% of the global cancer burden, according to demographic projections. Due to population increase, age, lifestyle adjustment, urbanization, and carcinogen exposure, the Eastern Mediterranean Region (EMR) is expected to have the highest cancer rate. Iraq is a middle-income economy, had the Middle East's best health care system until 1990 (Al Alwan, 2022).

Among Iraqis, BC has already overtaken lung cancer as the most common form of the disease. And in recent years, BC rates in Iraq have risen dramatically, which indicates a serious health problem in the country. For an accurate assessment of the scale of the problem, action at the national level is required (Aljubori, 2018).

Twenty-three percent of the approximately one million cases of female cancer diagnosed each year are due to BC. There were 2.3 million new cases of BC in women and 685 thousand deaths from the disease

worldwide. By the end of the year 2020, there were 7.8 million females living who had been diagnosed with breast cancer during the preceding five years, making it the most common disease in the world. (Lei *et al*., 2021).

About 75% of breast cancers are detected in postmenopausal women, whereas 5-7% is diagnosed in women younger than 40 in high-income nations (Pashayan *et al.,* 2020).

The worldwide burden of Disability Adjusted Life Years (DALYs) lost due to BC in women is greater than that of any other malignancy. BC affects women of all ages worldwide after puberty, with rates rising with age. During the 1930s until the 1970s, there was almost no difference in breast cancer death rates. Increases in survival rates first appeared in the 1980s in nations where programmes of early detection were used in conjunction with various therapy modalities to eliminate invasive illness. (Winters *et al*., 2017).

Several regions of the world have different incidence rates, with Europe having the highest and Africa and Asia having the lowest (Torre *et al*., 2015).

The south zone of Iraq Basrah reports that female BC is an important health issue. No cases were documented among children under the age of 15, and as people aged, the incidence rose, peaking at 123.80 per 100,000 women between the ages of 50 and 54. Crude incidence rate is 23.7 per 100,000 people; age-adjusted incidence rate is 34.9 per 100,000 people; this high rate warrants significant efforts to increase the rate at which new cases are identified (Habib *et al*., 2016).

Because of long-term exposure to depleted uranium, it was discovered that there was a threefold rise in all forms of BC among Iraqi residents living in the Middle Euphrates region (Al-Faluji *et al*., 2012).

In Iraq, Erbil included a total of 148 BC cases and the analysis of variables performed with stratification of 10 years age interval (Alsamarai & Abdula, 2015).

Despite rising or maintaining incidence rates, death rates from breast cancer are falling in most high-income nations. However, rising rates of both incidence and death are a cause for worry in a lot of nations, especially those experiencing fast shifts in human development (DeSantis *et al*., 2015).

Differences in BC death rates throughout Europe are mostly attributed to factors like the stage of cancer at diagnosis and the kind of therapy received (Carioli *et al*., 2017).

BC is most common in developing and middle-income nations, where it also claims the most lives. The five-year survival rate for BC is more than ninety percent in high-income nations but just sixty six percent in India and forty percent in South Africa, demonstrating a considerable disparity between the two economic groups (WHO, 2022).

Based on the results of a large-scale analysis of hospital records, it seems that British women are diagnosed with BC later, have fewer operations, have fewer nodes sampled, and have a lower incidence of axillary dissection than their European counterparts (Arab *et al*., 2016).

2.14. Psychological Health

2.14.1. Impact of Breast Cancer on Psychological Health

When a woman is diagnosed with breast cancer and subsequently undergoes treatment, she often suffers from emotional and psychological anguish. Both amongst different women and within the same person at different points in the diagnostic and therapy processes, the degree of discomfort varies (Jørgensen *et al*., 2015).

Most people with cancer will feel better over time as treatment progresses. However, for others, such discomfort may significantly impair

quality of life (QOL), comfort, and the capacity to make proper treatment choices and adhere to therapy. (Murray, 2016).

Physical challenges, such as disease or disability, mental health issues, and familial and societal concerns, such as work, insurance, and access to supportive care, may all contribute to psychosocial distress. (Loughery & Woodgate, 2015).

The issues that are included in the operational definition of distress and the manner in which it is assessed both have a significant impact on the incidence and patterns of psychological distress that are seen in a female breast cancer patients (Adeyemi *et al*., 2021).

Significant psychological distress is induced by a breast cancer diagnosis, which may have a negative impact on one's ability to function and overall health (Aizpurua & Perez, 2020).

During the first year after receiving a cancer diagnosis, women typically showed significant psychological discomfort, which may be impacted by psychological features such trait anxiety, coping style, optimism, and emotional suppression, which are the elements that contribute to the resilience (Ando *et al*., 2011).

Financial difficulties, levels of education, relationship status, and family structure as well as a person's history of psychological problem and their current degree of social support, have all been shown to amplify the effects of psychological distress (Van Droogenbroeck *et al*., 2018).

2.14.2. Psychosocial Needs of Women by Phase of Care

Fear of recurrence, anxiety related treatment, physical symptoms like fatigue, pain, sleeping disturbance, disruption of body image, sexual dysfunction, relationship status with the partner, invasive thoughts about persistent anxiety illness, vulnerability feelings, and death-related existential angst are some of the most commonly reported as a psychosocial concerns among women diagnosed with BC (Lovelace *et al*., 2019).

After receiving diagnosis of BC and undergoing treatment, it is natural for a woman to feel anxious. However, there is a wide range in how much women generally accept these worries, how they deal with them, and how they adjust to living with some degree of uncertainty about the future. Some women are so worried about what the future holds that they can't stop thinking about their disease (Straiton *et al*., 2017), (Liamputtong & Suwankhong, 2016).

Most breast cancer patients may benefit from adopting a more pragmatic outlook on the disease and its treatment as part of their coping techniques. However, adaption and coping may be very challenging for certain women, necessitating the need for assistance and intervention (Liu *et al*., 2021a).

The experience of having breast cancer may be broken down into a number of discrete stages, each of which is distinguished by a specific collection of psychological problems. These phases overlap with various stages of the clinical progression of the disease and the therapies that are associated to it (Valente *et al*., 2021).

Oncology and primary care practitioners have a responsibility to be ready to address a wide variety of psychological concerns that may crop up among their patients at any time in the treatment continuum for breast cancer (Recklitis & Syrjala, 2017).

Issues that affect the coping state, quality of life, and overall health, of breast cancer women including: cultural and socioeconomic factors, health care accessibility, the presence of other chronic disease or life disasters, and social support availability, are important to consider when attempting to understand the psychosocial impact of breast cancer (Iyer & Ring 2017), (Rezaei *et al*., 2016).

2.14.3. Cancer as a Psychological Trauma

Psychological trauma is an event or lived experience in an individual's life that leads, during a short period, to a very large increase in arousal, determined according to its severity and the helplessness in which the person finds himself, as confronting it or trying to reduce the resulting tension with normal and familiar solutions leads to failure (Otte *et al*., 2016).

Receiving the news of cancer, whatever its kind, is a sudden event, as the sufferers live psychological trauma, so the news of the injury is strong and violent because it represents an event outside the daily experience of the individual, and it threatens to end his life, so he receives him with horror and panic, which has negative effects that affect his life in various then his anxiety explodes and his explicit psychological suffering begins, as the obsession with death that threatens him appears (Hall & Hall, 2016).

An individual's psychological and physical health is suffering after receiving a breast cancer diagnosis. It may happen even after medical therapy is completed. Due to the challenges in isolating a single stressful factor, cancer has a very distinctive and unusual character. Inheritance and the potential for relapse as well as the internal processes are play a role in create a set off triggers to psychological problem (Martino *et al.,* 2019).

Pain, mutilation, and the loss of occupational and social responsibilities may all cause to a substantial numbers of breast cancer women feel of overwhelm by the danger to their life and physical health. Illness and a rapid diagnosis may induce feelings of helplessness, panic, depression and anxiety due to the patient's perception of impairment and loss control (Quattropani *et al.,* 2018 a,b).

The scale of the psychological reaction to the removal of a breast is closely related to the emotional importance that the woman attaches to her

breasts. Consequently, depending on the negative change in a woman's body, any perceived losses may lead to various psychosocial problems (Oers & Schlebusch, 2020).

2.14.4. Stages of Psychological Manifestations

The stage of disbelief: the patient's narcissism explodes with his inability to tolerate the idea of the body betraying him (Akhtar, 2018).

Hysteria stage appears as one of the most powerful psychological defense mechanisms, which some psychoanalysts consider to be a sign of life (Csigó, 2021).

In the realistic stage the patient is convinced that his body has betrayed him and the reactions are different depending on the individual differences and the awareness of the severity of the injury and the type and degree of cancer (Zeigler-Hill & Shackelford, 2020).

Shock stage here the first attack on the psyche of the recipient, due to the news of his illness, as several unconscious behaviors arise from the person. This is because the psychological trauma arises as a result of the emergence of a sudden and unexpected new element in an individual's life, which changes his existence in a significant and important way, because of which the individual temporarily reaches a lack of adaptation (Caruth, 2016), (Halton, 2019).

The stage of denial Is immediately follows the shock stage, where the person with the disease rejects the reality of his injury, and he also denies the possibility of being exposed to such a disease (McGill, 2015).

In the depression stage the patient suffers from a type of depression, which is a psychological condition that leads the individual to a pathological state characterized by the possibility of the emergence of a cognitive deficit (Maj *et al*., 2020).

While the third condition (the stage of rebellion) with which the individual lives after diagnosing his sick condition, and since rebellion in

its meaning is an infringement on the rule, authority or law, in this case it can be defined as the expression accompanying the dissatisfaction with a certain situation, whether for the individual or the group, and usually the individual links his rebellious behavior considering his viewpoint to an unfair or aggressive environment, and therefore this rebellious behavior results from a vague and unclear view, and thus rebellion is a natural reaction to frustration (Kozlov & McClarnand, 2015).

The stage of adaptation it is called also the stage of acceptance of the disease, or rather, getting used to it and adapting to it, and this stage is usually accompanied by complete calm on the part of the patient, and clear cooperation with the doctor, so that the patient tries to include his illness as part of his life, and with the development of this stage the patient finds himself in complete submission (Garrino *et al*., 2015).

As for Kruegre, he gave a description of the psychological pleasure of the traumatized person as a result of receiving the news of cancer, starting with the shock phase, then the denial phase, then the depressive phase where the risk of suicide is great, then he developed the rebellion against independence, preferring dependence to reach the phase of adaptation (Kamanga, 2016).

2.14.5. Phases According to the Duration of Diagnosis

The phase of denial and disbelief lasts for the first week after diagnosis (Rabba *et al*., 2019).

In the phase of heartbreak and mourning occurs intense transition and lasts for two weeks, punctuated by feelings of anxiety and fear and extends from tension and separation to reach the highest levels of panic, in addition to sadness and feelings of heartbreak and distress to reach the level of complete depression and then anger that may be directed at oneself, others or circumstances (Barber *et al*., 2016).

The bargaining and acceptance phase is takes place for a month after the diagnosis, when feelings turn from generalities to scientific issues such as is the tumor is a large or small tumor that has spread or not, or such as searching for the possibility of treatment available and then the practical steps begin (Barker *et al*., 2015).

The phase of coexistence and adaptation begins after the end of the previous phase and continues with the patient's life, in which the patient redraws his life taking into account the changes in the lifestyle, whether all this adaptation is positive through confrontation and the search for solutions and alternatives, or negative through expression, according to factors related to personality. The individual and his genetic and environmental makeup or according to other external factors (Morales-Asencio *et al*., 2016).

2.14.4. Psychological Problems Associated with Breast Cancer

Over the course of cancer treatment, patients often experience significant psychological discomfort. Fear of dying, unsolved issues, leaving loved ones behind, and physical discomfort are just few of the difficulties that patients face (Sahin *et al*., 2013).

Ineffective coping with a stressful situation is a hallmark of psychological health problem, which is associated with the development of both emotional and physical symptoms such as anxiety, depression, and stress (Morse & Bor, 2016).

Some of the most frequent symptoms of psychological suffering that may impact a person's social effective and everyday life due to cancer include loss of interest, restlessness, melancholy, lack of energy, tension, sleeplessness, headaches, and hopelessness (Bener *et al*., 2017).

Cancer is a major threat and complex changes affect the daily life of the victim, her social status, her surroundings and everything that the patient is used to (Ahmadi *et al*., 2019).

The individual responds with concern to this situation that he cannot bear so that it exceeds his capabilities and according to what affects the quality of an individual's life (Shahsavarani *et al*., 2015).

Three years later, however, there was a significant improvement in mental and social health, as well as a reduction in tiredness, nausea, fears about the state of one's health in the near future , and discomfort, and a rises in measures of happiness and well-being (Dehghan *et al*., 2020).

Although this is a positive discovery, it also implies that BC may have significant psychological and physical repercussions for patients during the 1st year, particularly when vigorous treatment is done, and that these effects may persist to many years after diagnosis (Drageset *et al*., 2016).

A high level of psychological consequences considered in patients with breast cancer are anxiety, body image, coping strategies, depression, fatigue, quality of life, and sexual function, so suitable therapy regimens must be developed to modify the psychological effects (Saeedi *et al*., 2019)

2.14.4.1. Anxiety

Feelings of anxiety, tension, worry, stress, and strain are frequent and integral to modern living. We don't need to seek help from an expert for occasional stress or anxiety, but we do need to take action when these symptoms become persistent and impair our ability to live a full, satisfying life (Powell & Enright, 2015).

Anxiety is a typical symptom connected with cancer because it is an subjectively painful situation coupled with the feeling of an actual danger (Mazzocco *et al*., 2019).

Anxiety is an adaptive response, which is a difficult and unusual feeling, and represents a state of fear, but it is not specified, a feeling that is not commensurate with the situation attributed to it. Adaptive, in response to the risk caused by cancer, it is a normal response that lasts from 7 to 10

days after diagnosis (suspicion, suffering, death) (Schiltz & Magnus, 2021).

Anxiety is a result of adjustment disorders, which leads to psychological panic, and panic may occur to the individual and lasts for a temporary period and is linked to cancer (Ströhle *et al*., 2018).

According to Kangas Metal, if excessive anxiety causes clinical distress, affects psychosocial function or other important areas, it will last for a period of time (Mouth & Hiccups, 2016).

Anxiety is a normal reaction to cancer, women anxiety increases once they discover that they suffer from breast cancer, they feel that they are in a critical conditions and they are toward the grave. Persons with cancer will find that their feelings of anxiety increase or decrease at different times (Glassey *et al*., 2018).

Patients with BC who were interviewed described a variety of common physical manifestations of their fear, including shivering and trembling. Individuals experience shifts in their anxiety levels throughout time (Anggorowati, 2018).

When BC patients known about their disease or the disease worsens or the therapy progresses, they may experience an increase in anxiety level. Anxiety may take on a variety of forms, and its intensity may vary from person to person (Wang *et al*., 2020), (Yang *et al*., 2017).

Anxiety in breast cancer patients is associated with death anxiety, fear of death as a result of their symptom (Loughan *et al*., 2021).

Several patients suffering from cancer-related anxiety were cured of their condition, while others were not. Consequently, psychologists should encourage and uplift patients with BC, assisting them in dealing with their feelings and agony (Niedzwied *et al*., 2019).

Anxiety is common among patients with BC, and it may manifest itself in a variety of ways, including during screening, while waiting for

test results, after obtaining a diagnosis, throughout treatment, and before a recurrence (McGinty *et al*., 2016).

Anxiety after cancer diagnosis is not necessarily to be normal, understanding the nature of the anxiety in cancer patient populations is important because abnormal anxiety is troublesome the psychological wellbeing of the patients (Curran *et al*., 2017).

Anxiety over having cancer may make patients experience more pain, make it difficult for them to sleep, induce nausea and vomiting, and negatively impact their QOL. Severe anxiety can potentially decrease a patient's life expectancy (Berger *et al*., 2015).

Cancer forces the majority of patients to confront a variety of difficult emotions and experiences, including anxiety over the side effects of cancer therapy, dread from the stage of disease and mortality, feelings of guilt, and inquiries into their spirituality (Ellington *et al*., 2017).

Anxiety may have varying degrees of intensity from one individual to the next. Death anxiety, or the worry that one may die as a consequence of one's disease symptoms, is correlated with anxiety in patients with BC (Bibi & Khalid, 2020).

Several studies have been conducted to evaluate the variations in levels of anxiety experienced by BC patients undergoing various therapies. The anxiety level in women who underwent chemotherapy was highest before the first chemotherapy infusion, mediated by age. Where the level of anxiety was highest among younger women, while older women suffered from anxiety at a lower level (Jassim *et al*., 2015).

Patients with BC are subjected to the majority of the stresses that are involved with the disease detection, sickness, and the disease therapy. These stresses may lead to the development of coping strategies, which may have an effect on psychological health (Cordova *et al*., 2017).

Cancer has a multifaceted impact on the lives of BC patients as well as the lives of their family. A significant degree of psychological stress is related with the disease diagnosis and treatment, as well as changes in patients' own life trajectories, including their regular routines, job, personal relationships, and family duties. Cancer patients also have increased levels of physical discomfort. The effects of this stress manifest themselves as either depression or anxiety (Senden *et al*., 2015).

Individuals vary in their perception of illness and their methods for overcoming anxiety. Although anxiety may be a major source of distress for some people, others may see it as a challenge and actively seek out solutions (Butler, 2016).

There are several therapies for the anxiety include medications, psychotherapy, or combining both. Therapies may lower the sense of anxiety and enhance the QOL (Craighead *et al*., 2015).

As a result, the identification of anxiety related cancer is often difficult due to the fact that the clinical manifestation of anxiety, such as exhaustion and discomfort connected to cancer, frequently coincide (Ruiz-Casado *et al*., 2021).

2.14.4.2. Depression

About 15-25% of cancer patients also suffer from depression, which may significantly impede their ability to live a normal life. Several epidemiological studies have shown that patients with BC often experience depression, which is linked to serious impairment of function and shorter survival (Nikbakhsh *et al*., 2014).

The diagnosis of depression in people with cancer can be difficult due to the problems inherent in distinguishing biological or physical symptoms of depression from symptoms of illness or toxic side effects of treatment (Kenne Sarenmalm *et al*., 2017).

This is particularly true of individuals who are receiving active treatment or those with advanced disease. Cognitive symptoms such as guilt, worthlessness, hopelessness, thoughts of suicide, and loss of pleasure in activities are probably the most useful in diagnosing depression in people with cancer (Smith, 2015).

Patients with BC who do not report experiencing significant depressive episodes nonetheless show many of the same symptoms as those who do (McFarland *et al*., 2018).

The Eastern Mediterranean area had the greatest frequency of depressive indications, while the prevalence in middle-income nations was double that in developed nations (Pilevarzadeh *et al*., 2019).

According to reports from various studies, the prevalence of depression among breast cancer patients ranged from 9.3 to 56%. A recently conducted systematic review which included several studies all over the world reported that the prevalence of depression among breast cancer patients is 32.2% (Pilevarzadeh *et al*., 2019).

Individuals diagnosed with BC who also suffer from depression experience more severe symptoms of the disease, including increased levels of pain and exhaustion, a marked decline in QOL, and even a shorter total survival time (Feeney *et al*.,2018), (Vin-Raviv *et al*., 2015).

According to the findings of certain research, the provision of psychotherapy and social support to patients with BC was connected with an increased likelihood of surviving the disease (Wondimagegnehu *et al*., 2019).

Studies have shown that psychological and social support has positive effects on both survival and QOL, with the former helping to alleviate depression and the latter lowering the prevalence of other psychological diseases (Hopko *et al*., 2015).

Considering the different treatments of breast cancer and the long-term exposure to the disease, patients with psychological symptoms such as depression experience stress, which can reduce their quality of life (Brandão *et al*., 2017).

Depression is one of the most common psychiatric symptoms in patients with breast cancer. However, if breast cancer is diagnosed and treated in time, patients' quality of life and their disease prognosis can be improved (Pilevarzadeh *et al*., 2019).

From one-third to half of women with breast cancer will suffer psychological distress, according to studies. Prevalence estimates for depression among breast-cancer patients vary from 1.5% to 50%. It would seem that the depression incidence is depending on the following considerations: the severity of the illness, the degree to which the patient is disabled and physically impaired, the state of performance, and the history of depression in the past. Inconsistently, significant sadness and other symptoms of depression often underdiagnosed and undertreated among female with BC (Ozkan, 2019), (Zainal *et al.*, 2013).

One possible reason is that BC women are more likely to conceal their emotional distress than other women who have the disease. It's also possible that oncologists aren't as experienced with screening for depressed symptoms as other psychologists (Winch *et al*., 2015).

Failure to diagnose the depression may be significant due to the fact that this disease and its related symptoms lower QOL, impact compliance with medical therapy, and could even decrease the likelihood of survival (Temiz & Durna, 2020).

In addition to the clinical traditional symptoms of depression, such as feelings of sorrow, helplessness, guilt, despair, and suicidal thoughts, it is important to keep an eye out for the following depression risk factors in patients with BC: patients psychiatric history, the (4) worries associated

with cancer e.g.: pain, the absence of a partnership / friendship based on trust , a personality that is characterised by neuroticism, and a perspective of being a minority (Ozkan, 2019), (Özkan *et al.*,2010).

It is necessary to consider cancer as a crisis that causes behavioral disorders, and the latter has a direct impact on the quality of life of the patient and his ability to tolerate treatment, and depression has a direct impact on the development of the disease (Seiler & Jenewein, 2019),

It is difficult to distinguish the physical symptoms resulting from depression from those resulting from cancer and treatment in the patient, Therefore, attention should be paid to the cognitive and emotional symptoms represented in: Low self-esteem, feelings of guilt (persistent), carelessness, total loss of pleasure associated with daily life, suicidal thoughts, negative view of the disease situation (Palesh *et al*., 2018), (Gautam *et al*., 2017).

There were a lot of female BC patients felt normal distress, but there was also a significant number of depressed women. Suffering from depression while undergoing treatment for BC is common, but often overlooked, despite the fact that it may worsen physical symptoms, impede functioning, and reduce a woman's likelihood of sticking to her therapy plan (Stanton *et al.,* 2018), (Fann et al. 2008).

2.14.4.3. Stress

In addition to receiving a BC diagnosis, women often experience on going, chronic stress life situations that are connected to getting disease or it's therapy such as illness or death of a close person as well as in other area of life distressing such as finances or relationships (Harris *et al*., 2017).

Life stress throughout the process of BC development and it's therapy may lead to worsening in quality of life, as predicted by the bio behavioural model of cancer stress and illness. This is especially true for women undergoing treatment for BC (Bowen *et al*., 2021).

A diagnosis of breast cancer regardless of the stage can be stressful, impacting on multiple spheres of life, disrupting physical status, emotional and spiritual well-being and personal relationships for the patient and family (Sahare & Sharma, 2015).

Physical and social impairment, indecision, worry, and despair are common complaints among breast cancer survivors, and may have a negative impact on their QOL (Martino *et al*., 2020).

In order to adapt / cope, both the patient and family caregivers ought to employ certain coping mechanisms. Individuals with terminal illness who utilize coping strategies have better quality of life compared to those who do not (Berger *et al*., 2015).

Women diagnosed with BC have a long list of challenges to overcome, including learning to cope with a cancer diagnosis and undergoing treatment in a complicated medical system (Keesing, 2018).

For patients diagnosed in the early stages, they experience the stress of coming to terms with the diagnosis, the experience of complex and usually long treatments, and the side effects of the different treatment modalities. The prevalence of anxiety symptoms among breast cancer women was 73.3% (Salek *et al.*, 2021), (Alagizy *et al.*, 2020).

First-diagnosed patients with clinically relevant anxiety increased from being post-surgery (35.8%), to receiving therapies (53.7%), and to being in follow-up (61.5%) (Botto *et al.*, 2022).

For those diagnosed in the late stages, they too have to come to terms with their diagnosis, the fact that they will have to receive palliative as opposed to curative care and the fears and uncertainty about end of life . For the family, a cancer diagnosis for a family member creates multiple challenges, including physical demand for practical care giving, emotional strain, change in role and responsibilities, and adjustment to work and career schedules (Nemati *et al*., 2018), (Holst-Hansson *et al.*, 2017).

2.14.5. Psychological Treatments used to Care for Women with Breast Cancer

Health psychologists have been keen to find ways through which to get rid of these problems represented by the negative effects of breast cancer, including anxiety and depression they have to become both emotions and emotions in urgent need of care (Rosenstein, 2022).

Psychologists have increased research about special treatment methods for this type of diseases, which aims to support in terms of their sources and weaknesses (Kazdin, 2021).

Psychological treatments are an essential process in line with the mission of the medical team, social workers, and patient associations, so that there is a great role given to the prevention of severe psychological suffering and to ensuring psychological distress (Breitbart *et al*., 2015).

In general, the therapeutic psychological models are the psychoanalytic model, which considers that the pension of the case in the face of cancer is often affected by unconscious activities that evoke the history of the case and its past (Horwitz, 2018).

The most used method of psychotherapy in Europe was psychoanalytic model, but it often knows few deviations in terms of methods of application this is due to the nature of the disease, meaning that this approach requires a long period of time in treatment, but the fate of the person with cancer may not provide this element (Laporte *et al*.,2017), (Halpern *et al*., 2015).

The cognitive behavioral approach often helps the patient who works to preserve the integration of the soul and the body (Rosmarin, 2018).

2.14.6. Psychological Support

The diagnosis of cancer has profound effects on the emotional and social level, physical comfort and the family during the whole period that followed the announcement (Totman *et al*., 2015).

The patient often tries, after passing the critical stages of the disease (surgery, treatments) to recover her previous investments, but she often finds it difficult to agree between the pre and post phases (Traa *et al*., 2015).

Cancer patients need psychological support to adjust the direction and adaptation. Some strategies for dealing with problems related to cancer seem effective (Brandão *et al*., 2017).

In order to identify five styles of dealing with these problems, namely, seeking and using social support, focusing on the positive, excluding self, avoiding or cognitive or behavioral escape, so he concluded that adaptation through social support and focus on what is positive and self-esteem are patterns that have a strong relationship through a strong relationship with levels of psychological support, and what is meant here are psychotherapeutic interventions that seek in various forms to meet psychological, social and information needs for cancer patients (Li *et al*., 2018).

Interested in this topic, considering that cancer sufferers face problems that can be summarized as follows: High anxiety depression or suicidal thoughts, central nervous system dysfunction as a result of illness and treatment, such as impairment of the ability to concentrate, have specific problems that arise as a result of illness or disease for coping styles or family dynamics, psychological problems pre-existing but exacerbated by disease diagnosed (Zagni *et al*., 2016).

The psychologist relies in his attempt to focus on specific issues cancer patient faces, especially the phenomenon of fear of the return of the

disease, pain or death, fear of losing parts of the body as a result of surgeries, and such problems in terms of work, social relations (Best *et al*., 2015).

Comprehensiveness and parallelism in treating the body and soul at the same time, taking into account four main principles: Emotional, existential and religious. It is a methodology that aims not only to treat but also to percentage of the patient's ability to overcome most emotional problems. The goal for which the specialty was established psycho-oncology is primarily an examination of psychological distress psychologies, and its treatment to achieve psychological adjustment, the specialist (Carrera *et al*., 2018).

Considers that there are important and urgent elements to achieve psychological adjustment in a person with cancer, namely: communication, adapting treatment for a cancer patient, which is weak, and detecting the quality of follow-up (D'Alton *et al*., 2021).

For treatment, as for communication, the sensitivity and importance of this concept have been addressed in the French scheme of cancer, which is based on the GUEX methodology. To communicate with the injured it is concerned with the most important elements: the quantitative determination of information, learning how to announce bad news (the word Behavior), detect various psycho-social difficulties and treat them at the right time, learn therapists, relying on group work, refer to the self and treat it to reduce fatigue (Schmidt *et al*., 2018).

Managing the tension between care and treatment while regulating the many roles that each of: partner, the family, and others play is something that is taken into consideration here (Hess *et al*., 2017).

A person with cancer often needs psychological support because of the appearance of many symptoms, including: anxiety, feeling, distress psychological suffering and despair, difficulty living and accepting

treatment and its complications, past events, whose records were opened from new, wanting to talk about illness with a stranger rather than feeling supportive relatives discontinuation of treatment, sleep disturbance (Granek *et al*., 2018).

Identity disorder, loss of orientation, disturbance of family and social relationships, desire to proceed from these symptoms, psychological care works to help the patient to restore balance (Beck *et al*., 2015)

Accept patients and accept living with him, insert the psychologically horrific event, accompany the patient in understanding the anxiety of the limit, responses, emotions and pressures, help the patient on self-evaluation, he raised concerns, fears and various questions that he could not motivate, to help the patient improve the life expectancy of a woman with breast cancer (Paluch-Shimon *et al*., 2016).

The percentage of cases who benefited from psychological treatment has doubled the chance of living for them than for those who did not allow them the opportunity to benefit with psychotherapy (Ozkan, 2019), (Drageset *et al.*, 2010).

Community-based breast cancer support agencies who address non-medical, social determinants of health needs that serve as barriers to maximizing breast health outcomes may play a vital role in mitigating breast cancer mortality (White-Means *et al.*, 2020).

2.15. Social Health

2.15.1. Impact of breast cancer on social health

The suffering of breast cancer patients is not only a result of the disease, but also a result of social indicators and social processes, which the disease illustrates (Thompson 2022).

Breasts are considered part of the female identity, representing femininity, sex, beauty, and motherhood and empowering them to breastfeed their babies (Tintin & Yulia, 2020).

Losing a breast can also cause self-concept obstacles, such as changes in body image, loss of self-identity, changes in social roles, changes in self-ideal, and loss of self-esteem. Negative self-concepts can easily lead to stress and depression (Afriyanti & Wenni, 2018).

Every woman has her own representations related to the breast. After breast cancer and after the operation, she feels disfigured and loses her physical unity, and Honor believes that both breasts and cancer are contradictory between them (in terms of meaning) (Scalia, 2020).

Breasts are a source of life, while cancer causes death or at least causes disease. Fear, suffering cancer puts the patient's identity at risk, her physical identity (self-image) and psychological identity (self-perception), as well as affected physical safety due to cancer and its various treatments. The relationship with the body is always turbulent, as Ferenczi sees in an article called the Clinical Gazette, declaring that the shock comes for the sake of changing the self (Adejoh *et al*., 2018).

The ability to change the course of stimuli, where a partial or complete change occurs, the shock then destroys the features and determinants of identity, which leads to the division of the ego, the person loses the union of the self, which leads to the use of psychotic defence mechanisms a real change occurs in the field of defence as a result of the trauma, the person cannot using normal defence mechanisms that adapt to the new situation, these defences are very primitive, such as: denial, fission, the person is in a crisis that leads to a disturbance that threatens his existence and his entity, so that the person falls into a world of pathological activity (Eigen, 2018).

It has been hypothesised that the advanced stage at which BC is diagnosed in women in the United Kingdom may be attributed to delayed presentation and non-compliance / non-continuity with regular check-up (Jones *et al*., 2015).

Age, a failure to recognise the severity of symptoms, and a lack of knowledge have all been linked to a delay in seeking care for BC symptoms (Attari *et al*., 2016).

One of the most common reasons people avoid getting regular check-up or treatment for diagnosed disease is because they are embarrassed by their symptoms or because they are afraid of what the doctor could uncover if they visit him (Qasim *et al*., 2020).

Societal and cultural issues, especially those associated with how breasts are seen, may also contribute to this lag. For a group of American women, symbolic connotations with motherhood and the link between health and beauty were cited as possible causes for the aforementioned delay (Hassan, 2017).

Winnicoot has talked about the term fear of collapse, which has a direct relationship with the reversal and change of identity, resulting from the shock announcement of cancer, the collapse is related to the fear of the unifying formation of the self, this fear appears or works when the ego's defenses make a threat resulting from the event, So that the ego and the person organize defenses under the dependence of the environment in which they live (Williams *et al*., 2018).

In terms of BC operations, the modified radical mastectomy was the most prevalent technique sixty three percent, while breast conserving surgery was the second most common method thirty six percent. A radical mastectomy was performed on just one percent of patients. A BC female's physical appearance will be altered irreversibly if she has a mastectomy,

which is the standard surgical therapy for BC (Bellavance & Kesmodel, 2016).

One's self-perception of health, completeness, normal function, and sexuality all contribute to what is known as "body image." A poor body image and other psychological issues might arise for certain people after a physical change (Koçan & Gürsoy, 2016).

A nurse's post-mastectomy duties include providing patients with professional psychological assistance. Changes in body image are one of the psychological issues that might arise after a mastectomy (Fioretti *et al*., 2017).

Physical and mental well-being may be affected by BC patients' perceptions of their bodies and their circumstances throughout treatment (Davis *et al*., 2020).

Patients may spend much of their time worrying about how they look, whether or not their cancer has spread, or whether or not they will need breast reconstruction (Tintin & Yulia, 2020).

Approximately 90% of patients in the early stage BC require a mastectomy (with or without reconstruction) of one or both breasts (Lovelace *et al*., 2019).

A mastectomy is a surgical procedure for treating BC but it may drastically alter a woman's physical appearance. This type of surgery may be a devastating experience for women since it results in the loss of their breasts (Rojas *et al.*, 2018).

Alterations in one's outward look may, for some individuals, result in a deterioration of their body image as well as a variety of other social and mental issues (Tiggemann, 2015).

Survivors of BC often have a low self-image because of their experience with the disease and its treatment. This includes being unhappy with their physical appearance, feeling less feminine, being less confident

in their bodies, being less sexually attracted to themselves, being self-conscious about their bodies, and being unhappy with their surgical scars (Afriyanti & Wenni, 2018), (Boquiren *et al.*, 2016).

A female's breasts are very significant to how she feels about herself. A female's breasts lost due to mastectomy may have different connotations for different women, and may elicit contrasting feelings (Gershfeld-Litvin, 2021).

Female's attachment to their breasts emotionally has a direct bearing on the intensity of their psychological reaction to mastectomy. Hence, any loss may cause a wide range of mental health issues, since it is linked with the unfavourable alterations in the woman body (Chuang *et al*., 2018).

A female's perception of her whole body, her femininity, her self-esteem, and her behavior may all be affected by BC and its treatment. Women's self-esteem may be severely damaged by traumatic experiences including mastectomy, hair loss from chemotherapy, and premature menopause. Treatments for breast cancer, such as chemotherapy and hormone therapy, may have side effects on fertility and libido (Purkayastha *et al.*, 2017), (Cheng *et al.*, 2016).

It is connected to the alteration of body image, which is at the root of the self-concept disturbance that results after having a mastectomy. (Pintado, 2017).

The patient's body image and other condition-related issues will have an impact on their emotional and psychological well-being during the course of BC treatment. The patient's day-to-day life may become consumed by worries about her appearance, the spread of cancer, and potential breast reconstruction (Rezaei *et al*., 2016), (Sajjad *et al*., 2016).

Negative body image can inevitably affect mood of the woman and her interpersonal relationships, lead to social stigmatization, and

consequently social isolation. Also, body image disturbance following treatment of cancer may be associated with a variety of changes that can have a significant impact on QoL such as psychological distress, anxiety, reduced physical health, sexual dysfunction (Türk & Yılmaz 2018).

According to some research, patients who underwent immediate reconstructive surgery exhibited higher body image and self-esteem and had lower levels of mood disorder than patients who underwent delayed surgery. Body image dissatisfaction was revealed to be significantly predicted by the interaction between reconstruction timing and reconstruction stage in that those receiving delayed reconstruction throughout the reconstruction process expressed considerably greater body image dissatisfaction than those receiving immediate repair (Teo et al., 2016), (Male, *et al.*, 2016).

2.15.2. Social Isolation / Social Network

Patients who have BC are more likely to have feelings of depression and anxiety if they are socially isolated, which is another risk factor that has been found (Li *et al*., 2021).

The association between psychological health and social networks has been linked to a variety of possible processes (Seabrook et al., 2016).

Social isolation is an existential and spiritual episode, and therapists must take this element into account in terms of evaluation and response so that it is denied or ignored and not including it as support for psychological treatment may generate pain and suffering for the patient that increases the severity of psychological distress (Wilson *et al*., 2016).

Social isolation is associated with accelerated breast cancer progression and increased disease recurrence and mortality (Bower *et al*., 2018).

A person's social circle and the qualities of those ties were conceptualised under the term social network (Lee *et al*., 2018).

The size of a person's social network, measured in terms of the total number of people in the network, has been the component of social networks that has been looked at in relation to BC development and progresses the most often (Falisi *et al*., 2017).

It has long been accepted that higher levels of social connectedness are indicative of community health and hence a reduced risk of death. Research have demonstrated that bigger networks (i.e. higher social integration) are connected with improved survival and better QOL after BC. Cancer development and progresses may be affected by the influence of social networks on the time of diagnosis and the course of therapy (Browall *et al.,* 2018), (Prochaska *et al*., 2017).

There is some evidence to show that having a larger number of social connections may be connected with a lower general mortality rate (Primack *et al*., 2017).

As a result of advancements in BC detection and treatment, there is now a greater number of people living with and beyond the disease. This has created a demand for the elucidation of strategies for improving patients outcomes, including the role that lifestyle factors play (Brenner *et al*., 2016).

Associations were different depending on the location of the disease, with studies of BC finding higher connections between the number of social interactions (Martínez *et al*., 2017).

Many mechanisms have been proposed through which people's social networks could help them live longer and reduce death rate. The presence of social networks has been linked to a decrease in symptoms of depression, increased uptake of healthful practises due to peer encouragement, and enhanced immunity to disease (Martino *et al*., 2017).

Social networks must be aware of a cancer patient’s situation in order to offer help appropriately (Benetoli *et al*., 2018).

2.15.3. Impact of Social Isolation on Progression of Breast Cancer

One of the major significant risk factors for death from any cause was found to be a person's level of social isolation (Yu *et al*., 2020).

In addition to this, research has shown that the patient who living alone after a cancer diagnosis, particularly breast cancer, is especially connected with a lower likelihood of survival (Puigpinós-Riera *et al*., 2018).

On the other hand, being part of a social group is connected with a decreased risk of dying from illness overall (Hinzey *et al*., 2016).

It is generally recognized that breast cancer women with greater social networks have a decreased risk of dying from their disease. While, results have been shown that socially isolated women (women with limited networks) measured in the postmenopausal breast cancer survivor were be twice as likely to die of breast cancer as socially integrated women. Smaller social networks were associated with greater recurrence and death rates in BC patients, especially in women with early stage disease. Health care clinicians should evaluate social interaction information during diagnosis and follow-up since it may indicate prognosis (Kroenke *et al*., 2017).

Isolation is characterized by a lack of interaction that is either total or almost total (Perissinotto *et al*., 2019).

In addition, social surroundings are evaluated in terms of the amount of social support that is made available, which might include both instrumental and emotional support (such as assistance with day-to-day responsibilities, transportation, or medical care) (Hinzey *et al*., 2016).

Although the different social measures frequently correlate with one another and may have similar underlying neurologic/biologic effectors, they do not always agree with the consequences regarding health. A significant portion of the challenge in interpreting and combining findings

from the research literature is due to variations in the social measures that are being evaluated (Tomaka *et al*., 2006).

It is important to note that social isolation has been shown to have a substantial association with the general death rate in both males and females, even after taking into account demographic characteristics and health at the start of the study (Singer, 2018).

2.15.4. Impact of breast cancer on women work and employment

A substantial proportion of adult cancer survivors 40% to 54% reduce their work hours or stop working altogether after their cancer diagnosis. Working women with breast cancer are no exception (Tangka *et al*., 2020).

Older women; and those who have physically demanding jobs, less accommodating employers, more advanced cancer, and more comorbidities are especially likely to experience a disruption of employment (Raque-Bogdan *et al*., 2015).

Although temporary changes in employment may be needed to complete therapy and could be welcomed by patients, permanent changes could lead to the loss of income, work-related benefits, social connections, and satisfaction and may precipitate anxiety or depression (Brown *et al*., 2013).

The resulting financial strain and psychological distress could have a substantial detrimental impact on quality of life (Polanski *et al*., 2016).

The long-term outcome of BC and its treatment, including fatigue, depression, and cognitive impairments, may not only hinder the return to work process, but also work performance (Schmidt *et al*., 2019).

Conversely, social support from family, friends, and occupational health services, and adequate workplace accommodations may positively affect return to work (Dorland *et al*., 2016).

Three categories of factors work-related factors, disease- and treatment related factors, and person-related factors—that influence whether survivors will return to work (de Wit *et al*., 2018).

Emotional or practical support and job flexibility, which allows returnees to schedule their work and to choose specific work activities, can improve return-to-work experiences (Butow *et al*., 2020).

Lack of supportive interactions coupled with co-worker and employer ignorance may hinder returning to work or make it more stressful (Cocchiara *et al*., 2018).

2.15.5. Financial burden of breast cancer on family

The costs of breast cancer treatment and follow-up care can be a financial strain for a number of people and their families, even with health insurance. Besides the cost of the treatment itself, you also may be facing extra expenses for travelling to and from a treatment center, child care while you're having treatment, or lower income because you had to take time off from work (Alexander *et al*., 2019).

Professional and study workers are important in our time the current purpose and purpose is the family income, so we often notice that it is some families, even if we do not say most of them are that the woman regained some of her required position in. the wide family through the monthly income, because the family reality, the crisis the economic, and life requirements impose on the spouses to work for self-sufficiency (Mesra, 2018), (Maly *et al.*, 2015).

BC diagnosis may also impose a financial burden on households through a loss of employment by either the head of household or a spouse diagnosed with cancer (Çömez & Karayurt, 2016).

Households in which family members have been diagnosed with cancer may experience a productivity shock (Richard *et al*., 2021).

That is, a household member diagnosed with cancer may not be able to participate in the labor markets because of the time needed for treatment and other treatment-related activities, which may result in loss of health insurance coverage. Such a loss of health insurance would increase medical debt (Sharipova & Baert, 2019).

2.15.6. Social Support

Since the 1970s, the idea of social support was first introduced, and subsequently many different meanings and interpretations of the term have been put forward (Cohen & McKay, 2020).

An person's physical, social, and psychological health all benefit from social support, which has been defined as an interactive process in which certain acts or behaviours may have favourable influence on an individual (Feeney & Collins, 2015).

The term of social support is sometimes broken down into a variety of subcategories, the most common of which are emotional support such as: trust, sympathy, and friendship; instrumental aid such as: physical help and facilities/services; and metrics pertaining to objective characteristics of support such as: amount of friends or how often you talk to them (Jensen *et al*., 2016).

Healthy behaviour and good health results may both result from having a strong social support system. Among them include a reduced chance of death, improved ability to deal with breast cancer, and reduced likelihood of developing depression (Lindblad *et al*., 2018).

Social support refers to the functions or regulations provided by a person's social network (Sippel *et al*., 2015).

Friend and family support had the greatest effect on lowering the depression and anxiety of women, whereas partner support had the greatest effect on lowering women's anxiety (Shao *et al*., 2020).

The social support for patients with breast cancer is negatively correlated with symptoms of anxiety and depression

The presence of depression and anxiety symptoms is inversely connected with the amount of social support that BC patients get (Wondimagegnehu *et al*., 2019).

It is widely believed that social support plays a significant role in the correlation between social networks and both mental and physical health (Kelly *et al*., 2017).

In line with the idea that social isolation is characterised by a lack of engagement in meaningful social interactions, restricted access to social networking platforms may be seen of as a kind of social isolation (Schrempft *et al*., 2019).

How effectively BC women cope depends on how much social support they are getting from their loved ones according to their perspective (Ozdemir & Tas Arslan, 2018).

The extent to which family members are able to help their loved ones who have BC relies on a number of factors, including the nature of their connection that exists between them before to the diagnosis, their personal experiences with disease, and the role modifications that may be required by the diagnosis (Ginter & Braun, 2019).

For patients with BC who have better communication with friends post diagnosis is associated with improved QOL and with lower risk of death (Yan *et al*., 2016).

Spending time with friends post diagnosis may result in patients' improved coping skills, receiving additional emotional and instrumental support, and increased opportunities for sharing health information (Ginter & Braun, 2019).

When a patient receives a diagnosis of BC, they may need different kinds of social support (Finck *et al*., 2018).

Those diagnosed with breast cancer have the opportunity to engage and form bonds with others who are likely going through similar experiences when they join a breast cancer support group. Participating in support groups may contribute to improvements in one's QOL, improve emotional health , and lowered stress/anxiety (Falisi *et al*., 2017).

In women with BC, also social support plays a vital role in their lives, diagnosis and treatment processes, and is also an important component in providing them with good care (Dumrongpanapakorn *et al*., 2017).

Therefore, although providing appropriate medical treatments for breast cancer patients is necessary, social support can increase the effectiveness of treatments because it helps women to have positive attitudes towards their health condition and cope with their illness (Spatuzzi *et al*., 2016).

2.16. Theoretical Framework

Selye's 1936 theory of physiological stress serves as the foundation for the more recent theory of psychological stress. The general adaption syndrome is a collection of generic physiological responses that help the body deal with environmental toxins (Finsterbusch, 1982).

Although the link between stress and illness is now widely accepted, it was not always understood in the past. In the field of physics, the term stress refers to the interaction that occurs between a force and the resistance that is applied to counteract that force. Stress would be present in a person for the duration of their time spent in the presence of a generic demand. He differentiated between the body's reaction to acute and chronic stresses, dubbing the latter (general adaption syndrome) sometimes referred to in the literature as "Selye's Syndrome" (Tan & Yip 2018).

The stress response divided in to three phases by Selye syndrome: Alarm stage: The stress activates the sympathetic system and (fight-or-

flight) response, threats produce cortisol and adrenalin into the circulation, mobilized bodily resources, and the person be nervous. Stage of resistance: Parasympathetic nerve system restores numerous physiological processes while body fights stressor, blood glucose, cortisol, and adrenalin remain high, but the body seems normal, raise BP, HR, breathing. And stage of exhaustion: If a stressor lasts too long, the body will deplete its resources, leaving it vulnerable to illness event even death (Selye, 2013).

The theory of psychological stress expands the function of the fundamental physical model to include psychological and social factors in stress. Psychological and social factors, rather than physical causes, might be at play here; people's responses to stress are influenced by their social networks and the unique traits they've developed (Sohail & Rehman, 2015).

The development of psychological stress theory, and he emphasizes the degree to which a situation is perceived as threatening. A threat is the anticipation of harm and the anticipation can be more stressful than the harm when it occurs

Through progress the theory of psychological stress, it has been confirmed that the situation is threatening. And the threat is the expectation of potential damage, and the tension caused by the anticipation may often be greater than the stress caused by the actual injury (Ganster & Victor, 1988).

The expectation of having one's goals frustrated is a primary cause of psychological stress. Hence, in order to have a knowledge of a person who is under stress, it is necessary to have an awareness of both the event and the individual's pattern of motivation (Finsterbusch, 1982).

Because of its breadth and complexity, the theory of psychological stress may only be briefly summarised here. The intensity of the stress they cause might be affected by the source of the stressor or stress (Epel *et al*., 2018).

In general, the expected stressor's imminence, suddenness, length, unfamiliarity, and relevance all contribute to its intensity. Until just before the big moment, stress is seldom severe (Yule & Smith, 2015).

There is usually not enough time to properly prepare for unexpected situations. Throughout time, stress grows more acute, and people's abilities to cope with it decline (Boss *et al*., 2016).

Unexpected and bad situations are scarier than usual ones since you never know how you'll react. Ultimately, the most stressful factor is when vital motivations are threatened (Seery & Quinton, 2016).

The cumulative and frequently multiplying consequences of exposure to various stressors are significant. Experiencing many stresses at once is more stressful than experiencing each one individually. Many stresses increase the likelihood of burnout and breakdown on all levels of health and well-being (Pietrasiński, 2016).

There are three broad categories of stressors: catastrophic catastrophes, strong events, and everyday difficulties. Psychological Impact Theory and Social Impacts (SIAs) analyse planned behaviours that are disastrous for some. Powerful occurrences include death, illness, job loss, marriage, and relocating (Umanandhini & Kalpana, 2017), (Walsh, 2016).

2.17. Previous Studies

First study

Levesque *et al*., 2020 conducted a study on Chinese - Australian migrant women with breast cancer at risk of poorer psychosocial outcomes, a qualitative study aims to explore the experience of breast cancer for Chinese–Australian women and gain insight into their coping behaviors. use a semi‐structured interview on 24 participants. The main results of this study were three key themes emerged: psychological effect of the diagnosis, problems faced, and social support and other coping practices. Psychological effect emphasized diagnosis' emotional toll and cancer

recurrence concern. Challenges included medical side effects and psychological assistance (Levesque *et al*., 2020).

Second Study

Yektatalab & Ghanbari 2020 conducted a study on breast cancer women who were diagnosed with nonmetastatic referred to clinics of cancer care, its purpose was to discover the relationship between self‐esteem and anxiety among study participants through a descriptive correlational study. Use a Spielberger's State–Trait Anxiety Inventory and Rosenberg's Self‐Esteem Scale in the study questioner on 261 BC women the main results of this study were the mean score of state anxiety was 46.29 ± 11.745 and trait anxiety was 46.61 ± 10.936, the mean ± SD score of self‐esteem was 18.38 ± 5.08, also the results of this study display a correlation between anxiety and self‐esteem among breast cancer women ($r = -0.690$) (Yektatalab & Ghanbari 2020).

Third Study

Al-Azri *et al.*, 2014 conducted a study on women diagnosed with breast cancer in Oman, the aim of this study was to explore different psychosocial impacts as well as described how the condition has affected their lives personally and socially, used semi-structured individual interviews on 19 participants were selected from clinics and wards at the Sultan Qaboos University Hospital, Muscat. The primary findings were: a- distress associated with psychological issues: fear of dying, disruption of work and family, international travel seeking hope or a cure or avoiding death; b- family members' responses: awestruck, sad, united, urged to try conventional therapies; c- societal perspectives: empathy, seclusion, and reluctance to open up; and d- fear and dread of what the future holds: impact on progeny, chemotherapy's negative side effects, and the transmission of illness (Al-Azri *et al.*, 2014).

Forth Study

Al-Attar et al., 2016 conducted a study on women diagnosed with breast cancer and women who ware threated for BC, study 's aim was to evaluate the physical and psychosocial domains among breast cancer patients in Iraq. A descriptive design was carried out by used a questionnaire (100) participants who referred to the Outpatient Clinic of the Oncology Teaching Hospital and the Iraqi National Cancer Research Center of Baghdad University. The main results were almost all actual domains and sub-domains related to quality of life of the breast cancer patients in Iraq were poor with the exception of sex satisfaction which was fair (Al-Attar *et al*., 2016).

Fifth Study

Daher, 2017 conducted a study on 263 patients with breast cancer who attending Al-Amal National hospital for treatment, it's purpose was to measured the impact of breast cancer on women's quality of life, used a developed questionnaire to collect the data of this study. The main results were The highest negative impact was for BC impact on happiness, followed by ability to focus on daily tasks. Sleep was the third negatively affected domain of life and carrying out house chores was the fourth and last domain where more than half of participants showed a negative impact (Daher, 2017).

Sixth Study

Fradelos et al., 2017 conducted a cross-sectional study on 144 women diagnosed with breast cancer in Greece, it's purpose was to examine resilience in breast cancer women and its association with anxiety and depression, used a questionnaire to collect the data from study participants. The main results were the mean value of Connor-Davidson Resilience Scale 25 (CD-RISC25) was 65.3 SD±17.9, that is mean the respondents have a moderate resilience of cancer. The responses of 54.5

percent of respondents showed that they have depressed mood, and 46.8% of patients had significant levels of anxiety, which indicated the severity of the condition (Fradelos *et al.,* 2017).

Chapter Three

METHODOLOGY

Chapter Three

Methodology

This chapter includes the steps and procedures that took place in the field side of this study in terms of the methodology, the study population and its sample, the study tool, the application of the study tool to the sample members and the statistical processing

3.1. Design of the Study

A descriptive, cross-sectional design study was used to assess the psychosocial impact of breast cancer on women in Babil. The period of the study was from 13th of March 2021 to the 13th of March 2023.

3.2. Administrative Arrangements and ethical consideration

A series of arrangement and approvals have been done for the current study to obtain official consents and facilities include the following:

1. A Seminar session was held at Babylon University / College of Nursing on 20th October, 2021 to present the statement that is selected for this study and the objectives that were formulated to achieve the purpose of it.
2. The approval of the study was obtained.
3. The scientific protocol for the study and the papers forms concerned with the ethics of scientific research and the pledges that officially adopted by the scientific research ethics committee at the College of Nursing / Babylon University were completed (Appendix A1).
4. In order to formally visit the Babylon Oncology Center, approvals were also acquired from the Babylon Health Directorate (Training and Development Division) (Appendix A2).
5. Permission is granted to Babylon Oncology Center based on the study subjects.

6. In addition, participants' (breast cancer women's) agreement to take part in the study after being briefed on its goals and benefits and reassured that their data would be kept private and used only for research reasons (respect for participants' privacy and autonomy).

3.3. Setting of the Study

The study was conducted in the Babylon Oncology Center at Marjan Medical City / Babylon Province. This center affiliated with the Babil Health Department, located in Marjan Teaching Hospital in the Hilla city/ Babylon Governorate, Iraq. It is a public educational medical institution that includes many specialized centers that provide free services to the citizens of the governorate and neighboring regions. This hospital includes specialized medical centers dealing with the treatment of diseases of the digestive system, liver, physiotherapy, diabetes, resuscitation, heart surgery, dialysis, and cancer diseases (Babylon Oncology center) which includes many sections: (Reception, the consulting pharmacy, Inpatient pharmacy, Radiotherapy consultation, chemotherapy consultation, Radiotherapy section, Chemotherapy section includes male ward and female ward for receiving chemotherapeutic medication, Chemical medicine mixing unit, Laboratory, Ultrasound, CT scan, and CT simulator), in addition to the presence of a special emergency unit as well as multiple consulting wards in the internal, psychological, dermatological, elderly, etc.

3.4. Sample of the Study

The study population consists of the oncology center patients (Breast Cancer Women) in the Hilla City. Ther were about (760 - 820) of femal patients with breast cancer attending and referring to the oncology center in Marjan city monthly, the obvious statistical number above of BC patients were for the last two month before the data collection period. A

non- probability convenient sample of 100 women diagnosed with breast cancer who met the study criteria and included:

1. Who agreed to participate in the study.
2. They were adults above the age of 18.
3. Who diagnosed with breast cancer for six months or more.

3.5. Study Instruments

A questionnaire was selected as a tool for gathering information that will help produce the study's desired outcomes. The questionnaire themes ware reconstructed by the investigator based on broad review of accessible literature and related studies related to this study. The final study questionnaire involve of the following parts: (Appendix B).

Part I: Socio-Demographic Characteristics

This part was presented in demographic data information which includes: age, marital status, children, education level, occupation, monthly income and living status.

Part II: Clinical Information

This part presented in clinical information which include: stage of disease, duration of disease since diagnosis, have nodal metastases, other reproductive tumor, received a treatment, type of surgery and family history of BC.

Part III: Psychological Aspect

This part deals with psychological aspects: After reviewing the investigator's psychological literature and previous studies. It was adopted and modified the following scales:

A. Theme (1): State-trait anxiety inventory (STAI) (Spielberger scale): which consist of 20 – items represent the psychological health status associated with anxiety for breast cancer women (French *et al.,* 2018).

Accordingly, points can be taken range from 0 - 40. The higher average defined as high anxiety level and lower average defined as low anxiety level.

B. Theme (2): (MDI) Scale of depression: Which consist of 11-items represent the psychological health status associated with depression for breast cancer women. Accordingly, points can be taken range from 0 - 22. The higher average defined as high depression level and lower average defined as low depression level.

C. Theme (3): Stress in Cancer Patients (QSC): Which consist of 20-items represent the psychological health status associated with stress for breast cancer women (Herschbach *et al.,* 2004).

Accordingly, points can be taken range from 0-40. The higher average defined as high stress level and lower average defined as low stress level.

Part IV: Social Aspects

This part deals with social aspects: After reviewing the investigator's literature and previous studies. It was adopted and modified the following scales (Liu *et al*., 2019):

1. Theme (1): Loss of self-Image: Which consist of 12-items represent the impact of loos the self-image on the social life of breast cancer women. Accordingly, points can be taken range from 0-24. The higher average defined as high impact of loss the self-image and lower average defined as low impact of loss the self-image.

2. Theme (2): Social Isolation: which is composed of three sections (A-Social network consist of 4 items represent the level of social isolation within family and 4 items represent the social isolation within friendships. B- Social provision consist of 10 items represent the level of social supports and assistance that are provided for breast cancer women by the people in the contact society of those women. C- Social effectiveness consist of 9 items represent the level of breast cancer women's engagement

with social action or doing the usual social activities). Accordingly, points can be taken range from 0-54. The higher average defined as high social isolation and lower average defined as low social isolation.

3. Theme (4): Social responsibilities: Which consist of 4 items represent the level of breast cancer women's responsibility with the usual social responsibilities. Accordingly, points can be taken range from 0-8. The higher average defined as low social responsibilities and lower average defined as high social responsibilities.

3.6. Rating and Scoring

The instrument was related through the use of (3) level type Likert scale for the assessment of psychological aspects and social aspects of breast cancer women. The rating and scoring of the instrument was (1) never, (2) sometime, and (3) always.

3.7. Validity of the Questionnaire

A panel of experts from several disciplines was used to assess the validity of the early generated questionnaire by examining its clarity, relevance, and suitability in measuring the concepts of interest, all of which contribute to the instrument's validity. Twelve professionals with cumulative experience in excess of five years were shown a draught of the questionnaire. In addition, the recommendations of the experts have been considered. Adjustments were made and feedback from specialists was considered (Appendix C).

3.8. Pilot Study

Before starting the work a pilot study was conducted on 10 women with breast cancer who had the same criteria of the study sample and attended Babylon oncology center. The pilot study was carried out from 10 /4 / 2022 to 10 / 5/ 2022 and those patients were excluded from the study sample (Moxham 2012).

The goals of the pilot study were as follows:

1- In order to ensure that the evaluation instrument is both easy to understand and comprehensive.

2- In order to calculate how long an average interview with a research participant will take.

3- To estimate the questionnaires' internal consistency in order to establish their reliability.

4- To identify potential stumbling blocks during data collecting.

Nieswiadomy (2012) stated that the pilot study may be used to estimate how long data collection will take and assess how subjects will react to the technique of data collecting.

3.8.1. Results of pilot study

1. The questionnaire is reliable.
2. The time commitment involved in completing the questionnaire answers ranged from (20-25) minutes.
3. The scale remains in its final form (*Psychological Aspects=51*) and (*Social Aspects=43*).
4. The questionnaire items were understood and clarify and the phenomenon underlying of the study (Table 3-1).

3.8.2. Reliability of the Questionnaire:

It was performed on 10% of the study samples with a total of 20 breast cancer women. A researcher meets the participants, introduces them here and then asks them to participate in the conduct of this study by giving their opinion on their psychosocial aspects by interviewed on individual bases. Then the researcher explained to them the purpose and title of the research and asked them to fill out the study paper to confirm simplicity and understanding and to estimate the time required to fill out the study tool.

The researcher stays with the participants until they have finished the interviews. The estimated time to fill out each form was approximately 20-25 minutes. The data obtained from the pilot study were analyzed and no adjustments were made so the pilot study was excluded from the original sample. The Cronbach α value ranged from 0.70 and higher, which indicates a high degree of reliability.

Table 3-1: Reliability of the Studied Questionnaire (*n*=85)

Variable	Cronbach α value	Assess
Psychological Aspects 51-items	0.80	Reliable
Social Aspects 43-items	0.78	Reliable

3.9. Methods of Data Collection

To accomplish the study's goals, data were collected through the use of the questionnaire that was both adopted and developed, as well as through the use of a structured interview technique with subjects who were interviewed individually using the questionnaire's Arabic version. The process of data collection took place from 25/7/2022 until 25/10/2022. The interview technique was used to collect the data from participants (Breast Cancer Women), the information related to their answers to the questionnaire was explained and they were encouraged to participate in the study and thanked them for their participation and cooperation with the researcher. The average time required for respondent ranged from (30 - 40) minutes. The participants were interviewed by face to face and the data were collected by daily visits to Babylon Oncology Center / Merjan

Medical City from (9:00 am. to 1:30 pm.) 4 days in a week. The majority of participants responded to participate to answer study questions.

3.10. Statistical Data Analysis Approach

Data Analyses: Data were analyzed using the statistical package for social science (SPSS), IBM version 27. The descriptive statistical measures of frequency and percent were used. The central tendency measures of arithmetic mean and the scattering measure of standard deviation were also used. The inferential statistical measures of Pearson correlation, one-way analysis of variance, and independent-sample t-test were also used.

3.10.1.Descriptive approach

The analysis performed through use:

A. Statistical tables "Frequencies and percent" which are:

$$\% = \frac{Frequency}{Sample\ Size}\ x100$$

B. Average of the scores M.s. and the overall average score (M±).

The average score can be calculated by using the following:

$$M.S = \frac{\sum \text{ri} = 1\text{Fi x Si}}{\sum \text{ri} = 1\text{Fi}}\ x100$$

By the overall

$$\boldsymbol{total\ mean\ of\ scores = \frac{Maximum\ total\ sores - munimum\ total\ sores}{3}}$$

C.Standard Deviation test ±*SD*.

$$SD = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(Xi - \tilde{\chi})^2}$$

D.It uses a correlational coefficient "Cronbach alpha" used in estimating the internal consistency of the study tool, which can be calculated by using the following:

$$\alpha = \frac{K}{K-1}\left[1 - \frac{\sum_{i=1}^{K}\sigma_{ii}}{\sum_{i=1}^{K}\sum_{j=1}^{K}\sigma_{ij}}\right]$$

3.10.2. Inferential approach

1. Analysis of Variance (ANOVA)

For equality of means, is used (variance test when the mean parameter varies).

Source of variance	Sum of square	d.f	Mean square	F
Between Groups	$SS_B = \sum \frac{(\sum xP1)^2}{n} - \frac{(\sum xP)^2}{n}$	$df_B = K-1$	$\frac{MS\beta}{MS\beta}$	
Within Groups	$SS_w = \sum \frac{(\sum xP1)^2}{N} - \frac{(\sum xP)^2}{N}$	$df_w = N-k$	$\frac{SSw}{DFw}$	$\frac{MSB}{MSW}$
Total	$SS_T = \sum \frac{(\sum xP1)^2}{N} - \frac{(\sum xP)^2}{N}$	$df_T = N-1$		

P-value (≤0.05)

2. Independent Sample t-test

The sample that is unrelated the t-test compares the means of two independent groups to check if there is statistical evidence that the associated population means differ significantly.

$$t = \frac{\mu_A - \mu_B}{\sqrt{\left[\frac{\left(\Sigma A^2 - \frac{(\Sigma A)^2}{n_A}\right) + \left(\Sigma B^2 - \frac{(\Sigma B)^2}{n_B}\right)}{n_A + n_B - 2}\right] \cdot \left[\frac{1}{n_A} + \frac{1}{n_B}\right]}}$$

$(\Sigma A)^2$: Sum of data set A, squared (Step 2).
$(\Sigma B)^2$: Sum of data set B, squared (Step 2).
μ_A: Mean of data set A (Step 3)
μ_B: Mean of data set B (Step 3)
ΣA^2: Sum of the squares of data set A (Step 4)
ΣB^2: Sum of the squares of data set B (Step 4)
n^A: Number of items in data set A
n^B: Number of items in data set B

The following are shortcuts for measuring important in comparison to the level:

NS:>*0.05 Non significantly*-differences.

S:<*0.05 Significantly*-differences.

3.11. Limitations

One potential limitation of this study is its cross-sectional character. Longitudinal studies of this population are suggested, as this will allow a better description of psychosocial aspects over time. Because of the large number of factors that can influence changes in those aspects and the importance of understanding the importance of these factors to the individuals involved, a methodology must be used that includes both

quantitative and qualitative research simultaneously while analyzing the nature of their interrelationships.

The questionnaire generated was based on psychosocial aspects and may not reflect the actual complexity of these variables. Therefore, interpretation of the results should be considered with caution.

Chapter Four

RESULTS OF THE STUDY

Chapter Four

Study Results

Table 4 - 1. Participants' socio-demographic characteristics (N = 100)

SDVs	Classification	Freq.	%
Age/years Mean (SD): 48.60 ± 9.90	27 – 36	15	15.0
	37 – 46	20	20.0
	47 – 56	**43**	**43.0**
	57 – 67	22	22.0
Marital status	Single	11	11.0
	Married	**59**	**59.0**
	Divorced	10	10.0
	Widowed	20	20.0
Children	**Yes**	**81**	**81.0**
	No	19	19.0
Education level	Read and write	18	18.0
	Primary	**44**	**44.0**
	Secondary	13	13.0
	Diploma	11	11.0
	Bachelors	14	14.0
Occupation	Employed	15	15.0
	Free business	19	19.0
	Housewife	**61**	**61.0**
	Retired	5	5.0
Monthly income	Enough	29	29.0
	Not enough	**71**	**71.0**
Residents	**Urban**	**55**	**55.0**
	Rural	45	45.0
Living status	Living alone	7	7.0
	Living with family	**93**	**93.0**

The study results reveal that the mean of age is 48.60 ± 9.90; more than two-fifth age 47-56-years (*n = 43*; 43.0%), followed by those who age

57- 67-years (*n = 22*; 22.0%), those who age 37-46-years (*n = 20*; 20.0%), and those who age 27-36-years (*n = 15*; 15.0%).

Concerning the marital status, more than a half are married (*n = 59*; 59.0%), followed by those who are widow (*n = 20*; 20.0%), those who are singles (*n = 11*; 11.0%), and those who are divorced (*n = 10*; 10.0%).

Regarding having children, the majority reported that they have children (*n = 81*; 81.0%) compared to those who do not have children (*n = 19*; 19.0%).

With respect to the level of education, more than two-fifth reported that they are primary school graduates (*n = 44*; 44.0%), followed by those who read and write (*n = 18*; 18.0%), those who hold a bachelor's degree (*n = 14*; 14.0%), those who are secondary school graduates (*n = 13*; 13.0%), and those who hold a diploma degree (*n = 11*; 11.0%).

As per the occupation, most reported that they are housewives (*n = 61*; 61.0%), followed by those who are freelancers (*n = 19*; 19.0%), those who are employees (*n = 15*; 15.0%), and those who are retired (*n = 5*; 5.0%).

Concerning the monthly income, most reported that their income is not enough (*n = 71*; 71.0%) compared to those whose monthly income is enough (*n = 29*; 29.0%).

Regarding the residency, more than a half reported that they have been living in urban areas (*n = 55*; 55.0%) compared to those who have been living in rural areas (*n = 45*; 45.0%).

With respect to the living situation, the clear majority reported that they have been living with their families (*n = 93*; 93.0%) compared to those who have been living alone (*n = 7*; 7.0%).

Table 4 - 2. Participant's medical profile view.

Clinical Information	Classification	Freq.	%
Stage of Disease	Stage 1	5	5.0
	Stage 2	45	45.0
	Stage 3	**50**	**50.0**
Duration of disease since diagnosis	**6 month-2 years**	**44**	**44.0**
	3 years – 5 years	39	39.0
	More than 5 years	17	17.0
Being diagnosed with BC for the first time	**Yes**	**75**	**75.0**
	No	25	25.0
Have nodal metastases	Yes	44	44.0
	No	**56**	**56.0**
Received a treatment	Yes	100	100.0
If yes, what is the type of treatment?	chemotherapy	13	13.0
	Radiation therapy	**87**	**87.0**
Type of Surgery	Mastectomy	100	100.0
Family History of BC	**Yes**	**55**	**55.0**
	No	45	45.0

The study results display that a half of participants are in the third stage of disease (*n = 50*; 50.0%), followed by those who are in the second stage (*n = 45*; 45.0%), and those who are in the first stage (*n = 5*; 5.0%).

The study results reveal that the duration of illness for more than two-fifth is six months (*n = 44*; 44.0%), followed by those whose duration of illness is more than six months- two years (*n = 39*; 39.0%), and those whose duration of illness is more than two years to five years (*n = 17*; 17.0%).

Regarding being diagnosed with breast cancer for the first time, most reported to be so (*n = 75*; 75.0%) compared to those who are not (*n = 25.0*; 25.0%).

With respect to having nodal metastasis, more than a half do not have such a metastasis (*n = 56*; 56.0%) compared to those who have such a metastasis (*n = 44*; 44.0%).

All participants reported that they have receiving treatment (*n = 100*; 100.0%). The majority of them reported that they have been receiving radiation therapy (*n = 87*; 87.0%) compared to those who have been receiving chemotherapy (*n = 13*; 13.0%).

Ultimately, more than a half reported that they have a family history of breast cancer (*n = 55*; 55.0%) compared to those who have such a history (*n = 45*; 45.0%).

Figure 4-1. Participant's level of anxiety (STIA)

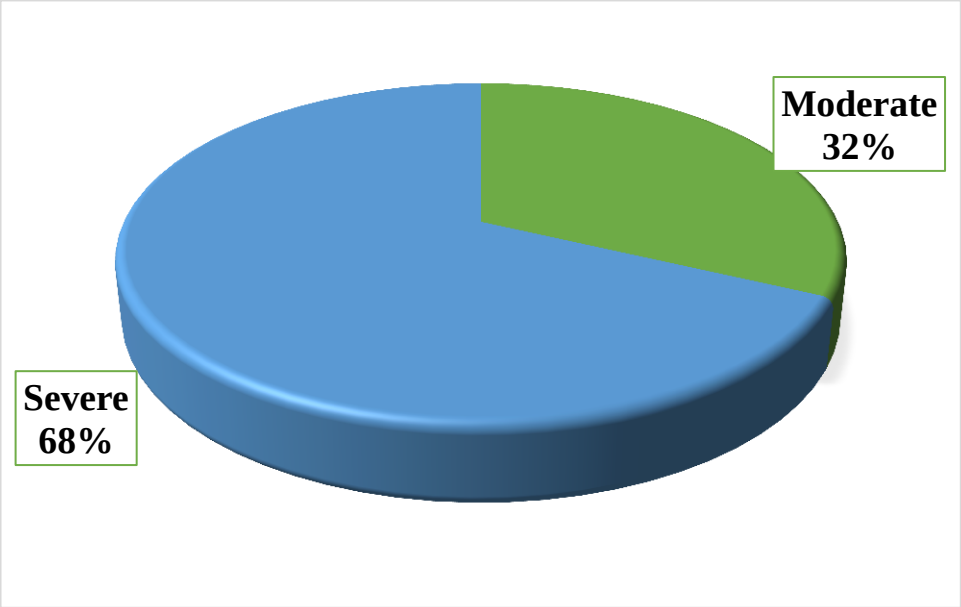

Figure 1. *Level of anxiety*

The study results display that most experience severe anxiety (*n = 68*; 68.0%) compared to those who experience a moderate level of anxiety (*n = 32*; 32.0%).

Figure 4-2. participant's level of depression

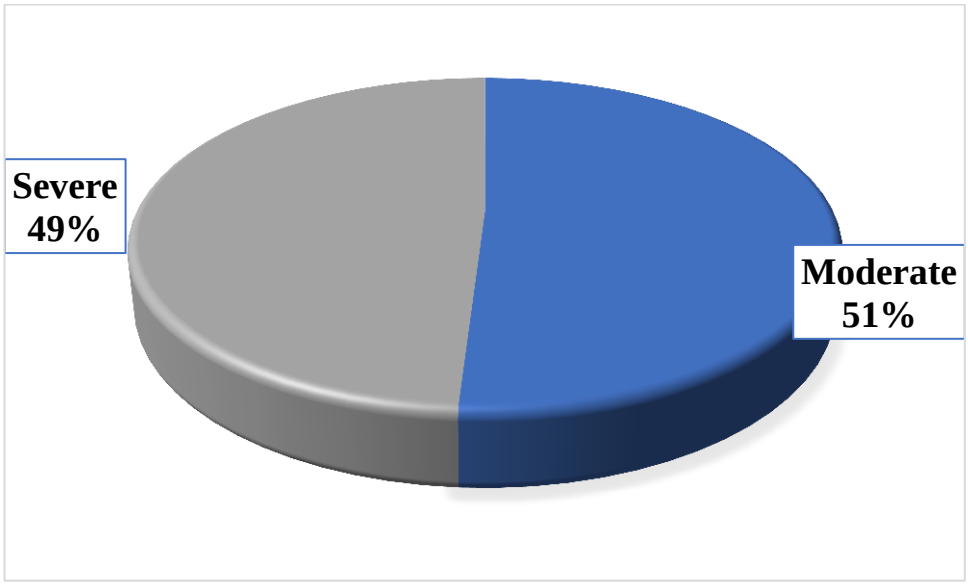

Figure 2. *Level of depression*

The study results display that more than a half experience a moderate depression (*n = 51*; 51.0%) compared to those who experience severe level of depression (*n = 49*; 49.0%).

Figure 4-3. Participant's level of stress

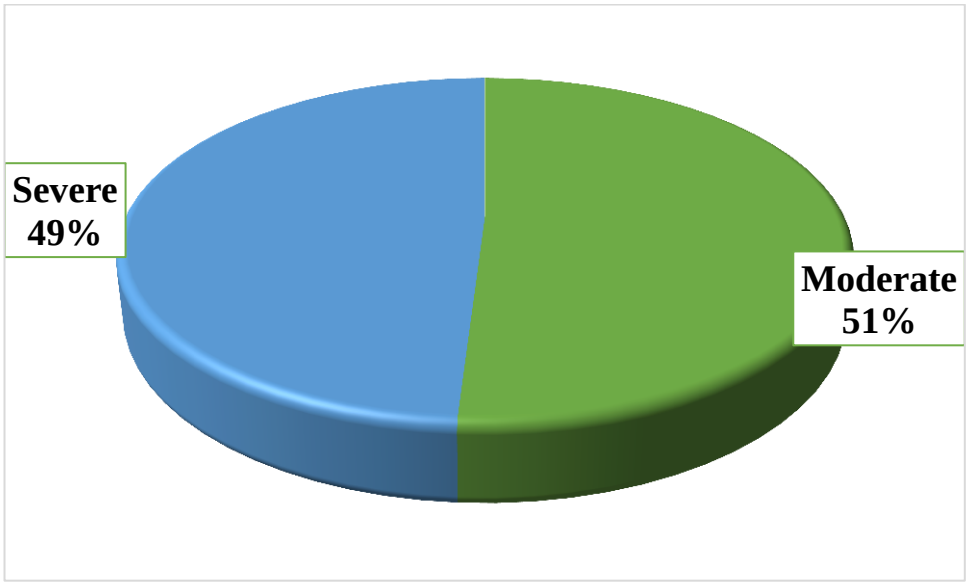

Figure 3. *Level of stress*

The study results display that more than a half experience a moderate stress (*n = 51*; 51.0%) compared to those who experience severe level of stress (*n = 49*; 49.0%).

Figure 4-4. Participant's level of feel of loss their self-image

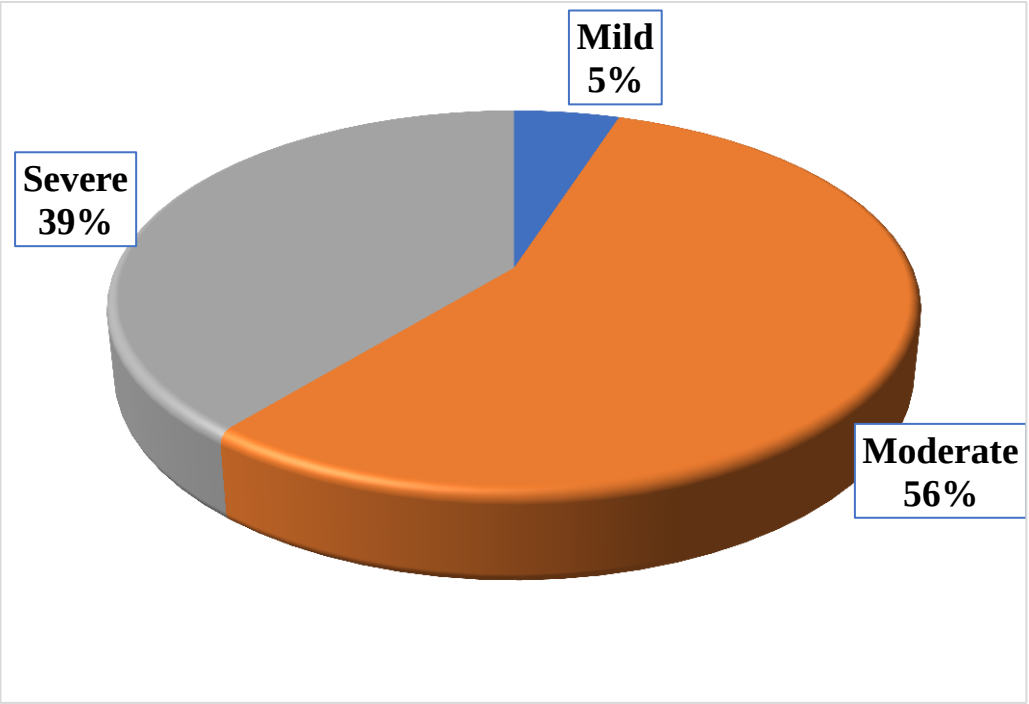

Figure 4. *Level of feeling of loss of self-image*

The study results depict that more than a half moderately feel of their loss of self-image (*n = 56*; 56.0%), followed by those who severely feel so (*n = 39*; and those who mildly feel so (*n = 5*; 5.0%).

Figure 4-5. Participant's level of social isolation within the family

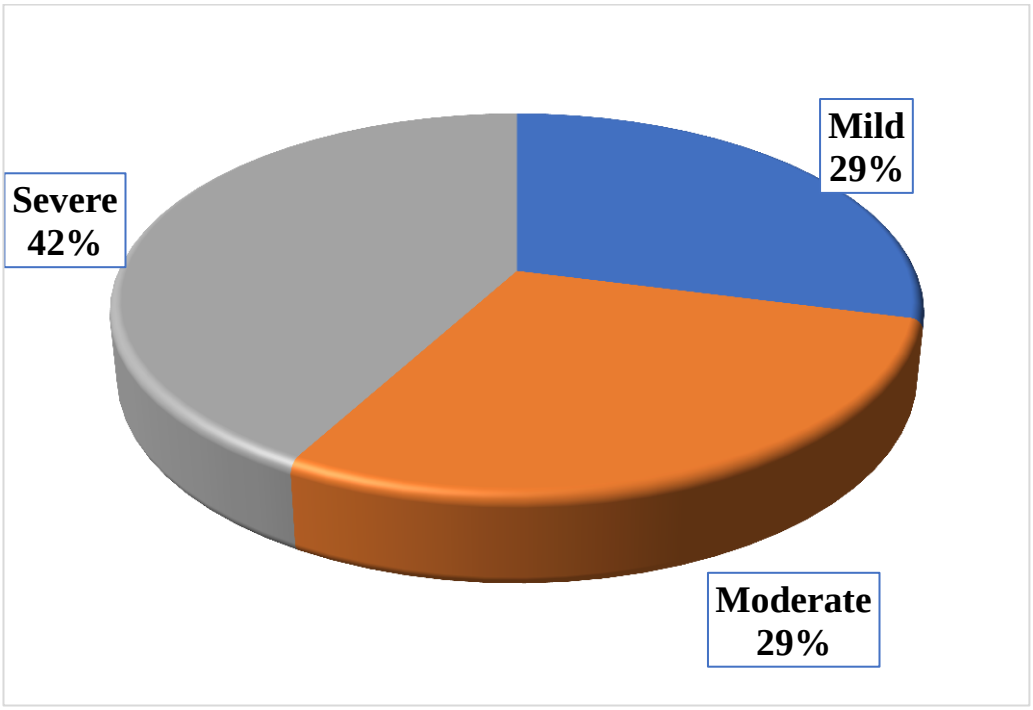

Figure 5. *Level of feeling of social isolation within the family*

The study results demonstrate that more than two-fifth severely feel of social isolation within the family (*n = 42*; 42.0%), followed by those feel both mildly and moderately of such an isolation (*n = 29*; 29.0%) for each of them.

Figure 4-6. Participant's level of social isolation within the friends

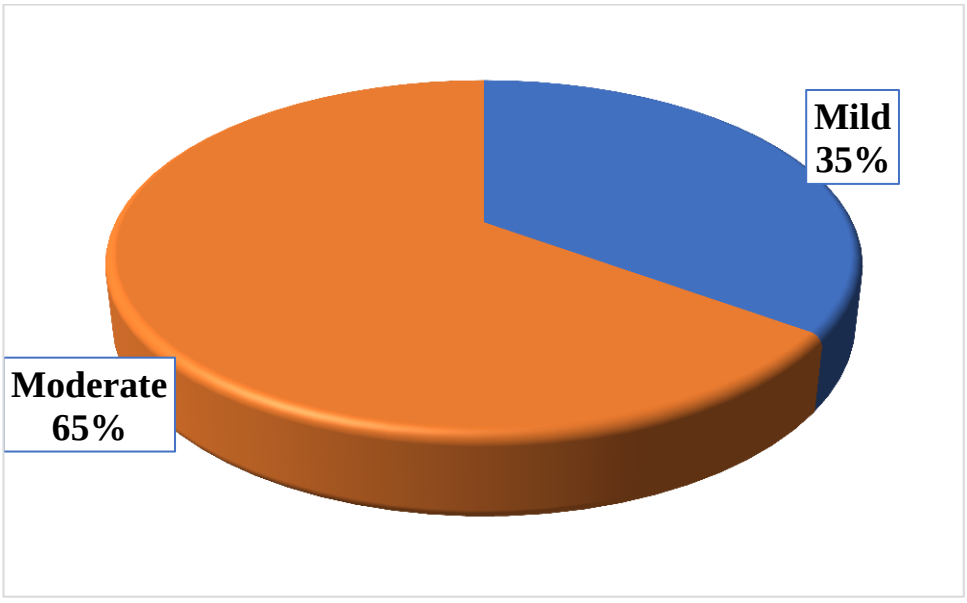

Figure 6. *Level of feeling of social isolation within the friends*

The study results revealed that most severely feel of social isolation within the friends context (*n = 65*; 65.0%) followed by those who moderately feel so (*n = 35*; 35.0%).

Figure 4-7. Participant's social isolation in terms of social provision

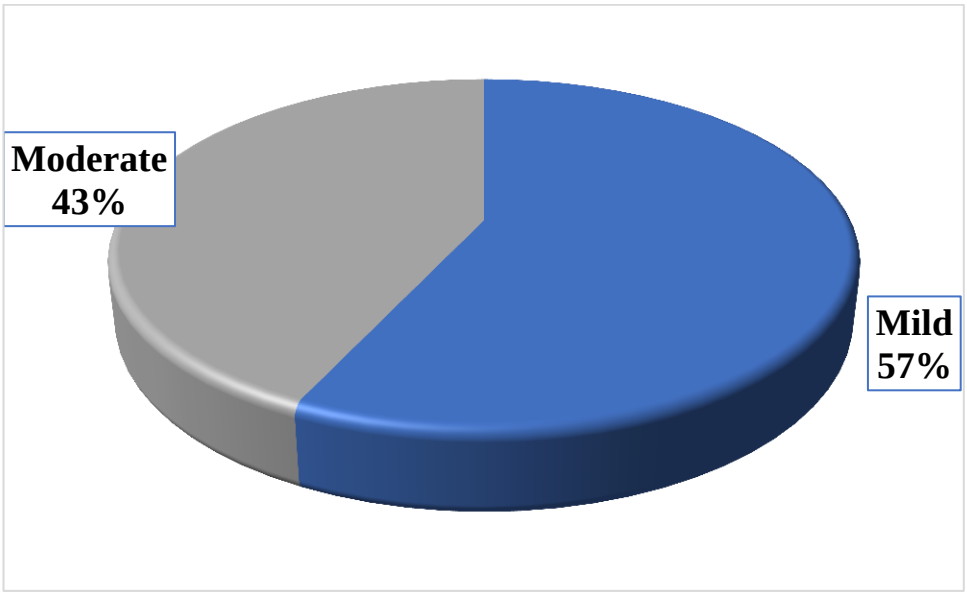

Figure 7. *Level of feeling of social isolation in terms of social provision*

The study results display that more than a half mildly feel of social isolation in terms of the social provision (*n = 57*; 57.0%) compared to those who moderately feel so (*n = 43*; 43.0%).

Figure 4-8. Participant's level of social isolation in terms of social effectiveness

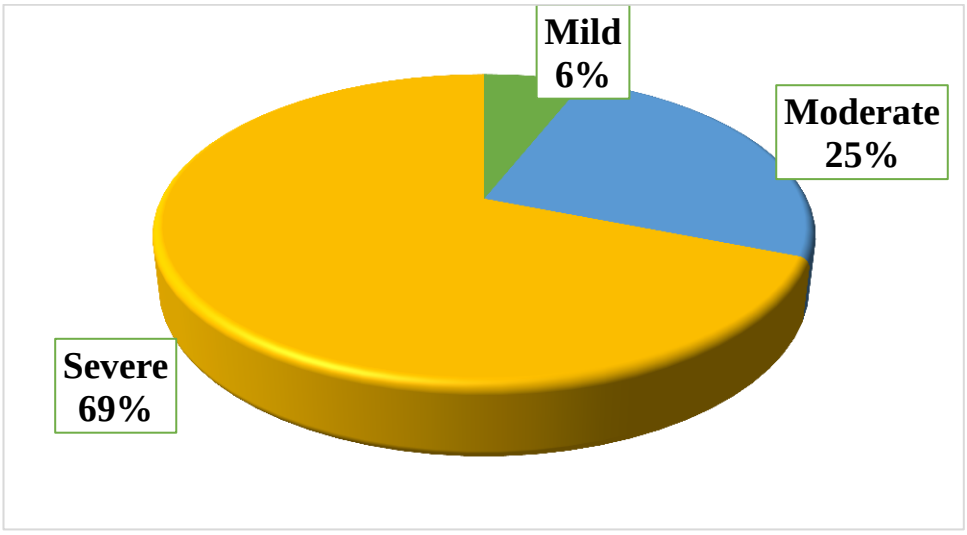

Figure 8. *Level of feeling of social isolation in terms of social effectiveness*

The study results exhibit that most severely feel of social isolation in terms of the social effectiveness (*n = 69*; 69.0%), followed by those who moderately feel so (*n = 25*; 25.0%), and those who mildly feel so (*n = 6*; 6.0%).

Figure 4-9. Participant's level of social responsibility

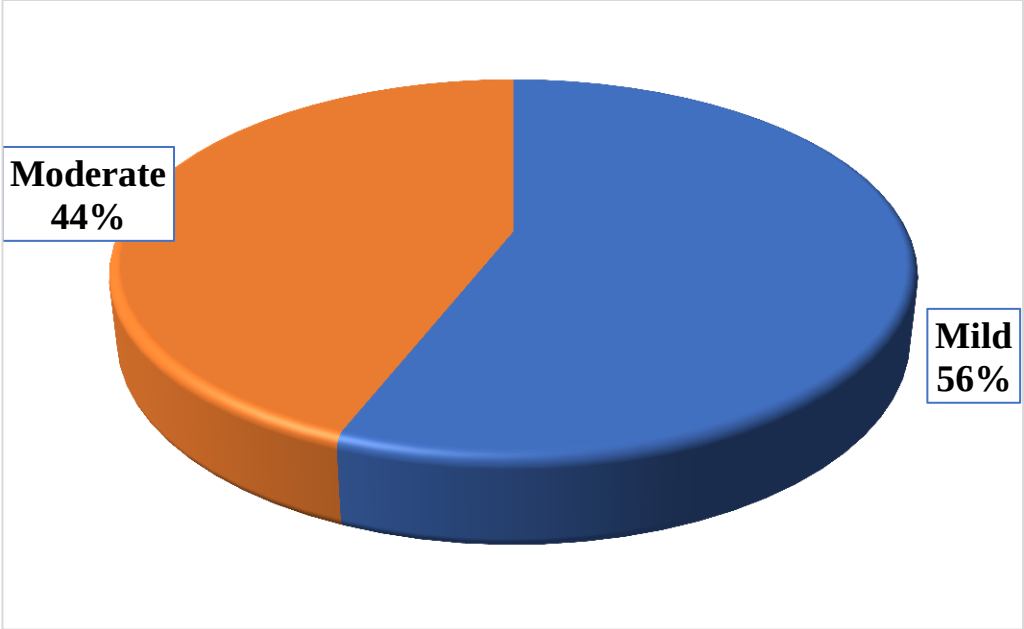

Figure 9. *Level of feeling of social responsibility*

The study results display that more than a half moderately feel of social isolation in terms of social responsibility (*n = 56*; 56.0%) compared to those who severely feel so (*n = 44*; 44.0%).

Table 4-3. Correlation among (age, STAI, depression, stress, self-image, family, friendships, social provision, social effectiveness, social responsibilities)

Variables		1	2	3	4	5	6	7	8	9	10
1	Age	-									
2	Anxiety	-.622**	-								
3	Depression	-.331**	.669**	-							
4	Stress	-.624**	.678**	.756**	-						
5	Self-Image	-.717**	.622**	.629**	.846**	-					
6	Family	-.483**	.656**	.794**	.793**	.825**	-				
7	Friendships	.079	.081	.081	.124	.002	.112	-			
8	Social Provision	-.574**	.634**	.716**	.748**	.812**	.825**	.232*	-		
9	Social Effectiveness	-.491**	.427**	.475**	.605**	.630**	.651**	.053	.504**	-	
10	Social Responsibilities	-.656**	.641**	.670**	.731**	.753**	.758**	.133	.684**	.697**	-

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The study results reveal that there are statistically significant inverse correlation between participants' age and anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social isolation in terms of the social responsibility (*r* = -*.622*; at p-value = 0.01, -*.331*; at p-value = -.624, *r* = -*.717;* at p-value = -.483, *r* = -*.574*; at p-value = -.491, *r* = -*.656*; at p-value = 0.01) respectively.

There are statistically significant positive correlation between the anxiety women experience and their depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social

isolation in terms of the social responsibility (*r = .669*; at p = 0.01, *r = .678*; at p = 0.01, *r = .622*; at p = 0.01, *r = .656*; at p = 0.01, *r = .634*; at p = 0.01, *r = .427*; at p = 0.01, *r = .641*; at p = 0.01) respectively.

There are statistically significant positive correlation between the depression women experience and their stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social isolation in terms of the social responsibility (*r = .756*; at p = 0.01, *r = .629*; at p = 0.01, *r = .794*; at p = 0.01, *r = .716*; at p = 0.01, *r = .475*; at p = 0.01, *r = .670*; at p = 0.01) respectively.

Table 4-4. Differences in psychosocial aspects among marital status groups

ANOVA							
N	**Psychosocial Aspects**		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Anxiety	Between Groups	1137.894	3	379.298	21.921	.000
		Within Groups	1661.106	96	17.303		
		Total	2799.000	99			
2	Depression	Between Groups	163.841	3	54.614	7.480	.000
		Within Groups	700.909	96	7.301		
		Total	864.750	99			
3	Stress	Between Groups	1197.924	3	399.308	22.265	.000
		Within Groups	1721.716	96	17.935		
		Total	2919.640	99			
4	Self-Image	Between Groups	1236.187	3	412.062	25.898	.000
		Within Groups	1527.453	96	15.911		
		Total	2763.640	99			
5	Family	Between Groups	175.747	3	58.582	18.570	.000
		Within Groups	302.843	96	3.155		
		Total	478.590	99			

6	Friendships	Between Groups	2.679	3	.893	.474	.701
		Within Groups	181.031	96	1.886		
		Total	183.710	99			
7	Social Provision	Between Groups	566.472	3	188.824	24.185	.000
		Within Groups	749.528	96	7.808		
		Total	1316.000	99			
8	Social Effectiveness	Between Groups	214.143	3	71.381	8.441	.000
		Within Groups	811.857	96	8.457		
		Total	1026.000	99			
9	Social Responsibilities	Between Groups	69.121	3	23.040	12.573	.000
		Within Groups	175.919	96	1.832		
		Total	245.040	99			

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social isolation in terms of the social responsibility among marital status groups (p-value = .000, .000, .000, .000, .000, .000, .000, .000) respectively.

Table 4-5. Differences in psychosocial aspects between having children groups

Independent Samples Test										
N	**Psychosocial Themes**	**Levene's Test for Equality of Variances**		**t-test for Equality of Means**						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Anxiety	5.717	.019	-6.242	98	.000	-7.19298	1.15234	-9.47976	-4.90621
				-8.077	40.581	.000	-7.19298	.89052	-8.99199	-5.39398
2	Depression	10.015	.002	-4.422	98	.000	-3.05718	.69137	-4.42917	-1.68519
				-6.380	52.492	.000	-3.05718	.47918	-4.01852	-2.09584
3	Stress	11.941	.001	-7.421	98	.000	-8.26121	1.11329	-10.47050	-6.05192
				-11.949	71.639	.000	-8.26121	.69136	-9.63952	-6.88289
4	Self-Image	21.783	.000	-8.338	98	.000	-8.63288	1.03533	-10.68746	-6.57830
				-15.295	96.677	.000	-8.63288	.56443	-9.75317	-7.51259
5	Family	35.754	.000	-6.882	98	.000	-3.18324	.46252	-4.10109	-2.26538
				-12.781	97.603	.000	-3.18324	.24907	-3.67753	-2.68894
6	Friendships	9.556	.003	.490	98	.625	.17089	.34858	-.52085	.86264
				.796	73.444	.428	.17089	.21463	-.25682	.59860
7	Social Provision	37.217	.000	-8.295	98	.000	-5.93892	.71599	-7.35979	-4.51806
				-16.596	90.487	.000	-5.93892	.35786	-6.64982	-5.22802
8	Social Effectiveness	16.731	.000	-4.972	98	.000	-3.66472	.73704	-5.12735	-2.20208
				-9.841	92.928	.000	-3.66472	.37240	-4.40424	-2.92520
9	Social Responsibilities	1.450	.231	-5.581	98	.000	-1.95971	.35111	-2.65649	-1.26294
				-6.878	36.846	.000	-1.95971	.28491	-2.53707	-1.38236

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility between having children groups (p-value = .000, .000, .000, .000, .000, .000, .000, .000, .000) respectively.

Table 4-6. Differences in psychosocial aspects among level of education groups

ANOVA							
N	**Psychosocial Themes**		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Anxiety	Between Groups	1613.160	4	403.290	32.308	.000
		Within Groups	1185.840	95	12.483		
		Total	2799.000	99			
2	Depression	Between Groups	368.082	4	92.020	17.601	.000
		Within Groups	496.668	95	5.228		
		Total	864.750	99			
3	Stress	Between Groups	1930.687	4	482.672	46.366	.000
		Within Groups	988.953	95	10.410		
		Total	2919.640	99			
4	Self-Image	Between Groups	1656.145	4	414.036	35.516	.000
		Within Groups	1107.495	95	11.658		
		Total	2763.640	99			
5	Family	Between Groups	231.497	4	57.874	22.251	.000
		Within Groups	247.093	95	2.601		
		Total	478.590	99			
6	Friendships	Between Groups	20.687	4	5.172	3.014	.022
		Within Groups	163.023	95	1.716		
		Total	183.710	99			
7	Social Provision	Between Groups	651.472	4	162.868	23.283	.000
		Within Groups	664.528	95	6.995		
		Total	1316.000	99			
8	Social Effectiveness	Between Groups	294.105	4	73.526	9.544	.000
		Within Groups	731.895	95	7.704		
		Total	1026.000	99			
9	Social Responsibilities	Between Groups	124.593	4	31.148	24.568	.000
		Within Groups	120.447	95	1.268		
		Total	245.040	99			

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, friendships, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility among level of education groups (p-value = .000, .000, .000, .000, .000, .022, .000, .000, .000) respectively.

Table 4-7. Differences psychosocial aspects among occupation groups

ANOVA							
N	**Psychosocial Themes**		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Anxiety	Between Groups	1012.737	3	337.579	18.143	.000
		Within Groups	1786.263	96	18.607		
		Total	2799.000	99			
2	Depression	Between Groups	198.988	3	66.329	9.564	.000
		Within Groups	665.762	96	6.935		
		Total	864.750	99			
3	Stress	Between Groups	1396.268	3	465.423	29.330	.000
		Within Groups	1523.372	96	15.868		
		Total	2919.640	99			
4	Self-Image	Between Groups	1652.725	3	550.908	47.607	.000
		Within Groups	1110.915	96	11.572		
		Total	2763.640	99			
5	Family	Between Groups	174.880	3	58.293	18.426	.000
		Within Groups	303.710	96	3.164		
		Total	478.590	99			
6	Friendships	Between Groups	18.491	3	6.164	3.581	.017
		Within Groups	165.219	96	1.721		
		Total	183.710	99			
7	Social Provision	Between Groups	531.819	3	177.273	21.702	.000
		Within Groups	784.181	96	8.169		
		Total	1316.000	99			
8	Social Effectiveness	Between Groups	362.993	3	120.998	17.520	.000
		Within Groups	663.007	96	6.906		
		Total	1026.000	99			
9	Social Responsibilities	Between Groups	76.320	3	25.440	14.475	.000
		Within Groups	168.720	96	1.758		
		Total	245.040	99			

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, friendships, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and responsibility among level of education groups (p-value = .000, .000, .000, .000, .000, .017, .000, .000, .000) respectively.

Table 4-8. Differences in psychosocial aspects between monthly income groups

Independent Samples Test										
N	**Psychosocial Themes**	**Levene's Test for Equality of Variances**		**t-test for Equality of Means**						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Anxiety	.843	.361	-2.985	98	.004	-3.36571	1.12763	-5.60346	-1.12797
				-2.889	48.659	.006	-3.36571	1.16499	-5.70726	-1.02416
2	Depression	.135	.714	-2.645	98	.010	-1.67314	.63245	-2.92822	-.41807
				-2.670	53.128	.010	-1.67314	.62659	-2.92986	-.41643
3	Stress	29.462	.000	-.862	98	.391	-1.03254	1.19835	-3.41063	1.34555
				-1.041	81.799	.301	-1.03254	.99176	-3.00553	.94045
4	Self-Image	2.945	.089	.011	98	.991	.01263	1.17031	-2.30981	2.33506
				.012	66.046	.991	.01263	1.05661	-2.09693	2.12218
5	Family	1.048	.308	-.993	98	.323	-.48130	.48458	-1.44294	.48033
				-1.012	54.193	.316	-.48130	.47578	-1.43510	.47250
6	Friendships	.655	.420	-4.059	98	.000	-1.13307	.27918	-1.68710	-.57904
				-4.005	50.630	.000	-1.13307	.28290	-1.70113	-.56502
7	Social Provision	1.372	.244	-1.310	98	.193	-1.04905	.80060	-2.63782	.53971
				-1.243	46.775	.220	-1.04905	.84385	-2.74687	.64876
8	Social Effectiveness	.183	.670	-1.208	98	.230	-.85478	.70782	-2.25944	.54987
				-1.362	69.105	.178	-.85478	.62751	-2.10660	.39704
9	Social Responsibilities	32.392	.000	-2.205	98	.030	-.74988	.34015	-1.42489	-.07487
				-2.882	94.985	.005	-.74988	.26024	-1.26651	-.23324

The study results display that there are statistically significant differences in anxiety, depression, friendships, and social isolation in terms of the social responsibility among monthly income groups (p-value = .004, .010, .000, .005) respectively.

Table 4-9. Differences in psychosocial aspects between residency groups

Independent Samples Test										
N	**Psychosocial Themes**	**Levene's Test for Equality of Variances**		**t-test for Equality of Means**						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Anxiety	8.578	.004	6.503	98	.000	5.83838	.89787	4.05660	7.62017
				6.587	97.472	.000	5.83838	.88629	4.07945	7.59732
2	Depression	12.847	.001	5.726	98	.000	2.95960	.51686	1.93390	3.98529
				5.892	97.282	.000	2.95960	.50233	1.96264	3.95655
3	Stress	20.528	.000	7.007	98	.000	6.27475	.89553	4.49760	8.05189
				7.360	89.618	.000	6.27475	.85256	4.58088	7.96861
4	Self-Image	8.794	.004	8.025	98	.000	6.65455	.82918	5.00906	8.30003
				8.324	95.231	.000	6.65455	.79942	5.06755	8.24154
5	Family	.809	.371	7.836	98	.000	2.72929	.34829	2.03812	3.42046
				7.998	97.999	.000	2.72929	.34124	2.05211	3.40648
6	Friendships	30.684	.000	1.736	98	.086	.47071	.27107	-.06723	1.00864
				1.646	65.629	.105	.47071	.28595	-.10027	1.04168
7	Social Provision	12.427	.001	13.624	98	.000	5.89899	.43300	5.03972	6.75826
				14.367	87.355	.000	5.89899	.41059	5.08294	6.71504
8	Social Effectiveness	7.633	.007	2.029	98	.045	1.29293	.63714	.02855	2.55731
				2.163	80.507	.034	1.29293	.59782	.10334	2.48252
9	Social Responsibilities	3.719	.057	5.197	98	.000	1.46263	.28142	.90416	2.02110
				5.378	95.955	.000	1.46263	.27195	.92281	2.00244

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility among residency groups (p-value = .000, .000, .000, .000, .000, .000, .034, .000) respectively.

Table 4-10. Differences in psychosocial aspects between living situation groups.

Independent Samples Test										
N	**Psychosocial Themes**	**Levene's Test for Equality of Variances**		**t-test for Equality of Means**						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Anxiety	1.099	.297	1.796	98	.076	3.70200	2.06093	-.38786	7.79185
				2.312	7.725	.051	3.70200	1.60129	-.01363	7.41763
2	Depression	14.512	.000	3.443	98	.001	3.78648	1.09961	1.60434	5.96863
				10.471	46.776	.000	3.78648	.36163	3.05888	4.51408
3	Stress	13.992	.000	3.713	98	.000	7.43779	2.00297	3.46296	11.41261
				10.425	30.923	.000	7.43779	.71344	5.98257	8.89300
4	Self-Image	19.309	.000	3.847	98	.000	7.46237	1.94001	3.61249	11.31225
				14.087	92.000	.000	7.46237	.52975	6.41024	8.51450
5	Family	14.607	.000	3.684	98	.000	2.99078	.81172	1.37995	4.60162
				9.983	26.522	.000	2.99078	.29958	2.37558	3.60598
6	Friendships	12.349	.001	.461	98	.646	.24731	.53603	-.81643	1.31105
				1.690	92.000	.094	.24731	.14637	-.04340	.53802
7	Social Provision	11.901	.001	3.804	98	.000	5.09985	1.34066	2.43935	7.76034
				9.366	18.963	.000	5.09985	.54450	3.96004	6.23966
8	Social Effectiveness	9.591	.003	2.261	98	.026	2.79570	1.23630	.34229	5.24910
				8.281	92.000	.000	2.79570	.33759	2.12521	3.46619
9	Social Responsibilities	5.367	.023	1.628	98	.107	.99539	.61154	-.21818	2.20897
				3.013	10.642	.012	.99539	.33033	.26534	1.72544

The study results display that there are statistically significant differences in depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of social effectiveness and social responsibilities among residency groups (p-value = .000, .000, .000, .000, .000, .000, .012) respectively.

Table 4-11. Differences in psychosocial aspects among stages of disease groups

ANOVA							
N	Psychosocial Themes		Sum of Squares	df	Mean Square	F	Sig.
1	Anxiety	Between Groups	295.842	2	147.921	5.732	.004
		Within Groups	2503.158	97	25.806		
		Total	2799.000	99			
2	Depression	Between Groups	240.306	2	120.153	18.664	.000
		Within Groups	624.444	97	6.438		
		Total	864.750	99			
3	Stress	Between Groups	1226.076	2	613.038	35.112	.000
		Within Groups	1693.564	97	17.459		
		Total	2919.640	99			
4	Self-Image	Between Groups	573.016	2	286.508	12.686	.000
		Within Groups	2190.624	97	22.584		
		Total	2763.640	99			
5	Family	Between Groups	80.392	2	40.196	9.792	.000
		Within Groups	398.198	97	4.105		
		Total	478.590	99			
6	Friendships	Between Groups	25.532	2	12.766	7.829	.001
		Within Groups	158.178	97	1.631		
		Total	183.710	99			
7	Social Provision	Between Groups	173.520	2	86.760	7.366	.001
		Within Groups	1142.480	97	11.778		
		Total	1316.000	99			
8	Social Effectiveness	Between Groups	159.502	2	79.751	8.928	.000
		Within Groups	866.498	97	8.933		
		Total	1026.000	99			
9	Social Responsibilities	Between Groups	43.476	2	21.738	10.461	.000
		Within Groups	201.564	97	2.078		
		Total	245.040	99			

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, friendships, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility among stage of disease groups (p-value = .004, .000, .000, .000, .000, .001, .001, .000, .000) respectively.

Table 4-12. Differences in psychosocial aspects among duration of disease since diagnosis groups

ANOVA							
N	**Psychosocial Themes**		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Anxiety	Between Groups	548.792	2	274.396	11.828	.000
		Within Groups	2250.208	97	23.198		
		Total	2799.000	99			
2	Depression	Between Groups	355.730	2	177.865	33.894	.000
		Within Groups	509.020	97	5.248		
		Total	864.750	99			
3	Stress	Between Groups	1156.794	2	578.397	31.826	.000
		Within Groups	1762.846	97	18.174		
		Total	2919.640	99			
4	Self-Image	Between Groups	373.417	2	186.709	7.577	.001
		Within Groups	2390.223	97	24.641		
		Total	2763.640	99			
5	Family	Between Groups	91.724	2	45.862	11.499	.000
		Within Groups	386.866	97	3.988		
		Total	478.590	99			
6	Friendships	Between Groups	5.628	2	2.814	1.533	.221
		Within Groups	178.082	97	1.836		
		Total	183.710	99			
7	Social Provision	Between Groups	298.538	2	149.269	14.231	.000
		Within Groups	1017.462	97	10.489		
		Total	1316.000	99			
8	Social Effectiveness	Between Groups	190.202	2	95.101	11.037	.000
		Within Groups	835.798	97	8.616		
		Total	1026.000	99			
9	Social Responsibilities	Between Groups	42.415	2	21.207	10.152	.000
		Within Groups	202.625	97	2.089		
		Total	245.040	99			

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility among duration of disease since diagnosis groups (p-value = .000, .000, .000, .001, .000, .000, .000, .000) respectively.

Table 4-13. Differences in psychosocial aspects between being diagnosed with BC for the first time groups

Independent Samples Test										
N	**psychosocial Themes**	**Levene's Test for Equality of Variances**		**t-test for Equality of Means**						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Anxiety	.952	.332	-1.374	98	.172	-1.68000	1.22248	-4.10598	.74598
				-1.389	41.960	.172	-1.68000	1.20931	-4.12056	.76056
2	Depression	.113	.738	-5.606	98	.000	-3.34667	.59693	-4.53125	-2.16208
				-5.780	43.458	.000	-3.34667	.57900	-4.51397	-2.17936
3	Stress	10.921	.001	-4.651	98	.000	-5.30667	1.14086	-7.57067	-3.04266
				-6.073	74.188	.000	-5.30667	.87388	-7.04783	-3.56550
4	Self-Image	.019	.889	-1.338	98	.184	-1.62667	1.21533	-4.03844	.78511
				-1.362	42.433	.180	-1.62667	1.19459	-4.03672	.78339
5	Family	6.770	.011	-3.214	98	.002	-1.56000	.48541	-2.52328	-.59672
				-3.642	52.585	.001	-1.56000	.42836	-2.41934	-.70066
6	Friendships	.077	.782	-2.948	98	.004	-.89333	.30304	-1.49471	-.29195
				-2.928	40.718	.006	-.89333	.30508	-1.50959	-.27708
7	Social Provision	7.610	.007	-2.468	98	.015	-2.02667	.82114	-3.65620	-.39713
				-2.128	33.236	.041	-2.02667	.95225	-3.96352	-.08981
8	Social Effectiveness	10.141	.002	-2.117	98	.037	-1.54667	.73072	-2.99676	-.09657
				-2.998	89.591	.004	-1.54667	.51596	-2.57177	-.52157
9	Social Responsibilities	7.563	.007	-.732	98	.466	-.26667	.36418	-.98938	.45604
				-.895	62.859	.374	-.26667	.29790	-.86200	.32866

The study results display that there are statistically significant differences in depression, stress, social isolation within the family, friendships, social isolation in terms of the social provision, and social isolation in terms of the social effectiveness, between being diagnosed with breast cancer for the first time groups (p-value = .000, .000, .001, .004, .041, .004) respectively.

Table 4-14. Differences in psychosocial aspects between having nodal metastases groups

Independent Samples Test										
N	**Psychosocial Themes**	**Levene's Test for Equality of Variances**		**t-test for Equality of Means**						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Anxiety	1.605	.208	2.537	98	.013	2.64610	1.04293	.57645	4.71576
				2.551	94.254	.012	2.64610	1.03725	.58669	4.70552
2	Depression	4.997	.028	5.696	98	.000	2.95455	.51869	1.92522	3.98387
				5.591	84.825	.000	2.95455	.52845	1.90382	4.00527
3	Stress	1.452	.231	6.720	98	.000	6.11364	.90978	4.30820	7.91907
				6.960	97.725	.000	6.11364	.87846	4.37031	7.85697
4	Self-Image	.253	.616	3.608	98	.000	3.62662	1.00513	1.63197	5.62127
				3.614	92.993	.000	3.62662	1.00363	1.63361	5.61964
5	Family	.144	.705	3.289	98	.001	1.38961	.42248	.55120	2.22802
				3.271	90.442	.002	1.38961	.42481	.54570	2.23352
6	Friendships	.518	.473	.018	98	.986	.00487	.27582	-.54249	.55223
				.017	80.658	.986	.00487	.28352	-.55929	.56903
7	Social Provision	10.051	.002	2.886	98	.005	2.04545	.70873	.63900	3.45191
				2.788	77.242	.007	2.04545	.73371	.58453	3.50638
8	Social Effectiveness	6.555	.012	2.396	98	.018	1.51786	.63355	.26060	2.77512
				2.537	92.120	.013	1.51786	.59829	.32961	2.70610
9	Social Responsibilities	5.575	.020	2.802	98	.006	.85877	.30652	.25049	1.46704
				2.903	97.673	.005	.85877	.29580	.27173	1.44580

The study results display that there are statistically significant differences in anxiety, depression, stress, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility between having nodal metastases groups (p-value = .013, .000, .000, .000, .002, .007, .013, .005) respectively.

Table 4-15. Differences psyhosocial aspects between the type of treatment groups

Independent Samples Test										
N	**Psychosocial Themes**	**Levene's Test for Equality of Variances**		**t-test for Equality of Means**						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Anxiety	13.916	.000	-1.126	98	.263	-1.77719	1.57895	-4.91056	1.35618
				-1.688	25.115	.104	-1.77719	1.05263	-3.94462	.39024
2	Depression	5.877	.017	-2.438	98	.017	-2.09107	.85766	-3.79306	-.38908
				-2.957	18.644	.008	-2.09107	.70714	-3.57305	-.60909
3	Stress	31.997	.000	-3.158	98	.002	-4.88240	1.54626	-7.95090	-1.81391
				-6.677	67.107	.000	-4.88240	.73127	-6.34199	-3.42282
4	Self-Image	17.700	.000	-2.286	98	.024	-3.51724	1.53856	-6.57047	-.46402
				-3.926	33.718	.000	-3.51724	.89587	-5.33843	-1.69605
5	Family	1.291	.259	-1.957	98	.053	-1.26172	.64463	-2.54096	.01753
				-2.285	17.933	.035	-1.26172	.55218	-2.42210	-.10133
6	Friendships	.114	.736	.433	98	.666	.17595	.40673	-.63119	.98310
				.541	19.303	.594	.17595	.32499	-.50354	.85544
7	Social Provision	49.106	.000	-1.494	98	.139	-1.60920	1.07745	-3.74736	.52897
				-3.015	56.239	.004	-1.60920	.53381	-2.67845	-.53995
8	Social Effectiveness	35.502	.000	-7.712	98	.000	-5.85323	.75900	-7.35944	-4.34702
				-4.868	12.990	.000	-5.85323	1.20246	-8.45118	-3.25527
9	Social Responsibilities	12.631	.001	-4.986	98	.000	-2.09372	.41994	-2.92708	-1.26037
				-9.720	49.592	.000	-2.09372	.21541	-2.52648	-1.66097

The study results display that there are statistically significant differences in depression, stress, loss of self-image, social isolation in terms of the social effectiveness, and social social responsibility between having nodal metastases groups (p-value = .008, .000, .000, .004, .000, .000) respectively.

Table 4-16. Differences in psychosocial aspects between family history of breast cancer groups

Independent Samples Test										
N	**Psychosocial Themes**	**Levene's Test for Equality of Variances**		**t-test for Equality of Means**						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Anxiety	1.339	.250	6.503	98	.000	5.83838	.89787	4.05660	7.62017
				6.407	87.509	.000	5.83838	.91121	4.02741	7.64935
2	Depression	8.441	.005	8.189	98	.000	3.76768	.46008	2.85466	4.68069
				8.342	97.968	.000	3.76768	.45167	2.87134	4.66401
3	Stress	12.044	.001	5.006	98	.000	4.90101	.97909	2.95803	6.84399
				5.173	96.348	.000	4.90101	.94749	3.02034	6.78168
4	Self-Image	9.848	.002	3.037	98	.003	3.09899	1.02050	1.07385	5.12413
				3.115	97.725	.002	3.09899	.99495	1.12447	5.07351
5	Family	1.364	.246	5.595	98	.000	2.16364	.38671	1.39622	2.93106
				5.705	97.996	.000	2.16364	.37923	1.41107	2.91620
6	Friendships	.906	.344	-2.474	98	.015	-.66061	.26700	-1.19046	-.13076
				-2.452	90.418	.016	-.66061	.26937	-1.19573	-.12548
7	Social Provision	18.411	.000	3.822	98	.000	2.62626	.68716	1.26262	3.98991
				3.927	97.496	.000	2.62626	.66875	1.29907	3.95345
8	Social Effectiveness	1.238	.269	2.774	98	.007	1.73737	.62626	.49458	2.98017
				2.680	76.462	.009	1.73737	.64819	.44652	3.02823
9	Social Responsibilities	3.672	.058	3.690	98	.000	1.09899	.29783	.50796	1.69002
				3.603	82.569	.001	1.09899	.30501	.49229	1.70569

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation within the friendships, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility between family history of breast cancer groups (p-value = .000, .000, .000, .002, .000, .015, .000, .007, .000) respectively.

Chapter Five

DISCUSSION OF THE RESULTS

Chapter Five

Discussion of the Study Findings

This descriptive predictive study aims mainly to identify the psychological impact of breast cancer on women.

This chapter discusses the results in a way that involves logical rationalization supported by the findings of the relevant literature. BC is a disease characterized by abnormal cell growth and reproduction, which leads to the destruction of other healthy cells in the body. Cancer cells have the ability to multiply and move from one organ to another in the human body (Aananda *et al*., 2021).

5.1. Participants' Sociodemographic Characteristics

Sociodemographic factors can impose considerable influence on the study main variables by the virtue of individual differences of a given population. In this essence, women's individual traits can shape their coping abilities to manage the breast cancer-related psychological adverse consequences. Socioeconomic disparities associated with incidence, survival, and mortality rates of breast cancer (Singh & Jemal, 2017).

Findings of the present study reveal that more than two-fifth of the age group is (47-56) years old. This age group may have a lack of knowledge about health and signs of BC due to some of cultural, value, traditions, social and economic conditions previously of the community may force the female to have only primary education and women rarely completed their education and were satisfied with completing only the primary level. According to the National Breast Cancer Coalition (2023), invasive breast cancer is far more common in older women than in younger ones, the median age at breast cancer diagnosis from 2014 to 2018 was 63. This study agrees with (Mo et al., 2022) in China who found that more than half of the patients (53.6%) had primary or junior school. While a study conducted by (Alexander et al., 2019) found out that majority of study

sample (68%) had higher education. While (Dong and Qin 2020) concluded that women with higher education levels had a noticeably increased risk of getting breast cancer compared to those with lower education levels (Table 4-1).

The marital status of present study participants, showed that they are married constitute more than a half percent out of the total number of the study participants. As a sociocultural background of most women who reaching adulthood (young women) mostly married or have a desire to marry. Being married has been shown to be positively associated with survival in women over 65 with breast cancer (Aizer et al., 2013). A study conducted by (Shrestha et al., 2017) findings were supported the present study results and they found that almost participants were married. And a study by (Liu, et al., 2021b) was also agree with the present results, in a report has been to explore the correlations among social isolation and symptoms of anxiety and depression among patients with BC. Find out that (86.9%) of study participants were married.

Regarding possessing children, the majority (eighty one percent) reported that they have children. The marital status of the majority of the participants in the current study showed that they are married, and in addition to that, they are divorced and widowed. Therefore, of course, the majority have children. This study supported with (Fradelos et al., 2017) in Greece who found that (78%) of their sample having children.

Regarding occupation, results indicate sixty one percent of the sample are housewife. The lack of job opportunities in Iraq, especially for women, has led to an increase in non-working women. A study by (de Larrea-Baz, et al., 2020) conducted on BC women to evaluate the impact of BC on QOL and psychological disagree with present study and they found that the majority of their sample were have active job. And a descriptive cross-sectional study was conducted by (Boatemaa, et al., 2020) who

selected 202 BC patients in Ghana found that the majority (68.8%) were employed.

Concerning the monthly income, most reported seventy one percent that their income is not enough. This percentage is related to the high percentage of housewives, the lack of work and the high cost of living. In addition to that, with regard to cancer patients, the burden of treatment and the high costs of health care. This study consistence with study done by (Mahmood & Amen et al., 2022) Suleiman City/Iraq who found the income for more than (60%) of women was less than their expenditure.

In related to the residency, more than a half reported that they have been living in urban areas. Although there have been overall improvements in breast cancer outcomes in recent years, these improvements have not benefitted all demographic groups equally. The reason for these results can be explained by the difference in the living environment of women, where they are more exposed to radiation due to the presence of laboratories and factories in the urban environment, while the rural environment is characterized by the presence of less environmental pollutants. According to (Hirko et al., 2022) incidence and mortality rates for BC differ significantly between geographical regions. This is disagreed with (LeBlanc et al., 2021) who found out that majority of participants highlighted that residence in a rural area corresponded to an increased likelihood of being diagnosed with a later stage breast cancer compared to a residence in a large or small urban area.

With respect to the living situation, the clear majority reported that they have been living with their families. Living arrangements were one of the most intriguing indicators of disease stage. Most of the members of the Iraqi family have strong relationships, and their members often live in nuclear or extended family, and their relationship is based on love and concern, especially if one of its members has such a disease. This study

done by (Elovainio et al., 2021) who found that most women with BC live alone, and this indicates that an increased chance of developing breast cancer is associated with such health burden as living alone. Another study supported with presented study (Sarma et al., 2018) and found that the majority of study sample were live with their families. Table (4-1).

5.2 Participants' Medical Profile View

The study results display that half of participants are in third stage of disease. These findings reflect women's poor health awareness of breast cancer and its early detection competencies and/or poor primary healthcare services designated to early detection of breast cancer in Iraq. (Elimimian et al., 2020), conducted a study on (94) survival women with BC. They mentioned that (42.5%) of study sample were in the second stage of disease. Another study was supported presented study done in al-Resafa/Baghdad/ Iraq by (Al-Shatari et al., 2022) who found most of the patients diagnosed in the second stage of breast cancer.

The study results reveal that the duration of illness for more than two-fifth is six months to two years. This period of time after diagnosis is the most one of the mentioned periods for treatment, so we found the patient during this period more visits the hospital than others. This study agree with a study done by (Levesque et al., 2020) on Chinese migrant women and they found that half of BC women diagnosed with disease for (6-12) month and half diagnosed for more than 12 month.

Regarding being diagnosed with breast cancer for the first time, most reported to be so this study disagree with. This result can be linked to the duration of the disease, which was the majority of it two years, and this period could be sufficient for treatment and may be cured the disease, but it is rarely sufficient for the return of the disease, so the majority of the sample was diagnosed with the disease for the first disease. This study

supported with (Liu et al., 2021b) in China who found that about ninety seven of their sample were diagnosed for the first time.

With respect to having nodal metastasis, more than a half does not have such a metastasis. This study disagrees with presented study conducted by (Zhou et al., 2020) that found the majority of the participants have a metastasis.

The presented study found all of participants reported that they have receiving treatment. Since the sample was taken through the hospital, specifically the center specialized in tumors, it is ordinary for the patient to visits the hospital for treatment or test, and this is due to the nature of the human instinct, which is to seize any opportunity and in any percentage to survive and treatment for BC increases the duration of patient life. This study agree with A cross sectional study done by (Rashid et al., 2022) in Oncology Teaching Hospital/Medical City complex Baghdad/Iraq who found the majority of women take chemotherapy (96.7%) and more than half are exposed to radiation (55.33).

Ultimately, the current study shows more than a half reported that they have a family history of breast cancer. Family history is a major and important risk factor for breast cancer and can cause great anxiety in women. The presence of this factor leads to an improvement in risk prediction in general and obtaining advice and information for women, especially those who have first-degree relatives with BC, who are more reviewers and early detection of the disease. This study supported with (Brewer et al., 2017). While a cross-sectional study was carried out with 400 female students of Jahangirnagar University, done in Bangladesh by (Sarker et al., 2022) inconsistence with presented study who found (18.3) of participants are no family history because early diagnosis of women who has family history of breast cancer is the best approach towards its control that may result in alleviating related mortality and morbidity. Another

study disagree with presented study done by (Al-Azri, et al., 2021) in Omani. Table (4-2).

Figure 1. Participant's Level of anxiety

The study results display that sixty eight percent experience severe anxiety. This finding could be explained as that half of participants were in the third stage of their disease which involves more intense pain and other features of complaints and exposure to events, especially with regard to health, and the incidence of such a fatal disease, makes the patient think about the seriousness of the disease, treatment, and thinking about the family, the people we love, and responsibilities. The patient can think about the life of his loved ones in the event of his death all this puts the patient in a state of constant anxiety. (Tsaras et al. 2018) reported prevalence of anxiety of thirty two percent in patients with breast cancer. In a study performed by (Civilotti et al. 2020) even fifty two percent of patients affected by breast cancer showed anxiety symptoms. Another study supported presented study done by (Podvorica et al., 2022) who found Emotional distress, frightened feeling, anxiety, and depression are important outcomes.

Figure 2. Participant's Level of depression

The study results display that more than half experience moderate depression. Getting a chronic disease, including cancer, is considered one of the stressful life events, which has a strong relationship that contributes to the occurrence of psychological and physical disorders. One of the most serious results or outcomes of this disease that patient develop different levels of mood change as they become depressed. (Tsaras et al. 2018) reported prevalence of depression of 38.2% in patients with breast cancer. Anthor supported study was done in Saudi Arabia by (Ahmed et al., 2018) who found a higher prevalence of depression symptoms was recorded in women with breast cancer. (Assaf et al. 2017) stated that many women expressed deep sadness about the possibility that they would be unable to

fulfill their responsibilities as wives and mothers and could no longer care for their husbands and children. The current results supported by the findings of study conducted by (Fanakidou et al., 2018) which were the higher prevalence of anxiety and moderate depression was found in women with BC.

Yet, this study inconsistence with current study which found the prevalence of depression among breast cancer patients was 24.75% in Levant region (Akel et al., 2017). Another study at the outpatient clinics of a university hospital in Egypt showed a prevalence of depression of 38.8% (El-Hadidy et al., 2012). In a meta‑analysis study that evaluated the global prevalence of depression among breast cancer patients, 32.2% of patients were shown to have depression symptoms (Pilevarzadeh et al., 2019).

Figure 3. Participant's Level of stress

The study results display that more than a half experience a moderate stress. the explanation of this result is due to embarrassment the women with BC by the burden of cancer diagnosis, the whole therapy and the pain that combined with it, disability to performed their usual responsibilities and thinking about disease outcome and the future all this put the patient in stressful situation. A study by (Alagizy et al. , 2020) showed that the majority of the participants were experiencing stress observed in the study group and their stress level was high, approximately seventy-eight percent.

A study done by (Hassan et al., 2015) which showed that the prevalence of psychological distress among patients with BC is high, and they are at higher risk of developing moderate or severe stress. And (Riba et al., 2019) conducted a study and they found that the patients with BC throughout their course of treatment, from initial diagnosis to adjuvant treatment, stress plays a major role and influence on their psychological health. While a study conducted by (Abbey et al., 2015) to study stress after

exposure to the trauma of BC diagnosis and treatment, and they found a high percentage of the study sample suffering from moderate stress.

Figure 4. Participant's Level of feeling of loss of self-image

The study results depict that more than a half moderately feel of their loss of self-image. Mastectomy and hair loss due to chemotherapy may be a serious threat to the self-image of a woman. BC physical appearance alterations have been proven to have a negative impact on body image satisfaction, which includes perceptions of attractiveness and contentment with one's body. The feeling of loss of body image at a moderate level could be due to the fact that the majority of the sample is between the ages of forty and fifty, and at this age women are less concerned with their appearance compared to younger women. Regarding to the current study agree with study done by (Guedes et al., 2018). The results of this study showed about seventy four present prevalence of body image dissatisfaction in women submitted to breast cancer treatment. A study conducted by (Runowicz et al. 2016) reported a high prevalence approximately seventy-sixty percent of women who survived breast cancer experience body image changes and feel disturbed by these changes. And another study inconsistence developed countries have established the prevalence of women who experienced some degree of concern with body image as between 15% and 33% (Fingeret et al., 2014).

Figure 5. Participant's Level of feeling of social isolation within the family

The study results demonstrate that forty two present severely feel of social isolation within the family. The family is the most important source of support among breast cancer patients. Family members play the role of long-term companions for patients, and they are the most important part of patients' social support. The alienation of family relations has a significant impact on the psyche of patients. The closeness of family relationships

directly affects the quality of support for breast cancer patients. If family relationships are loosely connected, family support for patients is limited, and patients suffer. The reason for the increase in isolation between the patient and his family members may be due to the patient's fatigue from the process of illness and treatment and the depression she suffers during this period, or the patient may think of isolating herself from her family members to get them accustomed to separation in case she died in a shorter time due to illness. A study by (Saeed et al., 2021) were conducted in order to better understand the challenges women in Punjab face during get a BC diagnosis and treatment. They found that women with breast cancer prefer to isolate themselves from their family members, even if they provide support, especially individuals who show sympathy, as these women indicated that they need love, not sympathy.

Figure 6. Participant's Level of feeling of social isolation within the friends

The study results revealed that most feel of social isolation within the friend's context is moderately. Having breast cancer leads to a lack or interruption of communication with friends, due to the patient's inability to practice usual activities due to the disease process, her preoccupation with treatment, and the accompanying with psychological problem. The majority of women establish relationships with neighbors and the rest of the community, especially within their area, and most often women who live far from their families. According to the customs and nature of our society, people in such relationships are supportive of each other at all times, and their support increases in times of adversity. According to a study conducted by (Kroenke et al., 2017) they found that a large percentage of breast cancer patients are socially isolated and this makes their chances of tumor recurrence and death higher. A study conducted by (Puigpinós-Riera et al., 2018) disagree with presented study and found that

breast cancer patients always received social support from friends and work units.

Figure 7. Participant's Level of feeling of social isolation in terms of social provision

The study results display that more than a half mildly feel of social isolation in terms of the social provision. The reason for the difference in results is that when women are exposed to a chronic, fatal disease, they are more sensitive and more need the presence of family members or friends in all the details of their lives and decisions. Women with BC need people they trust to share the opinions with them about their life decisions, and they depend on them in emergency situations because that gives them a sense of emotional security because they are sensitive. The majority of close people will try to provide this, and some people cannot. It could be because of preoccupation with their lives or they avoid them for fear of the disease. This study agree with presented study done by (Jassim & Whitford 2014) & (Liu, et al., 2017) they found that the participants in different research expressed worries about how their quality of life was affected by issues with their body image, such as hair loss, the absence of a breast, which was worsened by the lack of breast prostheses, the existence of lymphoedema, and skin abnormalities. Similar results from other research support the notion that alterations in body image in breast cancer patients lead to emotional problems that pervade their thoughts, particularly while dressing, taking a shower, and gazing in the mirror.

Figure 8. Level of feeling of social isolation in terms of social effectiveness

Sixty nine present of the present study sample are severely felt of social isolation in terms of social effectiveness. The reason for the lack of social effectiveness is that the patient goes through this experience, which may make her lose her self-confidence and her ability to participate in

social activities. These finding are consistent with that obtained by (Badger et al. 2020) who concluded that the social isolation was noticeable among women with breast cancer at baseline. According to the study by (Puigpinós-Riera et al. 2018), the patients with breast cancer have few social connections, engage in fewer social activities, and lack support

Figure 9. Level of social responsibility

The study results display that more than a half mildly feel of social isolation in terms of social responsibility Fifty six present feel of social isolation in terms of social responsibility. These finding are consistent with that obtained by (Badger et al. 2020) who concluded that the social isolation was noticeable among women with breast cancer at baseline. (Assaf et al. 2017) stated that many women expressed deep sadness about the possibility that they would be unable to fulfill their responsibilities as wives and mothers and could no longer care for their husbands and children.

Another study was supported presented study that can be enhanced by improving the social support for the patients. In addition, (Zhang et al., 2020) study has added to the evidence that the positive resources of hope and social support were positively associated with QOL in breast cancer. Furthermore, Colombian (Finck et al., 2018) studies found that cancer patients want and indeed get social support from their physicians, nurse and families/friends, while other professionals (psychologists, social workers, pastors) are less involved.

Table 3. Correlation among participant's age, psychological and social themes.

The study results reveal that there are statistically significant negative correlation between participants' age and anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness,

and social responsibility. The younger the patient's age, the greater her fears and anxiety, which may be due to fear of changing her appearance, complications of the disease, or loss of life. All this leads to an increase in psychological and social problems more than older patients. This finding implies that the older the woman, the greater the depression they experience. A study is consistent with the current findings conducted by (Ghanmi et at., 2017) in Tunisia to measure the prevalence of depression associated with breast cancer and to find out the demographic factors that affect the level of depression. They found that BC women over age of sixty five years were more likely to experience depression.

A cross-sectional study conducted by (Wondimagegnehu et al., 2019) on (428) BC women found there were a significant association between the participant's age and depression and these association were decreases with age. While the results of the study conducted by (Piroth et al., 2022) are inconsistent with the results of the current study as it concluded that there is no significant association between age and depression.

The study results exhibited that there was a statistically significant inverse correlation between participants' age and loss of self-image. Younger women pay great attention to their external appearance because they need love, husband, and attention from their partner more than older women. Fear of losing a husband or partner because of physical changes, feel of loss of their femininity and lack of self-confidence lead to more psychological and social problems. Furthermore, they can. This finding is consistent with that of who concluded that the woman's age is an important indicator of dissatisfaction with body image, and this relationship is inverse, and decreases with age (Teo et al., 2016).

Overall, the results underscored the findings of other investigators (Matthews et al., 2016), (Santini et al., 2020) those founds social isolation is positively connected with anxiety and depression in patients with breast

cancer. According to (Santini et al., 2020) few social connections, engage in fewer social activities, and lack support raises the risk of anxiety and depression. Another study conducted by (Lucas et al., 2023) found that BC women have a high level of depression and anxiety because of fear of disease recurrence and there were a significant association between anxiety and depression.

There are statistically significant positive correlation between the stress women experience and their loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social isolation in terms of the social responsibility. This study consistence with (Al-Azri et al., 2014) who found positive correlation in a result of the loss of feminine symbols, women may feel low self-esteem, poor body image, inaccurate self-perception, social isolation, and the onset of communication or connection problems with family or friends.

(Banning et al., 2009) who found positive correlation in a result consequence of losing their feminine physical characteristics owing to hair loss or the loss of one or both breasts as a result of cancer treatment side effects, some women may feel "cancer stigma" as a result and (Kagawa et al., 2010) The physical and emotional toll of the illness may further restrict the patients' opportunities, increasing social isolation and rejection. As a result, their emotional health deteriorates, which has an adverse effect on their health.

There is a statistically significant positive correlation between the depression women experience and their stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility. These results can be explained by the fact that patients who have little communication, whether with family or friends, do not receive

the psychological or social support that patients greatly need at this stage, which leads to psychological problems such as depression.

A study conducted by (Borgi et al., 2020) concluded the women often worry about their appearance, which may have a negative impact on their interactions with others and can lead to feelings of isolation and depression. This is significant because women are more likely than males to experience emotional distress in the face of adversity. The presented study agree with the findings of (Hakulinen et al., 2018) and (Domenech-Abella et al., 2019) showing loneliness, social isolation, stress, and depression all have a major negative influence on one's emotional well-being and physical health. Because they have an immediate negative influence on both mental and social isolation and effectiveness, despair, stress, and loneliness are particularly harmful. Compared to those who were not lonely, individuals who felt lonely were more likely to report depressive symptoms and to assess their health as being poorer.

Table 4. Differences in psychosocial aspects among marital status groups

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of social provision, social isolation in terms of social effectiveness, and social responsibility among marital status groups.

The study results display that there was a statistically significant difference in anxiety among marital status groups. Further post-hoc analysis display that the STAI score was greater among single women and least among married women. This finding could be explained as that single women experience greater anxiety and stressed since they can believe they lost the chance of marriage at all.

The study results display that there were statistically significant differences in depression and stress among marital status groups. Further post-hoc analysis display that the depression and stress scores were greater among single women.

The study results display that there was a statistically significant difference in loss of self-image among marital status groups. Further post-hoc analysis display that the self-image score was greater among single women. This finding is supported by (Vaziri et al., 2022) who indicated that there is a statistically significant difference in the Assessment of Body-Image Cognitive Distortions (ABCD) among marital status groups. Further post-hoc analysis display that the social isolation score was greater among single women. Results of different studies (Turdaliyeva et al., 2022) and (Patsou et al., 2019) found that the patient's marital status was significantly related to depression among women diagnosed with BC. While this results is inconsistence with a study conducted by (Alfadhul, 2022) the results showed no significant association between depression in BC cases and marital status.

Table 5. Differences in psychosocial aspects between having children groups

The study results displayed that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility between "having children" groups. (Breidenbach et al., 2022) concluded that participants who have children were more likely to have increased levels of depression over time. According to (McCann et al., 2010), parents who are dealing with cancer may find it difficult to talk to their children about it, feel like they are failing as parents, or feel like it takes more work to keep their children's routines at home. Another results obtained

according to this scale are similar to the ones reached by (Ahmad et al., 2012) which it an Iranian study that showed significant changes regarding BC women with children and psychological disorder.

Table 6. Differences in psychosocial aspects among level of education groups

The study results display that there was a statistically significant difference in the anxiety among the level of education groups. Further post-hoc analysis displayed that participants who hold a bachelor's degree experience greater anxiety than those with lower levels of education vice versa.

The study results display that there was a statistically significant difference in the depression among level of education groups. Further post-hoc analysis displayed that participants with lower levels of education experience the least depression and those with almost higher levels of education experience the greatest depression vice versa.

The study results display that there was a statistically significant difference in the stress among level of education groups. Further post-hoc analysis displayed that participants with lower levels of education experience the least stress and those with almost higher levels of education experience the greatest depression vice versa.

The study results display that there was a statistically significant difference in the loss of self-image among level of education groups. Further post-hoc analysis displayed that participants who participants who participants with lower levels of education experience the least feeling of loss of self-image and those with almost higher levels of education experience the greatest loss of self-image vice versa.

The study results displayed that there were statistically significant differences in social isolation within the family/friendships, social provision, and social effectiveness among level of education groups.

Further post-hoc analysis displayed those participants who hold a bachelor's degree experience more feeling of social isolation, friendships, social provision within the family, and social effectiveness. On the other hand, those with the lowest level of education experience the least feeling of social isolation within the family.

The study results displayed that there was a statistically significant difference in social responsibilities among level of education groups. Further post-hoc analysis displayed that the values of social isolation in terms of the social responsibilities were greater among participants who hold a bachelor's degree. On the other hand, these scores were lowest among participants who read and write.

The present study supported with (Yektatalab & Ghanbari 2020) in Iran a significant relationship was observed between education level and self‑esteem/psychological disorder. This means people with higher education levels have stronger self‑esteem. Studies have shown that education can lead to greater awareness, change in beliefs, values, and insight into the disease, thus improving self‑esteem. (Alexander et al., 2019) found that BC women with a bachelor's degree experience social embarrassment, ingrained fears about their physical appearance, and modifications to it that are considered socially acceptable. Methods and regulations are implemented to achieve better clinical outcomes whatever the circumstances.

While (Masudi et al., 2009) disagree with presented study that show no significant with some variable such as educated levels are considers more sensitive to their illness, disabilities, and self‑limitations than others, and this issue causes negative impacts on their self‑esteem.

Table 7. Differences in psychosocial aspects among occupation groups

The study results revealed that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, friendships, social isolation in terms of the social provision, social isolation in terms of the social effectiveness among occupation groups. Further post-hoc analysis displayed that the values of anxiety, depression, stress, loss of self-image, social isolation within the family, social provision, social effectiveness, and social responsibilities were greater among participants who are employees. Further post-hoc analysis displayed that the values of social isolation in terms of friendships were greater among housewives followed by employees.

The job plays an important role in a person's life and has a significant impact on his psychological and social health. Having a chronic disease like a breast cancer affects the performance of the employee and her work, and may lead to her leaving her job, and this causes psychological and economic problems as well, which increases the incidence of mental illnesses associated with this disease. An increase in the percentage of housewives in the sample is associated with an increase in psychosocial problems in this study. The results of the study conducted by (Keesing et al., 2018) agreed with the results of the current research, as they showed that working women were more affected by BC with regard to social concerns and family and domestic responsibilities, as all these activities stopped, and also showed their inability to return to their roles and responsibilities after the completion of treatment. While housewives were less affected by these challenge.

A study conducted by (Alexander et al., 2019) on BC women to identify the influence of demographic factors on psychosocial roles of women within the family were disagree with our findings and found that everyone had a common social isolation or social interaction at the

situation. When it came to a feeling of social isolation, none of the characteristics that were taken into consideration, such as having a college degree, having a job, or living in an urban area, appeared to make a difference in any way.

Table 8. Differences in psychosocial aspects between monthly income groups

The study results displayed that there are statistically significant differences in anxiety, depression, friendships, and social isolation in terms of the social responsibility between monthly income groups. Further group statistics demonstrated that the values of anxiety, depression, friendships, and social isolation in terms of the social responsibility were remarkably greater among participants who reported that their families' monthly income is not enough. It has been shown through the results of this study that the largest percentage was for people with insufficient income, in addition to that exposure to such a disease in life causes an additional financial burden for the patient and the family because of the cost of expensive treatment, which leads to an increase in the possibility of developing psychological and social problems such as social isolation and a decrease in the performance of social responsibilities.

A study conducted by (Sharp et al., 2013) was agree with present study and they showed that the participants who reported higher levels of financial strain due to cancer had a threefold higher incidence of stress and depression. And a study conducted by (Fenn et al., 2014) found that women who are financially poor suffer from psychological problems and have low social effectiveness and poor social participation. This study disagree with (Cook et al., 2020) who found stress, anxiety, and depression was not associated with changes in household income this study.

Table 9. Differences in psychosocial aspects between residency groups

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility among residency groups.

Further group statistics demonstrated that the values of anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility were greater among participants who reside in urban areas. A different finding study was reported in China by (Gu et al., 2022) who stated that there was non-significant difference regarding relationship between social constrains, social isolation, family environment, self-efficacy, and depressive symptoms among breast cancer patients in China by the residency groups.

Table 10. Differences in psychosocial aspects between living situation groups

The study results display that there are statistically significant differences in depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibilities among living situation groups. Further group statistics demonstrated that the values of depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness and social responsibilities were greater among participants who have been living alone.

A study conducted by (Chen et al., 2021) to observe psychological problem and association factors which have an impact on BC women. It's finding were consistent with current study and found that living alone associated

with depression, anxiety, stress, and insomnia also found increased social isolation with living alone.

Table 11. Differences in psychosocial aspects among stage of disease groups

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, friendships, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility among stage of disease groups respectively. Further post-hoc analysis revealed that the values of anxiety, depression, stress, loss of self-image, social isolation within the family, friendships, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social isolation in terms of the social responsibility were greater among participants who are in the third stage of disease.

Two studies agree with present study were conducted, one by (Alemayehu et al., 2018) and the other by (Su et al., 2017), found that there is a relationship between the stage of the BC and psychological illness with regard to depression, and showed that the patient in the advanced stages has depression more than the patients in the early stages, that is, the more the disease progresses, the greater the probability of depression. Whereas a study by (Wondimagegnehu et al., 2019) does not agree with the current findings regarding the association between depression and BC stage and they found that there was no association between them.

Table 12. Differences in psychosocial aspects among duration of disease since diagnosis groups

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility

among duration of disease since diagnosis groups. Further post-hoc analysis revealed that the values of anxiety, depression, stress, loss of self-image, social isolation within the family, friendships, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility were greater among participants who were diagnosed as having breast cancer for more than 2 years – 5 years. These results can be explained by the increase in the time period after the diagnosis and the disease is still not treated, which means the progression of the disease stage, and this leads to an increase in the impact of the disease on the psychological and social health. These results can be supported with a study conducted by (Ranieri et al., 2020), the results of this study are summarized that the period between two to three years had a greater psychological impact on the BC patients.

Table 13. Differences in psychosocial aspects between being diagnosed with breast cancer for the first time groups

The study results display that there are statistically significant differences in depression, stress, social isolation within the family, friendships, social isolation in terms of the social provision, and social isolation in terms of the social effectiveness, between being diagnosed with breast cancer for the first time groups. Further group statistics demonstrated that the values of depression, stress, social isolation within the family, friendships, social isolation in terms of the social provision, and social isolation in terms of the social effectiveness were greater among participants who being diagnosed with breast cancer for the first time. These results can be interpreted as human nature is the fear of the unknown, so the women diagnosed with BC for the first time is more afraid and more worried about what will happen in regard the development of the disease, complication of the disease and the outcome of treatment. While the women who were experience the recurrence of BC or diagnosed with

BC for the second time may be less likely to develop psychological or social problems and they become more focused on their treatment. A study conducted by (Matbouei et al., 2023) whose results were contrary to the results of the current study, where it was found that BC patients who were diagnosed for the second time or disease recurred had more psychological and emotional problems than those diagnosed for the first time.

Table 14. Differences in psychosocial aspects between having nodal metastases groups

The study's findings show that there are statistically significant differences between the groups of people who have nodal metastases in terms of anxiety, depression, stress, social isolation within the family, social isolation in terms of social provision, social isolation in terms of social effectiveness, and social responsibility. Additional group statistics showed that participants with nodal metastases had higher values of anxiety, depression, stress, social isolation within the family, social isolation in terms of social provision, social isolation in terms of social effectiveness, and social isolation in terms of social responsibility. The interpretation of these results can be that the presence of nodal spread means more disease progression, decreased probability of treatment success, higher probability of death or increased thinking about it, which leads to the patient's negative thinking, increased anxiety, stress, depression, and increased social isolation and related problems. A study conducted by (Xiang et al., 2020) supports the current results, where it was found that patients who do not have nodal metastasis were less exposed to psychological and emotional problems, while women whose disease developed to an advanced stage (metastasis) were had a higher percentage of psychological, emotional and physical problems.

Table 15. Differences in psychosocial aspects between the types of treatment groups

The study results display that there are statistically significant differences in depression, stress, loss of self-image, social isolation in terms of the social effectiveness, and social responsibility between the type of treatment groups. The treatment causes psychological problems for the patient because of the side effects, especially chemotherapy, such as hair loss and changing the shape and body image of women that is lead to psychological distress and social problem. This study, which was conducted by (Iddrisu et al., 2020), proved that radiation and chemotherapy had a negative impact on the lives of patients with regard to their daily activities, work, and their responsibility towards the family and children, as well as with regard to their religious activities such as prayer. This study also found the effect of treatment on body image which causes psychological problem.

Table 16. Differences in psychosocial aspects between family history of breast cancer groups

The study results display that there are statistically significant differences in anxiety, depression, stress, loss of self-image, social isolation within the family, friendships, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social responsibility between family history of breast cancer groups. Further group statistics demonstrated that the values of anxiety, depression, stress, loss of self-image, social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social isolation in terms of the social responsibility were greater among participants who have a family history of breast cancer.

In addition to a cross-sectional study conducted by (Al-Azri et al., 2021) at the University Hospital (SQUH), Muscat, Oman that found that

there was a significant family history of cancer or those who had previously had cancer. Breast cancer patients and the people who provide care for them were more aware of the physical and psychological consequences of having cancer. They were more aware of the disease and it's progress, treatment and its complications, or the outcome of the disease (it could be death). Therefore, once they know the diagnosis of the disease, they may develop psychological problem. A study conducted by (de Larrea-Baz et al., 2020) whose results were consistent with the results of the current study, and it found that there is a relationship between the presence of a family history of disease and psychological and mental health.

Chapter Six

CONCLUSION AND RECOMMENDATIONS

Chapter Six

Conclusions and Recommendations

6.1. Conclusions

Based on the discussion of the results and their interpretations, the present study concludes that:

6.1.1. The majority of women with breast cancer experiences sever anxiety, moderate depression, moderate stress, moderate loss of self-image, sever social isolation within family, moderate social isolation within friends, mild feel of loss of social profession, sever feel of loss of social effectiveness, and mild feel of loss of social responsibilities.

6.1.2. The younger woman, the greater the anxiety and stress they experience. The younger women, the greater the feeling of loss of self-image they experience. The younger women, the greater the feeling of social isolation within the family, social isolation in terms of the social provision, social isolation in terms of the social effectiveness, and social isolation in terms of the responsibility they experience.

6.1.3. There are statistically significant differences between sociodemographic characteristics and clinical information with psychosocial aspects and there are statistically significant differences between psychological and social aspects.

6.2. Recommendations

Based on the stated conclusion, the present study recommends that:

6.2.1. Recommendation of the Ministry of Health to create programs that focus on the psychological aspect of breast cancer patients, such as a special psychiatric staff in tumor centers that breast cancer patients review, or the establishment of special associations such as a weekly or monthly meeting for all patients, and a discussion about their feelings, problems, or the things that most cause fear and anxiety for them.

6.2.2. Recommendating the Ministry of Health to create a program or centers that provide breast prothesis for women with breast cancer to reduce the psychological and social impact on women due to loss of body image after mastectomy.

6.2.3. The Ministry of Health's recommendation is to build a social support program for women with breast cancer that provides social activities that motivate patients to engage in society and avoid isolation, in cooperation with patients' families and friends, and to pay more attention to patients in order to prevent social isolation and help patients overcome anxiety and despair related to their illness.

6.2.4. Further researches on the psychosocial impact of breast cancer on women to find out its effects so it can be confronted, followed by analytic cohort and interventional studies.

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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,

Hadeel Makki Fadhel

The Research Ethics committee at the **University of Babylon, College of Nursing** has reviewed and discussed your application to conduct the research study entitled **" Psychosocial Impact of Breast Cancer on Women in Babel"**

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

وزارة التعليم العالي والبحث العلمي
جمهورية العراق
Ministry of Higher Education and Scientific Research
جامعة بابل
كلية التمريض
لجنة الدراسات العليا
University of Babylon
College of Nursing

العدد : ٥٠٦ ص
التاريخ : ٧/ ٧ / ٢٠٢٢

Ref. No. :
Date: / /

الى / دائرة صحة بابل/ مستشفى الامام الصادق
م/ تسهيل مهمة

تحية طيبة :

يطيب لنا حسن التواصل معكم ويرجى تفضلكم بتسهيل مهمة طالبة الدكتوراه (هديل مكي فاضل عبد الحسين) لغرض جمع عينة دراسة الدكتوراه والخاصة بالبحث الموسوم :

(التأثير النفسي والاجتماعي لسرطان الثدي على النساء في بابل) .

(Psychosocial Impact of Breast Cancer on Women in Babel).

... مع الاحترام ...

المرافقات //
- بروتوكول .
- استبانة

كلية التمريض
المعاون العلمي

ا.م . د. نهاد محمد قاسم الدوري
معاون العميد للشؤون العلمية والدراسات العليا
٢٠٢٢/٧/٦

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

بسمة ٧/٣٦

E-mail:nursing@uobabylon.edu.iq
وطني 07711632208
المكتب 009647711632208
www.uobabylon.edu.iq

جمهورية العراق

Ministry Of Health Babylon Health Directorate Email:- Babel_Healthmoh@yahoo.com لأجل عراق اخضر مستدام ..سنعمل معا لترشيد استهلاك الطاقة الكهربائية والمحافظة على البيئة من التلوث		وزارة الصحة دائرة صحة محافظة بابـــل المديـــر العـــام مركـــز التدريب والتنمية البشرية وحدة أدارة البحوث العدد : ٩٧٠ التاريخ: ٢٤ / ٧ /٢٠٢٢

مستشفى الامام الصادق (ع)

إلى / مركز بابل لمعالجة الاورام

م/ تسهيل مهمة

دائرة صحة محافظة بابل
مركز بابل لمعالجة الاورام
الصادر
العدد: ١٧٢٦
التاريخ: ٢٤/٧/٢٠٢٢

السلام عليكم ...

أشـارة إلـى كتـاب جامعـة بابـل / كليـة التمـريض / لجنـة الدراسـات العليـا ذي العدد ٢٤٠٨ في ٢٠٢٢/٧/١٧

نرفـق لكـم ربطـا اسـتمارات الموافقـة المبدئيـة لمشـروع البحـث العائـد للباحثـة طالبـة الدراسات العليا /الدكتوراه (هديل مكي فاضل عبد الحسين).

للتفضـل بـالاطلاع وتسـهيل مهمـة المومـا أليـه مـن خـلال توقيـع وخـتم اسـتمارات أجـراء البحـث المرفقـة فـي مؤسسـاتكم وحسـب الضـوابط والإمكانـات لاستحصـال الموافقـة المبدئيـة ليتسـنى لنـا أجـراء الـلازم علـى أن لا تتحمـل مؤسسـاتكم أيـة تبعـات ماديـة وقانونية .... مع الاحترام

المرفقات :

استمارة عدد /٢

وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية
١٨٦

الطبيب الاختصاص

محمد عبد الله عجرش

مدير مركز التدريب والتنمية البشرية

/ / ٢٠٢٢

نسخة منه إلى :

- مركز التدريب والتنمية البشرية / وحدة أدارة البحوث مع الأوليات ...

حنان ٢٠٢٢/٧/٢٤

جمهورية العـــراق

Ministry Of Health Babylon Health Directorate Email:- Babel_Healthmoh@yahoo.com Tel:282628 or 282621		وزارة الصحة والبيئة دائرة صحة محافظة بابـــل المديـــر العـــام مركـــز التدريب والتنمية البشرية لجنة البحوث

استمارة رقم :- ٢٠٢٢/٠٣

رقم القرار :- ٩٤
تاريخ القرار :- ٦ / ٩ /٢٠٢٢

قرار لجنة البحوث

تحية طيبة ...

درست لجنة البحوث في دائرة صحة بابل مشروع البحث ذي الـرقم (٢٠٢٢/٠٩٤/ بابل) المعنون (التأثير النفسي والاجتماعي لسرطان الثدي على النساء الحوامل) والمقدم من الباحثة (هديل مكي فاضل) إلى وحدة أدارة البحوث والمعرفي مركز التدريب والتنمية البشرية في دائرة صحة بابل بتاريخ ٢٠٢٢/٨/١١ وقررت :

قبول مشروع البحث أعلاه كونه مستوفيا للمعايير المعتمدة في وزارة الصحة والخاصة بتنفيذ البحوث ولا مانع من تنفيذه في مؤسسات الدائرة .

مـــــع الاحتـــرام

وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية
لجنة البحوث

الدكتور / محمد عبد الله عجرش
رئيس لجنة البحوث
/ / ٢٠٢٢

نسخة منه إلى :
- مكتب المدير العام / مركز التدريب والتنمية البشرية / وحدة إدارة البحوث ... مع الأوليات.

سونران

Appendix (B)

Questionnaire (Arabic)

تحية طيبة.....

الاستبانة الخاصة برسالة الدكتوراه (التاثير النفسي والاجتماعي لسرطان الثدي على النساء في بابل)

بكل التقدير والامتنان والفخر والاعتزاز أقدر مشاركة شخصكم الكريم في هذه الاستبانة التي ستساعدنا في اخذ الفائدة المرجوة من البحث والذي سيعود فضله إن شاء الله على النساء المصابات بمرض سرطان الثدي لذا أرجو الإجابة بشكل دقيق وتوخي صحة المعلومة لأعمام الفائدة بأذن الله . علما بأن المعلومات ستعامل بسرية وتستعمل لأغراض البحث فقط.

ملاحظة: ضع أشارة صح(✓) في المربع المناسب

رقم الاستمارة

التاريخ: / / ٢٠٢٢

اسم الباحث

طالبة الدكتوراه

هديل مكي فاضل

استمارة الاستبيان

التأثير النفسي والاجتماعي لسرطان الثدي على النساء في محافظة بابل

تسلسل الاستمارة ☐

الجزء الاول:- الخصائص الديموغرافية الاجتماعية

١- العمر ☐

٢- الحالة الاجتماعية

عزباء ☐ متزوجة ☐ مطلقة ☐

ارملة ☐ منفصلة ☐

٣- الاطفال

نعم ☐

لا ☐

٤- مستوى التعليم

لا يقرا ويكتب ☐ يقرا ويكتب ☐

ابتدائية ☐ ثانوية ☐ معهد ☐

بكالوريوس ☐ دراسات عليا ☐

٥- الوظيفة: -

موظفة ☐ اعمال حرة ☐

ربة بيت ☐ طالبة ☐

متقاعدة ☐ اخرى ☐

٦- الدخل الشهري

يكفي ☐ لا يكفي ☐

٧- السكن: -

مدينة ☐ ريف ☐

٨- الوضع المعيشي:-

العيش وحيدا ☐

العيش مع العائلة ☐

العيش مع اقارب خارج الاسرة الاصلية ☐

الجزء الثاني:- المعلومات السريرية

١- مرحلة المرض:-

1 ☐ **2** ☐

3 ☐ 4 ☐

٢- مدة المرض منذ التشخيص:-

من 6 اشهر – 1 سنة ☐ 1 سنة – 2 سنة ☐

اكثر 2 سنة – 5 سنة ☐ اكثر من 5 سنة ☐

٣- تشخيص سرطان الثدي لأول مرة ؟

نعم ☐

لا ☐

٤- لديك انتشار عقدي؟

نعم ☐

لا ☐

٥- أي ورم تناسلي اخر؟

نعم ☐

لا ☐

٦- تلقيت العلاج ؟

نعم ☐ العلاج كيميائي ☐

العلاج الاشعاعي ☐

العلاج الهرموني ☐

لا ☐

٧- نوع العملية:-

استئصال الكتلة الورمية في الثدي ☐

استئصال الثدي ☐

٨- وجود تاريخ عائلي للإصابة بسرطان الثدي؟

نعم ☐

لا ☐

الجزء الثالث:- الجانب النفسي

الموضوع (1):- مقياس القلق (STAI)

الرقم	عناصر القلق	دائما	احيانا	ابدا
1	لا تشعرين بالمتعة في الحياة			
2	تشعرين بالتوتر والقلق			
3	تشعرين بعدم الرضا عن نفسك			
4	تشعرين أنك لا يمكن أن تكوني سعيدة كما ترين الآخرين			
5	تشعرين وكأنك شخص غير ناجح			
6	تشعرين بعدم الراحة			
7	أنت شخص انفعالي وليس لديك القدرة على السيطرة على انفعالاتك			
8	تشعرين أن الصعوبات تتراكم بحيث لا يمكنك التغلب عليها			
9	أنت قلقة كثيرًا بشأن شيء لا يهم حقًا			
10	أنت غير سعيدة			
11	لديك أفكار مزعجة			
12	تفتقرين إلى الثقة بالنفس			
13	تشعرين بعدم الأمان			
14	تشعرين بانه لا يمكنك اتخاذ القرارات بسهولة			
15	تشعرين بعدم الكفاية			
16	تشعرين بالاستياء			
17	بعض الأفكار غير المهمة تمر في عقلك وتزعجك			
18	أنت تأخذين خيبات الأمل بشدة بحيث لا يمكنك إخراجها من عقلك			
19	تشعرين بانك شخص غير ثابت			
20	أنت في حالة توتر أو اضطراب بسبب مخاوفك واهتماماتك الأخيرة			

الموضوع (2):- مقياس الكآبة (MDI)

الرقم	عناصر القلق	دائما	احيانا	ابدا
1	تشعرين بالحزن أو بهبوط في المعنويات			

2	فقدت اهتمامك في نشاطاتك اليومية			
3	تشعرين بفقدان الطاقة والقوة			
4	شعرين بانك اقل ثقة بالنفس			
5	ينتابك شعور بتأنيب الضمير أو الشعور بالذنب			
6	تشعرين أن الحياة لا تستحق العيش			
7	تواجهين صعوبة في التركيز إثناء القراءة أو مشاهدة التلفاز			
8	ينتابك شعور شديد بعدم الارتياح وفقدان الطاقة			
9	تشعرين بضعف أو تباطأ في انجاز الإعمال			
10	تواجهين مشاكل في النوم إثناء الليل			
11	تعانين من زيادة أو فقدان الشهية			

الموضوع (3):- عناصر التوتر لدى مرضى سرطان الثدي (QSC)

الرقم	عناصر التوتر	دائما	احيانا	ابدا
1	تشعرين بالتعب والضعف.			
2	تعانين من ألم بسبب الجراحة			
3	تعانين من آلام لأسباب غير معروفة (صداع ، آلام أسفل الظهر ، آلام في البطن)			
4	أنت خائفة من تطور مرضك			
5	أنت تخشين من عدم القدرة على العمل بعد الآن			
6	تواجهين مشكلة في النوم.			
7	تكونين متوترة وعصبية.			
8	لا تشعرين بأنك على دراية جيدة بمرضك / علاجك			
9	لا تشعرين أنك على دراية كافية بإمكانيات الدعم الاجتماعي / المالي			
10	قدم أطباء مختلفون معلومات مختلفة عن مرضك.			
11	لديك فرص قليلة جدًا للتحدث عن المشكلات النفسية مع المختصين			
12	أنت خائفة من الذهاب إلى المستشفى مرة أخرى			
13	لا يمكنك متابعة هواياتك (مثل الرياضة) بقدر ما كان قبل إصابتك بالسرطان			
14	أصبحت العناية بالجسم صعبة منذ إصابتك بالسرطان			
15	تشعرين بعدم الثقة في العلاقات مع الآخرين.			
16	يتفاعل الأشخاص الآخرون بشكل متهور / غير متعاطف.			

17	تشعرين أنك غير كاملة جسديا.			
18	منذ أن أصبت بالسرطان. اصبحت تخرجين أقل (إلى الانشطة الاجتماعية مثل تناول الطعام ، زيارة الأصدقاء ، إلخ).			
19	لديك شعور بأنك أقل قيمة للآخرين.			
20	تشعرين بعدم وجود التعاطف الكافي مع وضعك من قبل زوجك			

الجزء الرابع:- الجوانب الاجتماعية

الموضوع (1):- فقدان الصورة الذاتية

الرقم	عناصر صورة الجسم	دائما	احيانا	ابدا
1	منذ اجراء العملية، تششعرين انك اقل جاذبية جنسية			
2	تشعرين انك فقدت جزءا من جاذبيتك كامرأة			
3	تشعرين بالتشوه الى حد ما			
4	تمنعين الاخرين من رؤية ندبتك			
5	تشعرين بالخوف والارباك حول العلاقات الجنسية المحتملة			
6	عنما تستحمين فانت تتجنبين النظر الى ندبتك			
7	تشعرين بالحرج من ندبتك			
8	تشعرين بعدم الرضا عن مظهرك عندما تنظرين الى جسمك في المرآة			
9	تشعرين بانك اقل انوثة بعد العملية			
10	تشعرين بعدم الرضا عن مظهرك عندما ترتدين ملابسك			
11	تشعرين ان الاخرين لا يحبون مظهرك			
12	تشعرين ان فقدان الثدي يلعب دور مهم في التأثير على العلاقات الجنسية			

الموضوع (2):- العزلة الاجتماعية

أ:- الشبكة الاجتماعية

الرقم	الفقرات	دائما	احيانا	ابدا
	١- العائلة			
1	لديك علاقة غير جيدة بأفراد اسرتك			
2	لديك علاقة غير جيدة بأقاربك			
3	تشعرين ان اقاربك ليسوا قريبون منك بحيث لا يمكنك الاتصال بهم			

	للحصول على المساعدة			
4	لا تشعرين بالراحة مع اقاربك بحيث لا يمكنك التحدث عن الامور الخاصة			
١- الصداقة				
1	لديك علاقة غير جيدة بأصدقائك الذين تلتقين بهم دائما بما فيهم اولئك الذين يعيشون في منطقتك			
2	لديك علاقة غير جيدة بأصدقائك الذين لا تلتقين بهم دائما			
3	تشعرين ان اصدقائك ليسوا قريبون منك بحيث لا يمكنك الاتصال بهم للحصول على المساعدة			
4	لا تشعرين بالراحة مع اصدقائك بحيث لا يمكنك التحدث عن الامور الخاصة			

(ب):- الرعاية الاجتماعية

الرقم	الفقرات	دائما	احيانا	ابدا
1	لا يوجد أشخاص يمكنني الاعتماد عليهم لمساعدتي إذا كنت في حاجة إليها.			
2	لا يوجد أشخاص يستمتعون بنفس الأنشطة الاجتماعية التي أقوم بها.			
3	ليس لدي علاقات وثيقة تمنحني إحساسًا بالأمان العاطفي والرفاهية			
4	لا يوجد شخص يمكنني التحدث إليه حول القرارات المهمة في حياتي			
5	ليس لدي اشخاص يقدرون كفاءتي ومهاراتي			
6	لا يوجد شخص جدير بالثقة يمكنني اللجوء إليه للحصول على المشورة إذا كنت أعاني من مشاكل.			
7	لا أشعر بأنني جزء من مجموعة من الناس يشاركوني موقفي ومعتقداتي			
8	لا أشعر بوجود اشخاص يبادلوني مشاعر الحب والاحترام			
9	لا يوجد أشخاص معجبون بمواهبي وقدراتي			
10	لا يوجد أشخاص يمكنني الاعتماد عليهم في حالات الطوارئ.			

(ج): الفعالية الاجتماعية

الرقم	الفقرات	دائما	احيانا	ابدا
1	أتجنب الزيارات الاجتماعية من الآخرين			
2	أنا أخرج أقل لزيارة الناس			
3	أتحدث أقل مع الناس من حولي			
4	أبدي اهتمامًا أقل بمشاكل الآخرين ، على سبيل المثال ، لا استمع عندما يخبرونني عن مشاكلهم.			
5	أطالب بالعديد من المطالب ، على سبيل المثال ، الإصرار على أن يقوم الناس بأشياء من أجلي ، وإخبارهم بكيفية القيام بالأشياء			
6	امتنعت عن وسائل الترفيه والتسلية المعتادة.			
7	أنا أخرج للترفيه أقل من المعتاد			
8	أقوم بعدد أقل من الأنشطة المجتمعية ، على سبيل المثال ، الذهاب إلى الأماكن الدينية.			
9	أمارس الأنشطة الترفيهية التي تتطلب جهداً بدنياً أقل من المعتاد			

المحور الثالث:- المسؤوليات الاجتماعية

الرقم	الفقرات	دائما	احيانا	ابدا
1	غالبًا ما أتصرف بعصبية تجاه زملائي في العمل ، على سبيل المثال، الصراخ عليهم بشكل، وإعطاء إجابات حادة ، والانتقاد بسهولة			
2	لقد تخليت عن الاهتمام بشؤون الأعمال الشخصية أو المنزلية ، على سبيل المثال ، دفع الفواتير ، والخدمات المصرفية ، والعمل على الميزانية			
3	أقوم بأعمال يومية منتظمة حول المنزل أقل مما أقوم به عادة			
4	لا أفعل الأشياء التي أفعلها عادة لرعاية أطفالي أو عائلتي			

Questionnair

Psychosocial Impact of Breast Cancer on Women in Babel

Sequence of the Form ☐

Part I : Socio-Demographic Characteristics

9- Age: ☐

10- Marital status:

Single ☐ Married ☐ Divorced ☐

Widowed ☐ Separated ☐

11- Children:

Yes ☐

No ☐

12- Level Of Education:

Do not read and write ☐ Read and write ☐

Primary ☐ Secondary ☐ Diploma ☐

Bachelor ☐ Postgraduate ☐

13- Occupation:

Employed ☐ Free business ☐

House wife ☐ Student ☐

Retired ☐ Others ☐

14- Monthly income

Enough ☐ not enough ☐

15- Residency:

Urban ☐ Rural ☐

16- Living situation:

Living alone ☐

Living with family ☐

Living with relatives other than her family ☐

Part II : Clinical Information

9- Stage of disease:

1 ☐ 2 ☐

3 ☐ 4 ☐

10- Duration of disease since diagnosis:

6 Months ☐ More than 6 months – 2 years ☐

More than 2 years – 5 years ☐ More than 5 years ☐

11- Being diagnosed with breast cancer for the first time?

Yes ☐

No ☐

12- Have nodal metastases?

Yes ☐

No ☐

13- Any other reproductive tumor?

Yes ☐

No ☐

14- Received a treatment?

Yes ☐ Chemotherapy ☐

Radiation therapy ☐

Hormonal therapy ☐

No ☐

15- Type of Surgery:

Lumpectomy ☐

Mastectomy ☐

16- Family history of breast cancer ?

Yes ☐

No ☐

Part III: Psychological Aspect

Theme (1): State-trait anxiety inventory (STAI)

List	Items	Never	Sometime	Always
1	You feel not enjoying life			
2	You feel nervous and restless			
3	You feel dissatisfied with yourself			
4	You feel you cannot be as happy as others seen to be			
5	You feel like unsuccessful			
6	You feel unrested			
7	You are agitated person and haven't the ability to control your agitation			
8	You feel that difficulties are piling up so that you cannot overcome them			
9	You worry too much over something that really doesn't matter			
10	You are unhappy			
11	You have disturbing thoughts			
12	You lack self-confidence			
13	You feel unsecure			

14	You feel that you are cannot make decisions easily			
15	You feel inadequate			
16	You feel discontent			
17	Some unimportant thought runs through your mind and bothers you			
18	You take disappointments so keenly that you cannot put them out of your mind			
19	You are not a steady person			
20	You get in a state of tension or turmoil over your recent concerns and interests			

Theme(2): (MDI) Scale of depression:

List	Items	Never	Sometime	Always
1	You feel sad or demoralized			
2	You lost interest in your daily activities			
3	You feel lacking in energy and Strength			
4	You feel less self-confident			
5	You feel pangs of remorse or guilt			
6	You feel that life wasn't worth living			
7	You have difficulty in concentrating, e.g. when reading the newspaper or watching television			
8	You feel very restless or loss energy			
9	You feel weak or slow in doing business			

10	You have trouble in sleeping at night			
11	You suffer from increased or decreased appetite			

Theme (3): Stress in Cancer Patients (QSC)

List	Items	Never	Sometime	Always
1	You feel tired and weak.			
2	You are suffering pain due to surgery.			
3	You suffering pain due to unknown causes (headaches, lower back pain, belly aches).			
4	You are afraid of a progression of your disease.			
5	You are afraid of not being able to work anymore.			
6	You have trouble in sleeping.			
7	You tense and nervous.			
8	You do not feel well informed about your illness/treatment.			
9	You do not feel adequately informed about possibilities for social/financial support.			
10	Different doctors gave different information about your illness.			
11	You have too few opportunities to talk about psychological problems with a specialist.			
12	You are afraid of having to go to the hospital again.			
13	You cannot follow your hobbies (e.g. sports) as much as before you developed cancer.			

14	Body care has become difficult since you developed cancer.			
15	You feel unconfident in relationships with other people.			
16	Other people react inconsiderate/unsympathetic.			
17	You feel physically imperfect.			
18	Since you developed cancer. you have been going out less (to the social activities e.g. out to eat, visiting friends, etc.).			
19	You have the feeling to be of less value for other people.			
20	You feel that there is not enough sympathy for your situation on the part of your husband			

Part IV: Social Aspects

Theme (1): Loss of self-Image

List	Items	Never	Sometime	Always
1	Since the operation, you feel you are less sexually attractive			
2	You feel that you have lost part of your attractiveness as a woman			
3	You feel somewhat deformed			
4	You prevent others from seeing your scar			
5	You feel afraid or embarrassed about a possible sexual relationship			

6	When you take a bath or shower you avoid looking at your scar			
7	You are embarrassed by the scar			
8	You are unsatisfied with your appearance when you see your body in mirror			
9	You feel less feminine after the operation			
10	You are unsatisfied with your appearance when you dressed your clothes			
11	You think that others unlike your appearance			
12	You feel that the loss of the breast plays an important role in influence the sexual relations?			

Theme (2): Social Isolation

A: Social network

List	Items	Never	Sometime	Always
	2- Family			
1	You don't have a good relationship with your family members			
2	You don't have a good relationship with your relatives			
3	You feel that your relatives are not close to you so that you can't communicate with them for help			
4	You feel uncomfortable with your relatives so that you can talk about private matters			

	3- Friendships			
1	You don’t have a good relationship with your friends that you meet often, including those who live in your district			
2	You don’t have a good relationship with your friends that you don't always meet			
3	You feel that your friends are not close to you so that you can’t communicate with them for help			
4	You feel uncomfortable with your friends so that you can’t talk about private things			

(B): Social provision

List	Items	Never	Sometime	Always
1	There are no people I can depend on to help me if I really need it.			
2	There are no people who enjoy the same social activities I do.			
3	I don’t have close relationships that provide me with a sense of emotional security and well-being.			
4	There is no one I could talk to about important decisions in my life.			
5	I don’t have people who appreciate my competence and skills			
6	There is no trustworthy person I could turn to for advice if I were having problems.			

7	I feel that there is no group of people who share my attitudes and beliefs.			
8	I feel that there are no people who exchange feelings of love and respect for me			
9	There are no people who admire my talents and abilities			
10	There are no people I can count on in an emergency.			

(C): Social Effectiveness

List	Items	Never	Sometime	Always
1	I am avoiding social visits from others			
2	I am going out less to visit people			
3	I talk less with the people around me			
4	I show less interest in other people's problems, for example, don't listen when they tell me about their problems.			
5	I make many demands, e.g., insist that people do things for me, tell them how to do things			
6	I abstained from the usual leisure and entertainment.			
7	I am go out for entertainment less than usual			
8	I am doing fewer community activities, for example, going to religious place.			
9	I do leisure activities that are less physically demanding than usual			

Theme (4): Social responsibilities

List	Items	Never	Sometime	Always
1	I often act irritable toward my work associates, e.g., snap at them, give sharp answers, criticize easily			
2	I have given up taking care of personal or household business affairs, e.g., paying bills, banking, working on budget			
3	I am doing less of the regular daily work around the house than I usually do			
4	I am not doing the things I usually do to take care of my children or family			

Appendix (C)

بسم الله الرحمن الرحيم

(استمارة تحكيم)

حضرة الدكتور/ة.....المحترم/ة

تحية طيبة.....

نظرا للمكانة العلمية المرموقة لديكم يرجى التفضل في تقييم الاستبانة المستخدمة في البحث الموسوم

((التأثير النفسي والأجتماعي لسرطان الثدي على النساء في بابل))

((Pychosocial Impact of Breast Cancer on Women in Babel))

ولكم فائق الشكر والاحترام

الاسم:-..... اللقب العلمي:-..... التاريخ:-.....

مكان العمل:-..... سنوات الخبرة:..... التوقيع:-.....

طالبة الدكتوراه/ هديل مكي فاضل

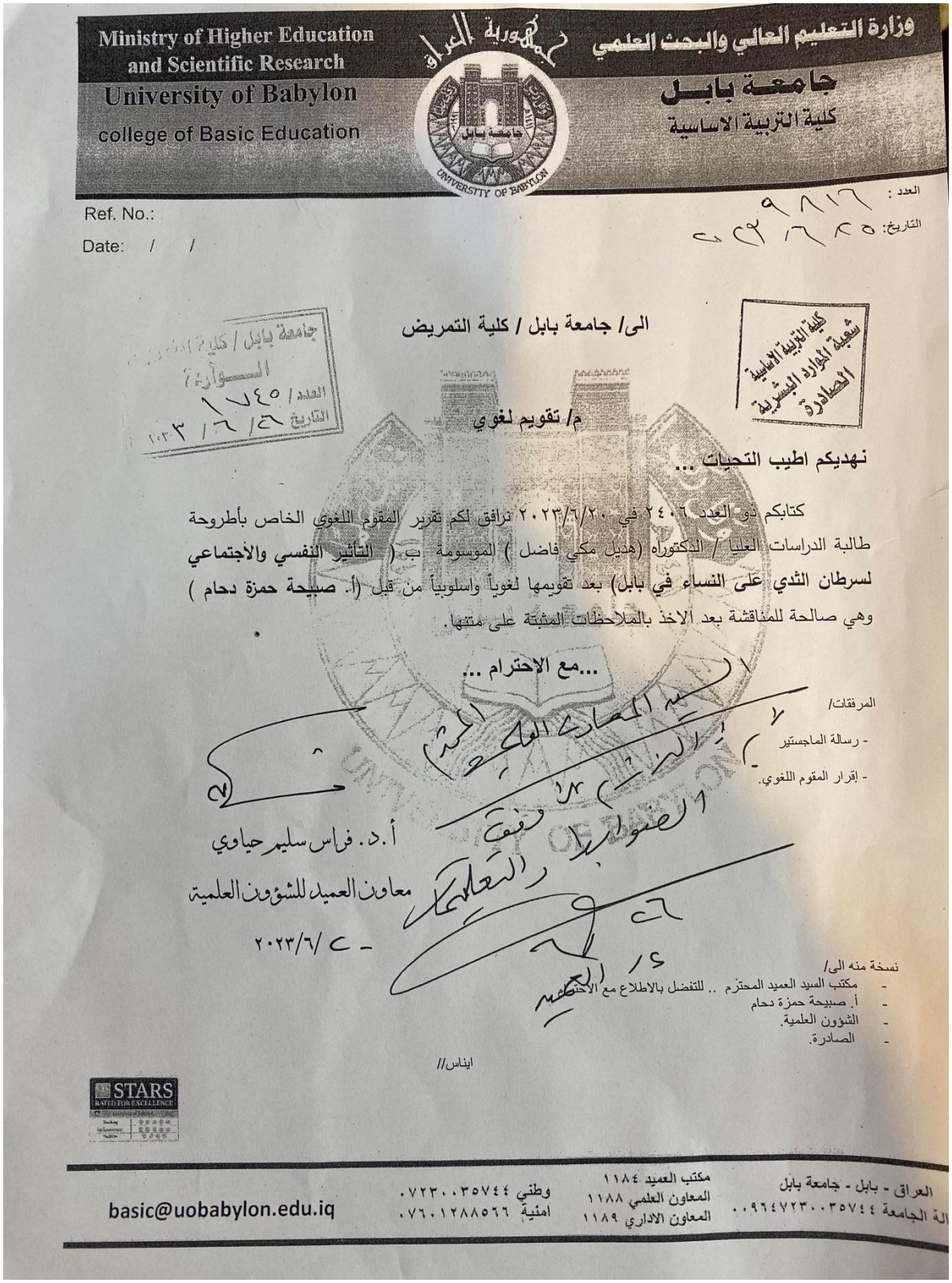
جامعة بابل/ كلية التمريض

قسم تمريض صحة مجتمع

List of Experts

ت	اسم الخبير	اللقب العلمي	مكان العمل	الاختصاص الدقيق	سنوات الخبرة
١	د. حسن علوان بيعي	استاذ متمرس	كلية الحلة الجامعة	طب صحة مجتمع	٤٢ سنة
٢	د. منى عبد الوهاب خليل	استاذ متمرس	جامعة البيان / كلية التمريض	تمريض صحة مجتمع	٤٥ سنة
٣	د. امين عجيل الياسري	استاذ	جامعة بابل / كلية التمريض	تمريض صحة الاسرة والمجتمع	٣٨ سنة
٤	د. نهاد محمد الدوري	استاذ مساعد	جامعة بابل / كلية التمريض	تمريض صحة الطفل	٣٧ سنة
٥	د. فاطمة وناس	استاذ	جامعة الكوفة / كلية التمريض	تمريض صحة مجتمع	٣٠ سنة
٦	د. سحر ادهم	استاذ	جامعة بابل / كلية التمريض	تمريض صحة البالغين	٢٨ سنة
٧	د. وفاء احمد امين	استاذ مساعد	جامعة بابل / كلية التمريض	تمريض صحة الام والوليد	١٤ سنة
٨	د. حيدر حمزة علي	استاذ مساعد	جامعة الكوفة / كلية التمريض	تمريض الصحة النفسية والعقلية	١٣ سنة
٩	د. عبد المهدي عبد الرضا	استاذ	جامعة بابل / كلية التمريض	تمريض الصحة النفسية والعقلية	٤٤ سنة
١٠	د. ماهر خضير هاشم	استاذ مساعد	جامعة بابل / كلية التمريض	لغة عربية	١٦ سنة
١١	د. ناجي ياسر سعدون	استاذ	جامعة بابل/ كلية التمريض	تمريض صحة مجتمع	٣٤ سنة
١٢	د. محمد خليفة	استاذ مساعد	جامعة بغداد / كلية التمريض	تمريض صحة مجتمع	٢٢ سنة

Appendix E **Linguistic Expert**



وزارة التعليم العالي والبحث العلمي
جامعة بابل
كلية التربية الاساسية

Ministry of Higher Education and Scientific Research
University of Babylon
college of Basic Education

العدد : ٩٨١٦
التاريخ: ٢٠٢٣/٦/٢٥

Ref. No.:
Date: / /

جامعة بابل / كلية التربية الاساسية
الصادرة
العدد / ٧٤٥
التاريخ ٢٠٢٣/٦/٢٦

كلية التربية الاساسية
شعبة الموارد البشرية
الصادرة

الى/ جامعة بابل / كلية التمريض

م/ تقويم لغوي

نهديكم اطيب التحيات ...

كتابكم ذو العدد ٢٤٠٦ في ٢٠٢٣/٦/٢٠ نرافق لكم تقرير المقوم اللغوي الخاص بأطروحة طالبة الدراسات العليا / الدكتوراه (هديل مكي فاضل) الموسومة بـ (**التأثير النفسي والاجتماعي لسرطان الثدي على النساء في بابل**) بعد تقويمها لغوياً واسلوبياً من قبل (أ. **صبيحة حمزة دحام**) 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
٢٠٢٣/٦/ ٢٦ -

نسخة منه الى/
- مكتب السيد العميد المحترم .. للتفضل بالاطلاع مع الاحترام
- أ. صبيحة حمزة دحام
- الشؤون العلمية.
- الصادرة.

ايناس//

STARS
RATED FOR EXCELLENCE

العراق - بابل - جامعة بابل
الة الجامعة ٠٠٩٦٤٧٢٣٠٠٣٥٧٤٤
مكتب العميد ١١٨٤
المعاون العلمي ١١٨٨
المعاون الاداري ١١٨٩
وطني ٠٧٢٣٠٠٣٥٧٤٤
امنية ٠٧٦٠١٢٨٨٥٦٦
basic@uobabylon.edu.iq

الخلاصة

يعد سرطان الثدي أحد أكثر الأورام الخبيثة شيوعًا في العالم المتقدم والنامي على حدٍ سواء. هناك عدد كبير من النساء عرضة لتطور أعراض الصعوبات النفسية والاجتماعية، بما في ذلك الاكتئاب والقلق والتوتر وفقدان الصورة الذاتية والعزلة داخل الأسرة والمجتمع وصعوبات في توفير الرعاية الاجتماعية والفعالية الاجتماعية والمسؤوليات الاجتماعية.

تم استخدام دراسة تصميمية وصفية مقطعية لتقييم الأثر النفسي والاجتماعي لسرطان الثدي على النساء في بابل. كانت فترة الدراسة من ١٣ آذار ٢٠٢١ إلى ١٣ آذار ٢٠٢٣. أجريت الدراسة في مركز الأورام بابل في مدينة مرجان الطبية / محافظة بابل على ١٠٠ عينة مناسبة.

وقد تم اختيار أداة الاستبيان كأداة لجمع المعلومات التي من شأنها أن تساعد في التوصل إلى النتائج المرجوة للدراسة. تتكون أدوات الاستبيان من أربعة أجزاء: الأول يتعلق بالخصائص الاجتماعية والديموغرافية، والثاني يتعلق بالمعلومات السريرية، والثالث يتعلق بالجوانب النفسية، والجزء الرابع يتعلق بالجوانب الاجتماعية.

أظهرت النتائج الرئيسية أن غالبية النساء المصابات بسرطان الثدي (٦٨%) يعانين من قلق شديد، في حين أن (٥١%) من عينة الدراسة يعانين من الاكتئاب والتوتر المعتدل، (٥٦%) من عينة الدراسة يشعرن بفقدان الصورة الذاتية، كانت العزلة الاجتماعية (٤٢%) شديدة العزلة داخل الأسرة و(٥٦%) عزلة متوسطة وسط الأصدقاء، بينما كان الدعم الاجتماعي قليل (٥٧%)، في حين كان (٦٩%) يشعرون بفقدان الفعالية الاجتماعية، و(٥٦%) كانوا يشعرون بفقدان خفيف من المسؤولية الاجتماعية.

التوصية: توصية وزارة الصحة ببناء برنامج دعم اجتماعي للنساء المصابات بسرطان الثدي يوفر أنشطة اجتماعية تحفز المريضات على الانخراط في المجتمع وتجنب العزلة، وذلك بالتعاون مع أهالي المريضات وأصدقائهن.

وزارة التعليم العالي والبحث العلمي
جامعة بابل
كلية التمريض

التاثير النفسي والاجتماعي لسرطان الثدي على النساء في بابل.

رسالة
مقدمة إلى قسم تمريض صحة الاسرة و المجتمع / كلية التمريض / جامعة بابل كجزء من متطلبات نيل درجة الدكتوراه في علوم التمريض

الطالبة
هديل مكي فاضل
اشراف
أ.د. سلمى كاظم جهاد

١٤٤٤ هجري ٢٠٢٣ ميلادي