



Faculty of Medicine and Health Sciences

**Factors Affecting Quality of Life and Psychosocial Needs Among Young
Syrian Breast Cancer Women: A Mixed-Methods Study**

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Factors Affecting Quality of Life and Psychosocial Needs Among Young Syrian Breast Cancer Women: A Mixed-Methods Study

Shaza Hasan

A thesis submitted

In fulfillment of the requirements for the degree of Doctor of Philosophy

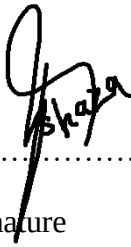
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DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Malaysia Sarawak. Except where due acknowledgements have been made, the work is that of the author alone. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.



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ABSTRACT

The diagnosis and treatment of breast cancer are very distressing for young women and can result in a lot of unmet psychosocial needs and a lower quality of life. Knowledge gaps in the literature remain about addressing and identifying the psychosocial needs and quality of life of breast cancer women living in countries in ongoing crises, such as Syria. This study aimed to determine the factors affecting the quality of life and psychosocial needs of young Syrian breast cancer women. A mixed-methods explanatory sequential design was used with an initial quantitative survey conducted on 167 young breast cancer women at Tishreen University Hospital in Latakia. The data was collected using the Psychosocial Needs Inventory, the Cognitive Appraisal of Health Scale, a Modified Ways of Coping—Cancer Version, and the Quality of Life Questionnaire—Breast Cancer Patient Version. The quantitative survey was followed by semi-structured qualitative interviews with 11 participants who had already completed the quantitative survey. Thematic analysis was used to analyse the qualitative data using NVivo 10 software. The quantitative results showed that the highest percentage of unmet psychosocial needs was reported for practical needs (40.05%), followed by information needs (38.14%), child care needs (36%), interaction with health professionals needs (25.1%), identity needs (24.84%), emotional and spiritual needs (24.44%), and support network needs (19.9%). The results also showed that the challenge appraisal was the most predominant among the participants ($M = 3.66$, $SD = 0.574$), followed by harm/loss, benign, and threat appraisals. Spirituality and positive restructuring were the most frequently used strategies ($M = 3.87$), followed by seeking social support and making changes ($M = 3.54$). The results also showed low overall quality of life ($M = 5.24$, $SD = 1.186$), a low level of physical well-being ($M = 5.10$, $SD = 1.883$), a very low level of psychological well-being ($M = 4.51$, $SD = 1.607$), a very low level of social well-being (M

= 4.28, SD = 1.469), and a high level of spiritual well-being ($M = 7.07$, $SD = 1.378$). The hierarchical multiple regression revealed that the level of education, challenge appraisal, harm appraisal, spirituality, wishful thinking, and detachment were predictors of the quality of life. All six variables explained 44.7% of the variance in the quality of life. The qualitative results identified eight major themes: (1) Challenges of adequate information needs with five subthemes (inadequate communication with health professionals, lack of educational programs and awareness campaigns, inadequate number of nurses, need for nutritionists, and effects of unmet informational needs); (2) Psychological challenges with four subthemes (uncertainty of the future, fear for the children, treatment - related effects and the loss of a woman's identity, and inadequate psychological support from the health professionals); (3) Financial challenges with three subthemes (treatment is expensive and not available, low incomes and high cost of living, and other financial challenges); (4) Social influences with two subthemes (society's view and stigma, lack of marriage choices); (5) Cancer invaded my whole life with three subthemes (psychological effects, unmet family and child care needs, and physical effects); (6) Factors affecting the quality of life with two subthemes (factors that worsen the life, and factors that improve life); (7) Environmental stressors (stressful hospital environment); (8) Coping strategies with four subthemes (acceptance and challenge of the disease, religion and spiritual practices, social support, and other coping strategies). Young breast cancer women living in countries in crisis have high levels of unmet needs across a wide range of psychosocial areas and a low quality of life. Healthcare professionals, therefore, should tailor strategies that could help their patients meet their needs and improve their quality of life.

Keywords: Young women, breast cancer, crisis, unmet, psychosocial needs, factors, quality of life.

***Faktor-faktor yang Mempengaruhi Kualiti Hidup dan Keperluan Psikososial di
Kalangan Wanita Syria Muda dengan Kanser Payudara: Satu Kajian Kaedah
Campuran***

ABSTRAK

Diagnosis dan rawatan kanser payudara amat menyedihkan bagi wanita muda dan boleh mengakibatkan pelbagai keperluan psikososial yang tidak dapat dipenuhi serta menyebabkan kualiti hidup yang lebih rendah. Jurang ilmu dalam terkandung dalam literatur berkenaan dengan cara menangani dan mengenalpasti keperluan psikososial dan kualiti hidup wanita kanser payudara di negara-negara yang dilanda dengan krisis seperti Syria, masih kekal rendah. Kajian ini bertujuan untuk menentukan faktor yang mempengaruhi kualiti hidup dan keperluan psikososial wanita muda kanser payudara Syria. Rekabentuk kajian kaedah campuran penjelasan berturutan (mixed-methods explanatory sequential) telah digunapakai di mana kajian kuantitatif dilakukan terlebih dahulu ke atas 167 wanita muda kanser payudara di Hospital Universiti Tishreen di Latakia. Data dikumpul dengan menggunakan instrumen-instrumen Psychosocial Needs Inventory, the Cognitive Appraisal of Health Scale, a Modified Ways of Coping—Cancer Version, and the Quality of Life Questionnaire—Breast Cancer Patient Version. Ini diikuti dengan temubual kualitatif separa berstruktur dengan 11 peserta yang telah melengkapkan tinjauan kuantitatif yang terdahulu. Analisis tematik digunakan untuk menganalisis data kualitatif menggunakan perisian NVivo 10. Keputusan kuantitatif menunjukkan bahawa peratusan tertinggi keperluan psikososial yang tidak dipenuhi dilaporkan bagi keperluan praktikal (40.05%), diikuti dengan keperluan maklumat (38.14%), keperluan penjagaan kanak-kanak (36%), keperluan interaksi dengan para profesional kesihatan (25.1%), keperluan identiti (24.84%), keperluan emosi dan rohani (24.44%), dan keperluan rangkaian sokongan (19.9%). Keputusan juga menunjukkan bahawa penilaian cabaran adalah yang paling

dominan dalam kalangan peserta ($M = 3.66$, $SD = 0.574$), diikuti oleh penilaian bahaya/kerugian, kejinakan penyakit, serta ancaman lain. Kerohanian dan penstrukturan semula yang positif adalah strategi yang paling kerap digunakan ($M = 3.87$), diikuti dengan mendapatkan sokongan sosial dan perubahan sendiri ($M = 3.54$). Keputusan juga menunjukkan kualiti hidup keseluruhan yang rendah ($M = 5.24$, $SD = 1.186$), tahap kesejahteraan fizikal yang rendah ($M = 5.10$, $SD = 1.883$), tahap kesejahteraan psikologi yang sangat rendah ($M = 4.51$), $SD = 1.607$), tahap kesejahteraan sosial yang sangat rendah ($M = 4.28$, $SD = 1.469$), tetapi tahap kesejahteraan rohani yang tinggi ($M = 7.07$, $SD = 1.378$). Regresi berganda hierarki menunjukkan bahawa tahap pendidikan, penilaian cabaran, penilaian bahaya, kerohanian, angan-angan, dan detasmen adalah peramal kualiti hidup. Kesemua enam pembolehubah menjelaskan 44.7% varians dalam kualiti hidup. Keputusan kualitatif mengenal pasti lapan tema utama: (1) Cabaran keperluan maklumat yang mencukupi dengan lima subtema (iaitu komunikasi yang tidak mencukupi dengan profesional kesihatan, kekurangan program pendidikan dan kempen kesedaran, bilangan jururawat yang tidak mencukupi, keperluan untuk pakar pemakanan, dan kesan keperluan maklumat yang tidak dipenuhi) ; (2) Cabaran psikologi dengan empat subtema (iaitu ketidakpastian masa depan, ketakutan terhadap kanak-kanak, kesan berkaitan rawatan dan kehilangan identiti wanita, dan sokongan psikologi yang tidak mencukupi daripada profesional kesihatan); (3) Cabaran kewangan dengan tiga subtema (iaitu rawatan mahal dan tidak tersedia, pendapatan rendah dan kos sara hidup tinggi, dan cabaran kewangan lain); (4) Pengaruh sosial dengan dua subtema (iaitu pandangan dan stigma masyarakat, kekurangan pilihan perkahwinan); (5) Kanser yang menyerang sepanjang hidup dengan tiga subtema (iaitu kesan psikologi, keperluan keluarga dan penjagaan kanak-kanak yang tidak dipenuhi, dan kesan fizikal); (6) Faktor yang mempengaruhi kualiti hidup dengan dua

subtema (iaitu faktor yang memburukkan kehidupan, dan faktor yang meningkatkan kehidupan); (7) Tekanan persekitaran (persekitaran hospital yang tertekan); (8) Strategi mengatasi dengan empat subtema (iaitu penerimaan dan cabaran penyakit, agama dan amalan rohani, sokongan sosial, dan strategi daya tindak yang lain). Wanita muda kanser payudara yang tinggal di negara-negara dilanda krisis mempunyai tahap keperluan yang tidak terpenuhi masih tinggi merentasi pelbagai bidang psikososial serta mempunyai kualiti hidup yang rendah. Oleh itu, para profesional penjagaan kesihatan haruslah menyediakan strategi yang boleh membantu pesakit mereka memenuhi keperluan mereka dan meningkatkan kualiti hidup mereka.

Kata kunci: Wanita muda, kanser payudara, krisis, keperluan yang tidak dipenuhi, keperluan psikososial, faktor-faktor, kualiti hidup.

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LIST OF ABBREVIATIONS

ABUH	Al Bairouni University Hospital
BC	Breast Cancer
CAHS	Cognitive Appraisal of Health Scale
NCCC	The Syrian National Cancer Control Committee
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PNI	Psychosocial Needs Inventory
Ph.D.	Doctor of Philosophy
QOL	Quality of Life
QOL-BC	Quality of life- Breast Cancer
SNCR	Syrian National Cancer Registry
SPSS	Statistical Package for the Social Sciences
WOC-CA	Ways of Coping- Cancer Version
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

1.1 Prevalence of Breast Cancer Globally

Breast cancer is the most commonly diagnosed cancer (2.3 million incident cases, 24.5% of all cancers) and the leading cause of cancer-related death (684 996 deaths, 15.5% of all cancer deaths) in women worldwide in 2020 (Sung et al., 2021). In Arabic countries, breast cancer accounts for 14–42% of all female cancer cases, with approximately half of these cases occurring in women under 50, in contrast to 25% in developed countries (Haddou Rahou et al., 2016). Unfortunately, breast cancer has become a significant and growing public health problem in low and middle-income countries, and it is the leading cause of cancer-related death and disability among women in those countries (Gálvez-Hernández et al., 2017; Martei et al., 2018). The rate of 5-year cancer survival varies greatly between high- and low-income countries, ranging from 80% to 90% in high-income countries but drops to 40% to 60% in low-income countries (Gálvez-Hernández et al., 2017).

Historically, breast cancer was known as a disease of postmenopausal women. However, in recent decades, its incidence has significantly increased among younger women (Almeida et al., 2015; Ganz et al., 2015). It accounts for 18% of breast cancer cases in women who are younger than 50 years old (Ahmad et al., 2015), 6.6% in women less than 40 years of age, 2.4% in women less than 35 years old, and around 0.65% in those who are less than 30 years old (Assi et al., 2013). There is an increase of 5% in the risk of death for every year of decrease in age in women who are younger than 35 years old (Han et al., 2010). Women who were <30 years old showed worse outcomes than those who were 30–34 years old, and

those who were 30–34 years old also showed worse outcomes than women who were 35–39 years old.

1.2 Prevalence of Breast Cancer in Syria

Breast cancer (BC) is the most common cancer affecting women in Syria (Sahloul et al., 2017; Simaan & Jerf, 2018). The last statistics available on breast cancer were published in 2009 by the Syrian National Cancer Registry (SNCR). The 2009 Cancer Registry report showed that breast cancer was the most frequent cancer in females (30%). Since 2009, no report has been published due to constraints on the registry's role and function after the start of the country's crisis (Simaan, 2017; Simaan & Jerf, 2018). However, it was noted that the number of breast cancer cases has been increasing in Syria. According to Al-Bairouni and Tishreen University Hospitals, breast cancer accounted for 24% and 23%, respectively, of all cancer cases in 2020 (Bohsas et al., 2023).

1.3 Quality of Life of Young Women with Breast Cancer

The diagnosis and treatment of breast cancer can be distressing for any woman, regardless of her age (Ahmad et al., 2015). However, they are more distressing and devastating for younger women because they are still establishing their professional careers, education, and families (Ahmad et al., 2015; Fitch et al., 2008; Ruddy et al., 2013). Cancer-related treatment mostly mastectomy and chemotherapy can affect all aspects of young women's lives, physically, psychologically, and socially (Avis et al., 2012; Ganz et al., 2015; Howard-Anderson et al., 2012). Physically, young breast cancer women can experience a set of physical symptoms that can persist for several years and adversely affect their quality of life, such as fatigue, pain, nausea, vomiting, lymphedema, early menopause, sexual dysfunction, infertility, impaired body image (Almeida et al., 2015; Fitch et al., 2008; Nizamli et al., 2011). Psychologically, younger women are more likely to experience higher

levels of psychosocial distress, uncertainty, fear of cancer recurrence and death, and poorer quality of life than older women (Almeida et al., 2015; Avis et al., 2012; Thewes et al., 2012). Socially, young breast cancer patients are at high risk of having impaired social roles as wives and mothers, losing their work and employment, and experiencing more psychosocial issues, all of which can affect their quality of life. Unfortunately, all these negative effects can be exacerbated by the negative societal view towards cancer patients, as cancer is still recognized as a stigma and a death sentence in many cultures, including the Arabic culture (Al-Azri et al., 2014; Nizamli et al., 2011).

1.4 Psychosocial Needs of Young Women with Breast Cancer

Young breast cancer women due to their younger age are more likely to have more unmet informational needs than older women (Hubbeling et al., 2018; Miyashita et al., 2015; Villarreal-Garza et al., 2019); psychological needs (Almeida et al., 2015; Connell et al., 2006; Fitch et al., 2008; Nizamli et al., 2011; Thewes et al., 2016); social needs (Almeida et al., 2015; Fitch et al., 2008; Nizamli et al., 2011); and practical needs (Almeida et al., 2015; Gould et al., 2006; Hubbeling et al., 2018; Ruddy et al., 2013). Psychosocial needs have been reported to have a strong association with psychological distress, poorer adjustment to the disease process, poorer quality of life, and increased healthcare utilization and costs (Edib et al., 2016; Miyashita et al., 2015; Park & Hwang, 2012; So et al., 2014). The World Health Organization (WHO) has recommended incorporating supportive care services within the health care system to improve patients' adaptation to the disease process and their quality of life. Supportive care is defined as the care provided along with the medical treatment throughout the disease trajectory. It aims to prevent and manage the short and long-term consequences of cancer and its treatment. This could result in meeting the patient's psychological, spiritual, supportive, informational, and practical needs (Cleary et al., 2013).

A systematic assessment, therefore, of the psychosocial needs of young breast cancer women is essential to identify their needs clearly and provide them with the right information and services that meet their needs at the right time to improve their quality of life.

1.5 Cognitive Appraisal and Coping Strategies of Young Women with Breast Cancer

There is evidence in the literature that a positive perception of breast cancer, for example, as a challenge and using more active coping strategies such as seeking social support, spirituality, and positive reconstructing could have a positive relationship with adjustment to the disease process and the quality of life among young women with breast cancer (Avis et al., 2005; Bigatti et al., 2012; Danhauer et al., 2009; Lazarus & Folkman, 1984; Wonghongkul et al., 2006). On the contrary, the negative perception of the disease as harmful, loss, or threatening and using more passive coping strategies could negatively affect the adjustment process and lead to poor quality of life (Avis et al., 2005; Bigatti et al., 2012; Khalili et al., 2013; Lazarus & Folkman, 1984; Mazanec et al., 2011).

1.6 Problem Statement

The decade-long Syrian crisis has severely crippled the healthcare system and depleted the already-limited capacities of healthcare services. Since 2013, most healthcare facilities have been destroyed, leaving only 47% of the hospitals and health centers that are still partially functioning (Sahloul et al., 2017). Along with this conflict came the rapid decline of cancer care, which became very expensive in Syria. Cancer care in Syria lacks a multidisciplinary team approach, and educational programs for patients and oncology health workers are not readily available. Moreover, Syria suffers from a large shortage of oncological-trained medical staff as well as psychological care for cancer patients (Simaan & Jerf, 2018). An online survey in 2016 on resource availability and general cancer

management during the Syrian crisis found that only 20 oncologists worked in Damascus which is the capital and largest city in Syria. In Aleppo, the second-largest city in Syria, only four oncologists were available in West Aleppo, and no treating oncologists were available in East Aleppo, although the population was about 500,000 (Sahloul et al., 2017).

Therefore, incorporating supportive care services into routine care for breast cancer patients can be challenging due to the overburdened Syrian healthcare system. Accordingly, the majority of Syrian breast cancer patients receive healthcare services that mainly focus on treating the physical symptoms of the disease without paying enough attention to the psychosocial aspects of the patients (Soqia et al., 2022). Furthermore, young breast cancer patients in Syria experience a "double whammy" due to (1) a diagnosis of cancer at a young age and (2) the difficult circumstances they live in as a result of the ongoing crisis that has affected all aspects of life. Understanding and identifying the psychosocial needs of young Syrian breast cancer women, therefore, is essential to enable the health care providers to prioritize their needs and guide the provision of services and interventions designed to meet these needs and improve their adjustment to the disease, which in turn improves the quality of life of those patients.

However, the existing knowledge on the psychosocial needs, coping strategies, and quality of life of young breast cancer women is derived mostly from politically stable countries. Knowledge gaps in the literature remain about addressing and identifying the psychosocial needs and quality of life of those women living in countries under ongoing crises such as Syria, and how those women cope with cancer within these difficult crises. In Syria, very few studies have focused on assessing knowledge of breast cancer among medical students and Syrian women (Bohsas et al., 2023; Ismail et al., 2021; Omar et al., 2020). However, studies that identify the psychosocial needs and quality of life of young

women with breast cancer have not been addressed yet in Syria. To the best of our knowledge, there is no prior study to address the psychosocial needs of young women with breast cancer in Syria and how it affects their quality of life, except for one qualitative study was conducted to understand the experiences of Syrian women with breast cancer on chemotherapy (Nizamli et al., 2011). Given these reasons, a two-phase mixed-methods study is needed to gain a comprehensive understanding of the factors affecting the psychosocial needs and quality of life of young women with breast cancer in Syria to improve the quality of care provided to those patients and ultimately improve their quality of life.

1.7 Research Questions

Based on the problems highlighted in the previous section, this study sought to address the following research questions:

- i. What are the unmet psychosocial needs of young Syrian breast cancer women? (Phase 1)
- ii. What are the types of cognitive appraisals of young Syrian breast cancer women? (Phase 1)
- iii. What are the types of coping strategies used by young Syrian breast cancer women? (Phase 1)
- iv. What is the quality of life of young Syrian breast cancer women? (Phase 1)
- v. What are the predictors of the quality of life of young Syrian breast cancer women, including unmet psychosocial needs, cognitive appraisals, and coping strategies? (Phase 1)

- vi. What are the perspectives of young Syrian breast cancer women on the factors affecting their psychosocial needs? (Phase 2)
- vii. What are the perspectives of young Syrian breast cancer women on the factors affecting their quality of life? (Phase 2)

1.8 Study Objectives

1.8.1 General Objective

This study aims to identify the factors affecting the quality of life and the psychosocial needs of young Syrian breast cancer women using a sequential explanatory mixed-methods approach (i.e., quantitative Phase 1 followed by qualitative Phase 2). Ultimately, it is hoped that the findings from this study can be utilized to improve the quality of life for young Syrian breast cancer women.

1.8.2 Specific Objectives

To achieve these aims, the study had the following specific objectives:

- i. To determine the unmet psychosocial needs of young Syrian breast cancer women (Phase 1).
- ii. To explore the types of cognitive appraisals of young Syrian breast cancer women (Phase 1).
- iii. To explore the types of coping strategies used by young Syrian breast cancer women (Phase 1).
- iv. To explore the quality of life of young Syrian breast cancer women (Phase 1).

- v. To identify predictors of the quality of life of young Syrian breast cancer women, including unmet psychosocial needs, cognitive appraisal, and coping strategies (Phase 1).
- vi. To explore the perspectives of young Syrian breast cancer women on the factors affecting their psychosocial needs (Phase 2).
- vii. To explore the perspectives of young Syrian breast cancer women on the factors affecting their quality of life (Phase 2).

1.9 Significances of the Study

This study is the first study to quantitatively and qualitatively examine the phenomenon of psychosocial needs and quality of life of young breast cancer women. The focus of this study was the exploration and explanation of the psychosocial needs, cognitive appraisal, coping strategies, and quality of life of young Syrian breast cancer women. The findings of this study will be beneficial in the following respects:

1.9.1 The Supportive Care Services

The World Health Organization has recommended incorporating supportive care services within the health care system to improve patients' adaptation to the disease process and their quality of life (Cleary et al., 2013). The findings of this study will be beneficial by offering reliable data from patients' perspectives about their significant unmet psychosocial needs and the challenges they are facing from the initial diagnosis to several years of survivorship. Identifying and understanding the young women's specific psychosocial needs will help the health care professionals prepare their patients adequately for the treatment-related effects and provide them with accurate, relevant information and services that can support them, help them accept and cope with their diagnosis and treatment, and improve

their quality of life. Additionally, the findings from this study would also provide evidence for the development of supportive care programs for young women with breast cancer in Syria. The findings of this study also provide evidence for the need to a multidisciplinary team approach that can help in meeting all those patients' needs. For example, dietitians, psychologists, and sociologists. This study is the first to address the psychosocial needs and identify the factors affecting the quality of life for young Syrian breast cancer women. The findings from this study provide evidence-based information to develop educational programs that help those patients fill their information gaps.

1.9.2 Nursing Practice

Understanding young women's specific needs will allow oncological nurses to tailor the appropriate interventions and strategies to reduce harm among breast cancer patients so that quality of life can be enhanced. Additionally, these findings could help oncology nurses reduce levels of stress and uncertainty among their patients and improve their quality of life.

1.9.3 Nursing Research

This study will help in addressing and filling in the knowledge gaps in the literature about the psychosocial needs and quality of life of breast cancer patients living in countries under ongoing crises, such as Syria. The findings of this study could provide data and knowledge that can be relied upon in subsequent qualitative and quantitative research. For example, the role of spirituality in enhancing coping with breast cancer and promoting the quality of life could be further explored in subsequent qualitative research. Due to the unfamiliarity with qualitative research among Syrian researchers, this study could provide more insights for accepting this kind of research.

1.9.4 Young Breast Cancer Women

The findings of this study will be beneficial for young breast cancer patients and their families, in particular their partners, because they will provide them with evidence about the physical and psychological effects of mastectomy compared to conservative treatment, which they can consider when they have to decide on their surgery. The findings will also encourage women to appraise their cancer positively, and this in turn can result in a better quality of life. The findings of this study will provide women with evidence about the positive role of social support and spirituality in improving their quality of life, so they can be encouraged to seek more social support and practice more spiritual practices.

1.10 Definitions of Terms

1.10.1 Young Women

Young women were operationally defined as those women who were 50 years old or younger and/or premenopausal at the time of diagnosis, taking the age of 50 years as a cut-off to define premenopausal (Danhauer et al., 2009; Manuel et al., 2007).

1.10.2 Significant Psychosocial Need

A significant psychosocial need was defined operationally according to Thomas et al. (2001) as a psychosocial need item marked by over 50% of the subjects as either "important" or "very important".

1.10.3 Significant Unmet Psychosocial Need

A significant unmet psychosocial need was defined operationally according to Thomas et al. (2001) as a need that was identified by the subjects as "important" or "very important", and the level of satisfaction was reported as "unsatisfied" or "very unsatisfied".

1.10.4 Cognitive Appraisal

The operational definition used in this study was according to Lazarus & Folkman (1984) and Kessler (1998), which determines young women's perceptions of the stressfulness of breast cancer in terms of personal significance, goals, and resources. It is a two-stage process comprising primary and secondary appraisals.

1.10.4.1 Primary Appraisal

According to Kessler (1998), primary appraisal was defined as an evaluation of breast cancer for its meaning, either harm/loss, threat, challenge, or benign appraisal.

i. The Appraisal of Harm/Loss

The appraisal of harm or loss was defined as a reflection of the woman's appraisal of the stressful event of breast cancer that had harmed their life or had created a loss for them (Kessler, 1998).

ii. Threat Appraisal

Threat appraisal was defined as a reflection of women's appraisal of the potential threat that breast cancer can make to their future well-being (Kessler, 1998).

iii. Challenge Appraisal

Challenge appraisal was defined, according to Kessler (1998), as a reflection of women's appraisal that the diagnosis of breast cancer has a positive outcome for them despite the difficulties experienced.

iv. Benign Appraisal

Women's appraisal reflects that the diagnosis of breast cancer is not stressful to their current health status (Kessler, 1998).

1.10.4.2 Secondary Appraisal

According to Kessler (1998), secondary appraisal involves young women's perceptions of the resources they have to cope with breast cancer.

1.10.5 Coping Strategies

Coping was defined according to the Modified Ways of Coping-Cancer Version (WOC-CA) of the strategies that young breast cancer women use to cope with the diagnosis and treatment of breast cancer (Manuel et al., 2007).

1.10.6 Quality of Life

Quality of life was operationally defined based on the Ferrell quality of life model, which is composed of four dimensions: physical, psychological, social, and spiritual well-being (Ferrell et al., 1997).

1.10.6.1 Physical Well-being

Physical well-being was defined as the control of symptoms and the preservation of independence and function (Ferrell et al., 1997).

1.10.6.2 Psychological Well-being

Psychological well-being was defined as the struggle to remain in control despite a life-threatening illness, characterised by emotional distress, rearranged priorities, and fear of the future, as well as positive changes in one's life (Ferrell et al., 1997).

1.10.6.3 Social Well-being Aspects

Social well-being was defined as a method by which we recognise people with cancer, their roles, and relationships; it is a perspective that takes into account not only cancer or its symptoms but also the person surrounding the tumour (Ferrell et al., 1997).

1.10.6.4 Spiritual Well-being Aspects

Spiritual well-being was defined as the ability to maintain optimism and derive meaning from the cancer experience, which is characterised by uncertainty. It involves transcendence-related topics and is strengthened by one's faith and other spiritual resources (Ferrell et al., 1997).

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter presents and discusses the relevant literature using narrative and systematic literature reviews. The systematic review was conducted to present the literature related to the psychosocial needs of young women with breast cancer due to a lack of systematic reviews on the psychosocial needs of young women with breast cancer. The narrative review was used to present the literature related to the topics of treatment of breast cancer, the psychosocial issues of young women with breast cancer, the coping strategies they usually use to cope with the disease, the quality of life, and the differences between younger and older women in the characteristics of the disease, issues, and needs.

2.2 Syria Demography

Syria is an Arab country in the Middle East, located at the eastern end of the Mediterranean Sea. It is bordered to the south by Jordan; to the east by Iraq; to the north by Turkey; and by Lebanon and Palestine to the west and southwest. It has a square area of 185,180 km², consisting of 14 governorates, including Damascus, Aleppo, Rif Dimashq, Homs, Hama, Latakia, Deir ez-Zor, Ar Raqqah, Idlib, Hasakah, As-Suwayda, Daraa, Quneitra, and Tartus. The population of Syria in 2020 was estimated at 17,500,658 people (Manachi et al., 2022).

2.3 Oncological Care in Syria

Approximately 15 oncology centers provide cancer management in Syria under the Ministries of Health and Higher Education. The largest comprehensive, specialized referral

hospital is Al Bairouni University Hospital (ABUH) in Damascus (550 beds), which handles 60% of Syrian cancer patients (annual new cases: 11,000). All types of cancer treatments are available at this centre, including chemotherapy, targeted therapy, and radiation therapy. The second comprehensive centre is Tishreen University Hospital in Latakia, which annually sees 3000 new cancer cases (Manachi et al., 2022). All cancer services are free to Syrian cancer patients in governmental hospitals; however, the ongoing crisis since 2011 has hindered the provision of optimal oncology care to cancer patients (Manachi et al., 2022). The Syrian National Cancer Control Committee (NCCC) was established in 2019 to coordinate cancer care across all of Syria and build more comprehensive oncology centers in the middle, east, and northern parts of the country that could significantly enhance oncology care throughout all of Syria (Manachi et al., 2022).

To identify the gaps and challenges of cancer health care in Syria, a rapid assessment was conducted in 2016 by the WHO Syria Office in coordination with WHO Headquarters, the WHO Regional Office, and the National Committee for Cancer Care in eight of the oncological centers (Faris et al., 2016). The main findings of this assessment were summarized as follows:

- The national cancer registry, as a source of data for epidemiologic research and studies and health information systems, is not functioning.
- Breast, colorectal, and lung cancers were the most common cancers diagnosed and treated, and they were diagnosed late. About 87% of breast cancer deaths were due to progressive disease or relapse, while 13% of deaths were due to treatment-related toxicities.
- Unavailability of educational programs for patients and oncology health workers at any of the oncology centers.

- Many factors contributed to the failure to receive treatment, such as the cost of the treatment, the stigma associated with the disease and the treatment, inaccessibility to the hospital, and the unawareness of patients and their families of cancer symptoms.
- Shortage and non-availability of drugs, as none of the hospitals was able to get a consistent supply of essential cytotoxic drugs.
- Radiotherapy was only available at Al Bairouni and Tishreen Hospitals.
- The number of doctors and nurses, especially the specialized ones, is limited, and centers are overburdened with patients. The majority left the country during the crisis or moved to another secured area inside the country. Therefore, health workers do not have enough time and effort to educate patients or provide them with extra supportive services.
- Unavailability of well-trained staff in oncological care. Only 25% of nurses got formalized oncology training, while 75% did not receive formalized oncology training, so they are unable to provide the patients with the required cancer care.
- Unavailability of multi-disciplinary providers as only pharmacists and unit managers were available as additional core staff (75%, 38%), respectively.
- There were no psychosocial workers or nutritionists at any of the centers.
- Only one hospital (neither Al Bairouni nor Tishreen Hospitals) had available resources to help patients and families deal with death.
- Only one hospital (neither Al Bairouni nor Tishreen Hospitals) had external support, including religious and spiritual groups that help patients and their families face death challenges.

Several national cancer awareness and screening programs have been developed recently by the Syrian government to raise people's awareness and encourage the early detection of breast cancer, cervical cancer, prostate cancer, and colon cancer. The first major

national early detection and screening program was conducted in October 2019 guided by the Syrian National Committee for Cancer Control. A total of 380,000 women aged 35–70 were screened by mammogram and guided biopsy for those with suspected lesions. However, due to the conflict in the country and the COVID-19 pandemic, many of these programs were interrupted (Manachi et al., 2022).

2.4 Breast Cancer in Syria

Syrian women are generally diagnosed with advanced stages of breast cancer and experience delays in cancer treatment delivery (Hanafi et al., 2023; Simaan, 2017). A previous review based on the Syrian National Cancer Registry Report 2009 found that the highest percentage of breast cancer women, 41.5%, presented in stage III, followed by 27.5%, 21%, and 10% in stages II, IV, and I, respectively. This review also revealed that up to 25% of breast cancer patients in Syria were younger than 40 years old (Simaan, 2017). The factors beyond this late presentation could be related to the lack of awareness among Syrian women of breast cancer symptoms and their shyness and stigma, and they usually don't screen themselves for breast cancer (Bohsas et al., 2023; Hanafi et al., 2023; Husein et al., 2021). Bohsas et al. (2023) assessed Syrian women's knowledge about breast cancer risk factors and barriers in 1305 breast cancer patients. They found that the majority had inadequate information about breast cancer risk factors and warning signs. The highest scores were found in those with higher levels of education, such as PhD students (Bohsas et al., 2023). Another study also found that only 23.2% of the patients reported undergoing one or more of the screening methods at least once every six months before diagnosis. Those who live in large cities, have fewer children, have a full-time or part-time job, have a higher level of education, and have a relative diagnosed previously with breast cancer or any other malignancy were more likely to screen themselves (Husein et al., 2021). Additionally, the

war-related inaccessibility to the healthcare system also contributed to the delay in breast cancer diagnosis among Syrian women (Hanafi et al., 2023; Husein et al., 2021). This is combined with significant system delays because of overwhelmed hospitals, high costs, and insufficient personnel, equipment, medications, and training (Hanafi et al., 2023).

2.5 The Conceptual Framework of the Study

This study aimed to identify the factors affecting the quality of life and psychosocial needs of young Syrian breast cancer women. A combination of the Transactional Model of Stress and Coping by Lazarus and Folkman (1984) and Ferrell's Quality of Life Model (1996) was used as the conceptual framework for this study (see Figure 2.1). The Lazarus and Folkman model (1984) has been used in several studies to investigate how individuals cope with stressful situations such as cancer (Bigatti et al., 2012; Danhauer et al., 2009). The Transactional Model of Stress and Coping is based on the integration of stress, appraisal, and coping theories. The appraisal is a process in which individuals decide whether stressful situations are threats to their well-being or not (primary appraisals) and determine whether they have the resources to deal with the stressor if it is viewed as a threat (Bigatti et al., 2012; Kessler, 1998; Lazarus & Folkman, 1984).

Lazarus and Folkman's (1984) Transaction Model of Stress and Coping proposed that mental appraisals made when confronted with a stressful situation, such as cancer, were related to outcomes. Primary appraisals are usually categorized according to their effect on well-being. When individuals perceive that the situation does not pose any threat to their well-being, benign appraisals are made. However, harm or loss appraisals are made if an individual perceives or evaluates that the situation is causing him or her damage. Threat appraisals are similar to harm or loss appraisals, except that they are focused on the possibility of future damage. Finally, challenge appraisals are made when individuals see

the stressful situation as an opportunity for growth or development (Bigatti et al., 2012; Kessler, 1998; Lazarus & Folkman, 1984). Primary appraisals, in turn, are associated with secondary appraisals of resources and control over the situation, which are usually assessed through the coping strategies used. Consequently, the use of different coping strategies affects the adaptation outcome (Lazarus & Folkman, 1984).

As mentioned previously, Lazarus and Folkman (1984) defined coping as constantly changing cognitive and behavioural efforts to cope with specific external and/or internal demands appraised as taxing or exceeding the person's capacity. Coping strategies could be either problem-focused or emotional-focused. A problem-focused coping strategy works on the direct solving of the problems faced by an individual and can result in stress. Problem-focused coping is used when the individual appraises the situation as a changeable one. However, emotion-focused coping aims to manage the resulting emotions of stressful events, and it is often used when the individual appraises the situation as unmodifiable (Lazarus & Folkman, 1984; Mukwato et al., 2010).

Adaptation was defined by Lazarus and Folkman (1984) as the adjustment of somatic health, morale, or life satisfaction and the ability to function in the workplace and social settings. This definition was found to be consistent with Ferrell's model of Quality of Life, which is composed of physical, psychological, social, and spiritual well-being (Ferrell et al., 1997). Therefore, the adaptation outcome was conceptualized as the quality of life for this study. Figure 2.1 below shows the conceptual framework of this study.

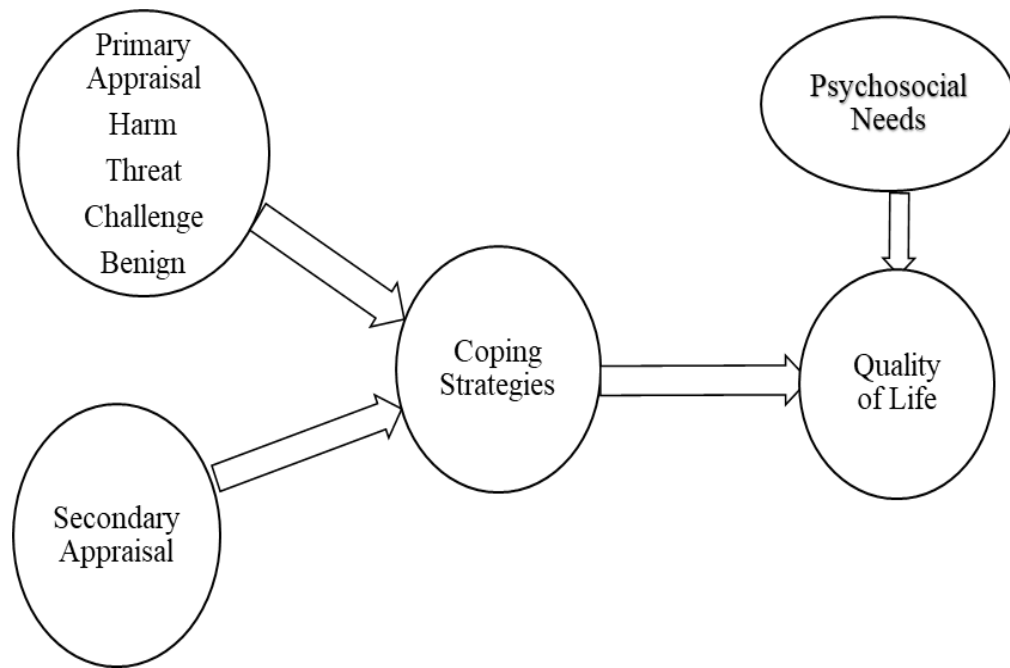


Figure 2. 1: The Conceptual Framework of the Study, adapted from Lazarus and Folkman (1984)

2.6 The Psychosocial Needs of Young Women with Breast Cancer

2.6.1 Search Strategy

Three electronic databases PubMed, ScienceDirect, and Google Scholar were systematically searched to identify the relevant literature following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement for reporting systematic reviews (Liberati et al., 2009). Articles were screened based on the following inclusion criteria: (1) it is full-text research, either qualitative or quantitative, published in the English language; (2) it is published in peer-reviewed journals; and (3) the sample is comprised of female patients aged 50 years or younger with a first-time diagnosis of breast cancer. Studies that combined both young and old women were also included. Only the most recent literature from the last 15 years was chosen. Systematic reviews and studies that included breast cancer patients with other types of cancer were excluded. The literature

search was conducted using the following keywords either individually or in combination: breast cancer, breast neoplasms, pre-menopausal women, young women, psychosocial needs, psychosocial issues, psychosocial concerns, psychological distress, psychological needs, social needs, emotional needs, spiritual needs, practical needs, supportive care needs, unmet supportive needs, factors, and quality of life.

As revealed in Figure 2.2 below, the search resulted in 500 articles. Twenty-four studies met the inclusion criteria, 15 qualitative and 9 quantitative studies. Data were extracted and summarised in a narrative synthesis. The studies were conducted in Australia ($n = 5$), Canada ($n = 3$), Mexico ($n = 3$), Indonesia ($n = 2$), the United States of America ($n = 1$), Taiwan ($n = 1$), Lebanon ($n = 1$), Omani ($n = 1$), Syria ($n = 2$), Japan ($n = 1$), Brazil ($n = 1$), Turkey ($n = 1$), Malaysia ($n = 1$), and Iran ($n = 1$). The review of studies revealed that the psychosocial needs of young breast cancer women can arise at any point throughout the disease trajectory, from diagnosis to the end of treatment and even during survivorship. These needs are categorized into five domains: Informational, psychological, practical, social, and spiritual. The review also revealed that young women differ in their perceived needs from their older counterparts, and their needs were more age-specific about fertility, body image, menopause, sexuality, career, and family. Finally, the review showed a dearth of studies addressing and exploring the psychosocial needs of young women with breast cancer in the Arabic world and Syria

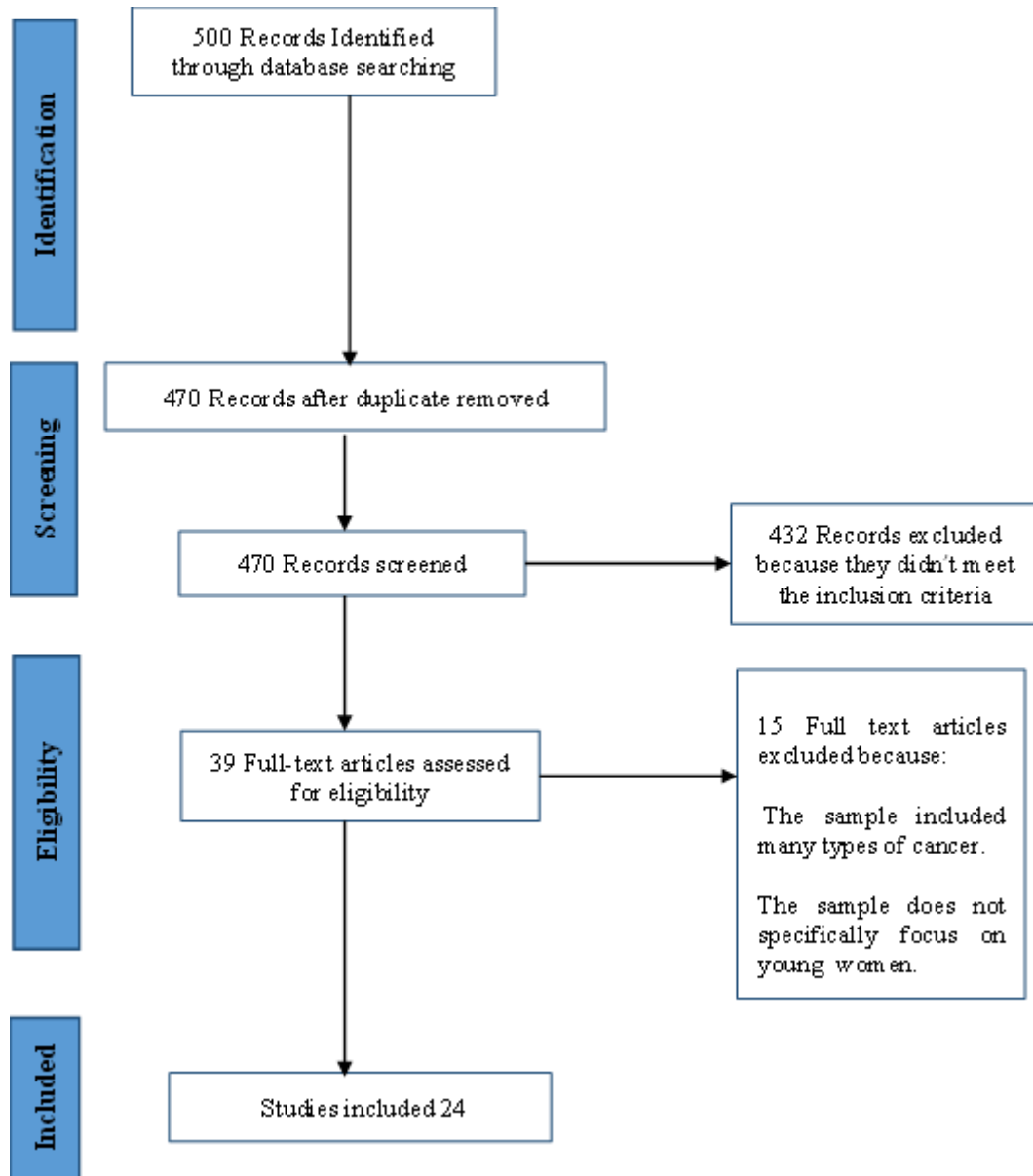


Figure 2. 2: PRISMA Flow Diagram of the Systematic Review

2.6.2 Information Needs

The information needs of young women with breast cancer have been addressed in 11 out of the 24 studies (Abi Nader et al., 2016; Y. H. Chou et al., 2020; Connell et al., 2006; Fitch et al., 2008; Gould et al., 2006; Hubbeling et al., 2018; Iskandarsyah et al., 2013; Karaoz et al., 2010; Miyashita et al., 2015; Rana et al., 2017; Villarreal-Garza et al., 2019). This literature review revealed that breast cancer information tends to focus on older patients and young women are generally not given the information they need (Fitch et al., 2008; Gould et al., 2006). The majority of young women have expressed dissatisfaction with the quality and quantity of information on the diagnosis, treatment, and relevant side effects of fertility, menopause, and sexuality (Abi Nader et al., 2016; Miyashita et al., 2015; Villarreal-Garza et al., 2019).

This literature also revealed that young women require more detailed information regarding sexuality and body image, treatment, and family (Connell et al., 2006; Hubbeling et al., 2018; Karaoz et al., 2010; Miyashita et al., 2015; Rana et al., 2017). Additionally, women were dissatisfied with the information received about nutrition, exercise, genetics, complementary and alternative medicine, communication strategies with the medical team, and consulting services (Hubbeling et al., 2018; Miyashita et al., 2015). In the same context, Villarreal-Garza et al. (2019) found that young women expressed their need to receive more information about the diagnosis and treatment of breast cancer, treatment side effects, and time, source, and communication means because they felt that they did not receive adequate information regarding the diagnosis and treatment from their physicians. Patients also suggested that educational information not be given on the same day of cancer diagnosis because, at that particular moment, their thoughts were more concentrated on the changes that might occur in their lives, coupled with the high level of fear and anxiety that prevented

them from focusing on the information given by the health care professionals. Patients also indicated the possibility of providing information specifically targeted to children and partners, as this could help them lower their levels of fear and distress. Young women frequently showed a preference for written and audio-visual sources such as books, reliable Internet sites, and printed pamphlets over verbal information (Villarreal-Garza et al., 2019). They also recommended avoiding technical language and giving the information simply and understandably (Villarreal-Garza et al., 2019).

It was also noticed that dissatisfaction with the provided information could negatively impact the illness perception and quality of life of young women with breast cancer (Abi Nader et al., 2016; Iskandarsyah et al., 2013; Miyashita et al., 2015). Higher levels of satisfaction with information type and timing were more likely to lead to a more positive perception of their disease, better health outcomes, and better psychological health conditions (Iskandarsyah et al., 2013). Inadequate information could increase levels of uncertainty, distress, anxiety, and fear among young breast cancer women and could also hurt the treatment decision-making process (Villarreal-Garza et al., 2019).

Furthermore, this literature review also revealed that women's information needs are not constant throughout the disease trajectory but changeable according to cancer stage, time since diagnosis, age, and marital status (Abi Nader et al., 2016). Young breast cancer women who are newly diagnosed and undergoing treatment report higher levels of information needs than those in survivorship (Abi Nader et al., 2016; Y. H. Chou et al., 2020). This is due to experiencing a new unexpected life-threatening event in addition to the higher levels of anxiety and depression associated with the initial diagnosis. Women, therefore, want to know more information about the disease, treatment approaches, side effects, available services, and prognosis. For example, Abi Nader et al. (2016) and Hubbeling et al. (2018) have both

found that young women have more unmet information needs during the first three months of the diagnosis and the transitional phase to survivorship. During the transition to survivorship, women become more worried about their survival, their future lives, and the recurrence of the disease. Thus, they require more information to help them cope with the new stage. Abi Nader et al. (2016) noticed that Lebanese breast cancer women younger than 45 years and those diagnosed between 3 and 6 months reported the highest rate of information needs. However, they noted relief from women's needs after three to six months. They attributed this relief to women's sense of safety while receiving the treatment, and they may start to adapt to the disease and treatment side effects. In contrast, they noticed that women's needs had been activated again after six months, which could be related to receiving less psychosocial support from family, friends, and physicians or may be due to the appearance of new needs.

In conclusion, information needs have been described as the most common and significant unmet need for young breast cancer women. The need for specific and practical information differs according to the clinical stage of the treatment. Therefore, an ongoing assessment of young women's information needs is required at each phase of the disease to identify and provide them with interventions that reflect their personal needs in their illness trajectory. The relationship between the unmet information needs and the quality of life of young breast cancer women should be clearly understood by healthcare providers to develop a strong support system to improve the quality of life of young women with breast cancer.

2.6.3 Psychological Needs

Twelve out of the 24 studies addressed the psychological needs of young women with breast cancer (Almeida et al., 2015; Connell et al., 2006; Edib et al., 2016; Fitch et al., 2008; Hasan et al., 2023; Nizamli et al., 2011; Perez-Fortis et al., 2017; Rana et al., 2017;

Ruddy et al., 2013; Thewes et al., 2012; Thewes et al., 2016; Villarreal-Garza et al., 2019). This literature review revealed that young women in general have high levels of psychological concerns and needs. The intrusive nature of the disease in young women, the aggressive treatment they receive, and its side effects such as pain, fatigue, sleep disturbances, altered body image, sexual dysfunction, premature menopause, and infertility make young women more likely to have more psychological needs than their older counterparts (Hubbeling et al., 2018; Nizamli et al., 2011). The diagnosis of breast cancer in a younger age group is considered a disruptive event for women's relationships, roles, and responsibilities at the workplace and home and causes high levels of fear and anxiety (Almeida et al., 2015; Fitch et al., 2008; Nizamli et al., 2011; Ruddy et al., 2013). This literature review also showed a significant association between anxiety, depression, and care needs. Patients with higher anxiety symptoms reported more unmet psychological care needs than those with lower anxiety. Patients with higher levels of depressive symptoms reported higher psychological, physical, and daily living, patient care, and support needs compared to patients with lower levels of depression (Perez-Fortis et al., 2017). Edib et al. (2016) assessed the most unmet supportive care needs of 117 Malaysian breast cancer women; around 40% of the sample were under 50 years old. The results showed that psychological needs were the most frequently reported unmet needs; uncertainty about the future was reported as the most reported unmet psychological need (76.6%), followed by fears of cancer spreading (76.1%). Feelings of sadness, fear of death, and feeling depressed were reported as 69.2%, 68.4%, and 65.0%, respectively. Women were also concerned about those who were close to them (65.0%). Additionally, the results also found that early breast cancer survivors who have more physical and psychological needs have a significantly poorer quality of life.

This literature review also shows that young breast cancer women have unmet needs for psychosocial support, as they frequently expressed a need for support from their partners, family, and friends (Connell et al., 2006; Ruddy et al., 2013). Young breast cancer women were found to have more psychological needs during the transitional phase to survivorship because the end of treatment is commonly associated with a decline in support from those who were supporting them throughout the treatment (Hubbeling et al., 2018; Ruddy et al., 2013). Some women experienced high levels of anxiety because of less frequent medical visits and scans and the fear of an undetectable recurrence of the disease (Hubbeling et al., 2018). Connell et al. (2006) found that more than half of the participants described a shortage of support services designed for young breast cancer women, and 27% of these participants also reported both emotional and physical support as their greatest unmet need and 28.5% stated the support they had received had not been appropriate to their age.

Further to this, this literature review showed that younger breast cancer women are specifically vulnerable to experiencing high levels of fear of cancer recurrence and uncertainty for the future (Edib et al., 2016; Thewes et al., 2012; Thewes et al., 2016). High levels of fear of cancer recurrence are characterized by functional impairment, psychological symptoms, poor quality of life, and excessive efforts to control for possible recurrence and, or attempts to avoid cancer reminders. Moreover, it has been associated with increased utilization of healthcare, unwillingness to be discharged from follow-up, and increased healthcare costs (Thewes et al., 2016). Thewes et al. (2012) found that 70% of participants reported clinical levels of fear of cancer recurrence; of those who reported clinical fear of cancer recurrence (25% and 19%), they mentioned that this fear of cancer recurrence affected significantly their mood and their ability to plan and set goals for the future, respectively. The study also found that fear of cancer recurrence is associated with higher health costs and

lower surveillance rates, which may affect health outcomes negatively. Similar results were found in a qualitative study from Australia by Connell et al. (2006) in which recurrences and fears for the future were the most common personal concerns reported (54%) and the top-ranking perceived concern (31.5%) of young women with breast cancer. Furthermore, Thewes et al. (2016) found that fear of recurrence affected the coping strategies that women use, where a higher level of fear of recurrence was associated with using more avoidance-based coping skills compared to those who reported lower levels of fear of cancer recurrence. Women with low levels of fear of cancer recurrence selected more effective coping strategies that helped them cope with the fear of cancer recurrence. While, women with moderate to high levels of fear of cancer recurrence described their coping strategies as effortful, ineffective, or time-consuming.

Furthermore, the reviewed studies also revealed that young breast cancer women have communication-related issues with their healthcare providers (Miyashita et al., 2015; Villarreal-Garza et al., 2019). Miyashita et al. (2015) found that overall communication with medical professionals was the most unmet information need related to the quality of life of young breast cancer survivors, and 30.7% of the participants were dissatisfied with this communication. Therefore, they have suggested that the quality of life of young breast cancer patients could be improved by enhancing communication between them and their medical professionals. Also, Villarreal-Garza et al. (2019) interviewed 20 young women ≤ 40 within 6–12 months of their initial diagnosis of breast cancer. They found that women in the study felt that health providers lacked communication skills because they were insensitive when they informed them of their diagnosis of breast cancer. Women were dissatisfied with this non-empathic, harsh way of telling the diagnosis of cancer, specifically, those who were diagnosed at advanced stages. They felt the treatment would be ineffective and meaningless,

and there was no point in receiving it. Moreover, the women also expressed that their levels of uncertainty, anxiety, fear, and other negative emotions had increased as a result of receiving inadequate information in this non-empathic manner. Therefore, women suggested that information should be given by an oncologist who is an expert on this matter and considers their emotional status. They also suggested including the psychologist in the medical team at the time of the diagnosis of cancer, as this could give a sense of quietness and trust and may also help in accepting the diagnosis.

The reviewed studies also revealed that young women have challenges dealing with their children and partners after having breast cancer. The majority of young women stated that being unable to strike a balance between meeting their needs and their children's and partners' needs was a major source of distress and guilt (Almeida et al., 2015; Fitch et al., 2008; Nizamli et al., 2011; Ruddy et al., 2013). Informing the children about the reality of the diagnosis of cancer was also a big challenge faced by young women, and sometimes they preferred not to tell them about this diagnosis (Miyashita et al., 2015; Rana et al., 2017). Rana et al. (2017) interviewed 16 women who were 40 years of age or less. They found that over a third of the women reported that telling their children about their cancer diagnosis was the most distressing aspect, followed by waiting for the findings of the biopsy and fear of cancer recurrence. Fitch et al. (2008) found that women expressed specific learning needs about the approaches and strategies that can help them inform their children about their cancer and how to prioritize themselves and develop their skills in negotiating ways for meeting their own needs and making a balance between meeting their own needs and their children's and partners' needs.

In conclusion, young breast cancer women have unmet psychological needs that affect their coping and their quality of life. Fear of cancer recurrence and uncertainty about

the future were the most common concerns among those women and were associated with a low quality of life. Healthcare providers should understand the psychological needs of those women and provide them with adequate psychological care to help them accept and cope with the disease and the treatment-related effects to improve their quality of life.

2.6.4 Practical Needs

The practical needs of young breast cancer women have been found in eight out of the 24 studies (Almeida et al., 2015; Fitch et al., 2008; Fitri et al., 2017; Gould et al., 2006; Hasan et al., 2023; Hubbeling et al., 2018; Nizamli et al., 2011; Ruddy et al., 2013). This literature review demonstrated that the diagnosis of breast cancer not only disturbs women's personal, social, and family lives but could also interfere with their work. The majority of young women who have breast cancer face difficulties in playing their roles and carrying their responsibilities as mothers and wives and depend on others for these responsibilities, consequently they feel that they lose their autonomy and become dependent on others' decisions (Almeida et al., 2015; Fitch et al., 2008; Nizamli et al., 2011; Ruddy et al., 2013). Frequently, young women have expressed dissatisfaction with the facilities provided by cancer care systems for childcare services (Gould et al., 2006). Fitri et al. (2017) conducted a cross-sectional study to identify the psychosocial needs of women with breast cancer in Indonesia. They found that practical needs were the most unmet psychosocial need category, and child care was reported as the most important psychosocial need among Indonesian women with breast cancer.

Among the practical needs, help with financial matters was frequently reported as the most unmet practical need among women with breast cancer (Fitri et al., 2017; Gould et al., 2006; Hasan et al., 2023; Hubbeling et al., 2018). There is a dearth of studies that address the financial needs of young breast cancer women in countries in crisis; however, studies

from low-income countries revealed that lower income and higher financial stress are associated with more psychosocial needs and a lower quality of life (Fitri et al., 2017; Hasan et al., 2023; Hubbeling et al., 2018). Young women develop more financial concerns as a result of employment disruptions or paying for treatment, and these disruptions not only impact the women themselves but also extend to their families because they play a significant role in household provision, specifically in low and middle-income countries (Hubbeling et al., 2018). Working women may need to take sick leave from their work while receiving treatment because they have an appointment for treatment or experiencing the treatment - side effects that prevent them from working (Hubbeling et al., 2018). Hubbeling et al. (2018) found that young breast cancer women in Mexico face many challenges in their employment. For example, women who have physical limitations feel that they have limited choices in finding a job, and others need to leave or change their jobs that require heavy lifting after axillary dissections, such as house cleaning, and find more restful jobs. Furthermore, women also perceived hiring discrimination based on their history of having breast cancer, as the employers were not interested in hiring women who had breast cancer because they believed that those women were not strong enough to work, and maybe they would get sick again or just want the job for health insurance benefits. Therefore, some women hid the reality of their breast cancer disease from their employers.

Additionally, young breast cancer women who are living far from the hospitals and regularly travel long distances to receive treatment also experience difficulty covering the transportation fees and need financial help to cover the transportation fee as well as their meal allowance (Fitri et al., 2017).

In conclusion, financial needs were the most frequent unmet practical needs among young breast cancer women, specifically in low-income countries. Young breast cancer

women can develop financial needs because of the costly treatment or disruption in their employment or work. The unmet financial needs can result in more psychosocial needs and a lower quality of life for those women. Thus, breast cancer women in these countries should be provided with more facilities and financial support that can assist them in managing their financial affairs.

2.6.5 Social Needs

The social needs of young breast cancer women have been found in seven out of the 24 studies (Al-Azri et al., 2014; Fitch et al., 2008; Gould et al., 2006; Hasan et al., 2023; Hubbeling et al., 2018; Nizamli et al., 2011; Thewes et al., 2004). This literature review revealed that young women after the diagnosis of breast cancer prefer to limit their interaction with people in the community and withdraw from society either because they do not want to feel pity from society or because of the changes that occur in their physical appearance from the treatment, such as hair loss, weight changes, and breast loss (Al-Azri et al., 2014; Hasan et al., 2023; Nizamli et al., 2011).

Breast cancer is still perceived as a stigma in some communities and cultures, like the Arabic culture, causing feelings of unattractiveness and social isolation among women (Al-Azri et al., 2014; Hasan et al., 2023; Nizamli et al., 2011). Nizamli et al. (2011) and Hasan et al. (2023) found that several Syrian women experienced stigma and expressed a desire to change the negative societal view towards women with breast cancer. They wished to be supported and accepted in society as normal women, not as diseased women who have to be avoided. Similarly, Hubbeling et al. (2018) found that most young breast cancer survivors in Mexico experienced cancer stigma from the community. Young women also felt isolated when they were attending the support groups because the majority were older women and the information and services were not fitting for their age or their life stage (Fitch

et al., 2008; Gould et al., 2006; Thewes et al., 2004). This literature review also revealed that young women experience changes in their sexual relationships with their partners after the diagnosis of breast cancer (Abdollahzadeh et al., 2014; Almeida et al., 2015; Fitch et al., 2008; Hasan et al., 2023; Nizamli et al., 2011). Hasan et al. (2023) and Nizamli et al. (2011) have both found that young Syrian breast cancer women have experienced some changes in their sexual relationships with their partners after having breast cancer. The women in these studies have indicated that the changes in their appearance played an important role in these changes because they were feeling shy and unattractive with only one breast. Abdollahzadeh et al. (2014) have also found that married women had more unmet supportive care needs related to sexuality.

In conclusion, young breast cancer women also have unmet social needs related to impaired roles as mothers and wives. They also experienced some wrong beliefs from society, such as that cancer is a fatal disease, pity, and stigma. These beliefs caused them some social isolation. Awareness of breast cancer should be raised in society to prevent those women from experiencing such feelings.

2.6.6 Spiritual Needs

Four studies have addressed the spiritual needs of young breast cancer women (Almeida et al., 2015; Gould et al., 2006; Hasan et al., 2023; Nizamli et al., 2011). Gould et al. (2006) found that young breast cancer women expressed a need for spiritual support and wished to receive information about spirituality and complementary treatments to supplement their traditional care. This literature review revealed that spirituality enables women to live with great optimism and encourages them to become stronger and overcome the obstacles they face to continue their lives more peacefully and excitingly. It also gives them a feeling of forgiveness, as breast cancer women often have feelings of fear and guilt

regarding their illness due to their perception that their diagnosis of cancer is a punishment from God (Almeida et al., 2015). Almeida et al. (2015) and Hasan et al. (2023) found that young women in their studies got closer to God after being diagnosed with breast cancer and depended on religion and spirituality as their main resources to cope with their disease. Some women admitted that breast cancer encouraged them to pay more attention to religion and spirituality by deepening their faith in God. Nizamli et al. (2011) also concluded that the strong faith of Syrian women helped them accept their illness and gave them trust that things were going to the best in the end.

In conclusion, despite the documented effects of religion and spirituality on the adjustment and quality of life of women with breast cancer, studies that focus on the specific spiritual needs of young women are still scarce in the current literature, and their spiritual needs are still overlooked. Thus, the spiritual needs of young women with breast cancer need to be addressed to provide these women with psycho-spiritual interventions that meet their needs and improve their adjustment to the disease.

2.6.7 Young Women' Needs Versus Older

This review revealed that young women share some needs with their older counterparts, but also perceive more unique needs than their older counterparts. Thewes et al. (2004) conducted a qualitative study to identify the shared and unique psychosocial needs of younger and older breast cancer survivors. The results revealed that younger and older women share some needs: For example, concerning physical needs: Both younger and older women expressed a need to access physiotherapy services following their treatment to assist them in dealing with arm problems. They both expressed a need for help with domestic activities from their friends and family members. However, only older women expressed the need for additional help with domestic activities. Emotionally: Some younger women

reported that the fear of cancer recurrence limited their ability to plan for the future or to have children, however, this was not reported by older women. Regarding lifestyle and career, younger but not older women mentioned that the diagnosis and treatment of breast cancer impacted their lifestyle and career in terms of sports, working, traveling, and household chores, including care of their children, due to the fatigue caused by the treatment. Moreover, younger women reported that their sexual lives were largely affected by having breast cancer, while this was not a big issue for older women (Thewes et al., 2004). Concerning the treatment team support, both younger and older women expressed a need to receive emotional support and reassurance from their healthcare professionals during their follow-up. Moreover, younger women spoke about the isolation or loneliness among the support groups they attended, as the majority were older women. There was a perception among many younger women that the available support groups did not fit their needs due to their age. Both older and younger women expressed a need for counseling after treatment ended and a need to learn coping strategies to deal with the fear of recurrence and manage their daily stress. Regarding information needs, while older women spoke about their need not to receive information about their treatment or follow-up, younger women expressed their desire to receive ongoing information about new treatment and research developments. Young women also discussed the use of complementary therapies and changes to diet and exercise more than their older counterparts. Overall, young women reported more needs than older women (Thewes et al., 2004).

2.7 Breast Cancer Treatment

2.7.1 Surgical Management

Young and old women diagnosed with breast cancer are generally treated similarly (Gabriel & Domchek, 2010). Options for local treatment include mastectomy or breast-

conserving surgery (BCS) followed by radiotherapy, and systemic treatment options include chemotherapy and endocrine therapy (Gabriel & Domchek, 2010). The rules of surgical management are essentially the same for young and old women with breast cancer. Breast-conserving surgery followed by radiotherapy has been established as an effective treatment option for early-stage breast cancer, regardless of a woman's age (Radecka & Litwiniuk, 2016). Younger age has been identified as an independent risk factor for local recurrence after conservative management; patients aged < 35 are at a 9-fold higher risk than older women (Radecka & Litwiniuk, 2016). Despite the favorable prognostic and cosmetic results of BCS compared to mastectomy (Christiansen et al., 2022), studies have shown that young women with early-stage breast cancer are more likely to choose mastectomy over breast-conserving (Sinnadurai et al., 2019).

2.7.2 Radiotherapy

Recommendations for adjuvant therapy are similar in young and older women with breast cancer; radiotherapy is always used after breast-conserving surgery and after mastectomy in large tumors (≥ 5 cm) or in cases of metastases to at least 4 lymph nodes (Radecka & Litwiniuk, 2016). Research has demonstrated that radiotherapy following breast-conserving surgery or mastectomy significantly reduces the risk of local recurrence and increases survival in young women with early-stage breast cancer (Pan et al., 2014). Despite its effectiveness, studies have revealed that radiotherapy has been associated with a higher risk of contralateral breast, second lung, and esophagus cancer (Grantzau & Overgaard, 2015). Young women may face more difficulties undergoing radiation therapy after breast-conserving surgery than their older counterparts because radiation therapy lasts for 3 to 7 weeks and requires spending around 30 to 60 minutes at the radiation unit five days a week. Therefore, young women with children under 7 were less likely to undergo

radiation therapy than those with older children or no children. In addition, those women who live far from the radiation center have to travel a long distance to receive radiotherapy (Pan et al., 2014).

2.7.3 Chemotherapy

Chemotherapy is the standard of care for women with node-positive cancer or tumors larger than 1 cm (treatment of breast cancer). Younger women are generally treated with adjuvant chemotherapy more than their counterparts in older women because they have a longer post-treatment life span and are more tolerant to aggressive therapy and side effects (Farouk et al., 2016). Neo-adjuvant chemotherapy can reduce the tumor size and increase the opportunity for undergoing breast-conserving surgery in patients who are initially selective for mastectomy (Barranger et al., 2015). It can also reduce the annual breast cancer death rate by 38% in women younger than 50 (Lee & Han, 2014). The decision to undergo chemotherapy for young women should not be built on a woman's age alone but on other factors including the extent of the disease, tumor characteristics (size, node involvement, and grade), the woman's preferences and comorbidities in addition to their marital status, and whether she has completed childbearing or still has the desire to have more children (Ganz et al., 2015). Despite the effectiveness of chemotherapy in increasing the survival rate of breast cancer in younger women, it has a lot of side effects, such as nausea, vomiting, fatigue, pain, and alopecia. Younger women are more likely to have side effects and long-term toxicities from chemotherapy compared to their older counterparts (Fitch et al., 2008). Thus, they need more monitoring, assessment, and consultation to reduce the potential long-term consequences.

2.7.4 Endocrine Therapy

Adjuvant endocrine therapy has been shown to improve overall and relapse-free survival in women with hormone receptor-positive BC (Cluze et al., 2012). Tamoxifen is a selective estrogen receptor modulator that can be used to treat both pre-and postmenopausal women with breast cancer (Kadakia & Henry, 2015). Five years of tamoxifen can reduce the risk of disease recurrence in early-stage breast cancer by approximately 40% and the risk of death by approximately 30% (Kadakia & Henry, 2015). However, young women are more likely to be non-adherent to endocrine therapy. Cluze et al. (2011) found that 42% of young women treated with tamoxifen interrupted the treatment during the first 2 years because of low social support and a lack of knowledge about the treatment, in addition to treatment side effects. Young women should therefore be aware of the toxicities of the different therapies, and appropriate supportive measures are needed to increase compliance with long-term endocrine therapy.

2.8 Psychosocial Issues of Young Women with Breast Cancer

The diagnosis and treatment of breast cancer have several devastating psychosocial impacts on young women's lives (Ahmad et al., 2015). The literature revealed that young women perceive breast cancer in a different way from their older counterparts, and their issues and concerns are more age-specific (Ruddy et al., 2013). They are more concerned about body image, sexual functioning, fertility and productive health, relationships, caring for children, careers, and fear of cancer recurrence (Ahmad et al., 2015; Ganz et al., 2015). Young women, thus, are at greater risk for psychosocial adjustment problems, and their quality of life is lower compared with older breast cancer women and same-age non-breast cancer women (Avis et al., 2005; Avis et al., 2012). Unfortunately, the situation does not

seem to improve over time; on the contrary, it is more likely to worsen in the long term (Ahmad et al., 2015).

2.8.1 Body Image and Sexual Functioning

Impaired body image and sexual dysfunction are highly prevalent among young women with breast cancer (Paterson et al., 2016). The concept of body image is multidimensional in the context of breast cancer. Hopwood et al. (2001) identified the characteristics of the body image concept in women who have received treatment for breast cancer into three domains: affective (e.g., feeling feminine, feeling attractive), behavioural (e.g., finding it hard to look at oneself naked, avoiding people because of appearance), and cognitive (satisfaction with appearance, or with a scar). Impaired body image is associated with higher levels of fear, anxiety, depression, avoidance, isolation, guilt, shame, and unattractiveness, in addition to a worse quality of life (Avis et al., 2005; Bagheri & Mazaheri, 2015; Rosenberg et al., 2013; Türk & Yılmaz, 2018). A strong positive association was found between body image and the quality of life of women with breast cancer (Türk & Yılmaz, 2018).

Body image concerns in younger breast cancer patients are due to the externally visible changes, including the removal of the breast (or breasts) and the resulting scarring from the surgery; alopecia and weight changes resulting from chemotherapy; and skin damage and discoloration resulting from radiation therapy, which in turn could adversely impact their perception of their femininity, sexuality, beauty, and attractiveness (Alhusban, 2019; Fobair et al., 2006; Rosenberg et al., 2013). The type of surgery conducted was identified as a significant factor in determining body image and sexual function for young women who have been treated for breast cancer (Prates et al., 2017; Rosenberg et al., 2013). Mastectomy is one of the most devastating treatments for breast cancer and negatively

impacts a woman's body image, femininity, and self-image (Koçan & Gürsoy, 2016; Türk & Yılmaz, 2018), causing more psychological trauma than cancer itself and a lower quality of life (Alhusban, 2019; Rosenberg et al., 2013; Türk & Yılmaz, 2018). Rosenberg et al. (2013) assessed body image concerns among 419 young women newly diagnosed with stage 0-III breast cancer. The results showed that the type of surgery was significantly associated with differences in body image concerns. Women who had undergone lumpectomy reported significantly lower body image concerns compared to those who had undergone mastectomy with and without reconstruction. Similarly, Prates et al. (2017) found that women who underwent mastectomy reported a higher level of dissatisfaction with their appearance when compared to women who underwent breast-conserving surgery. Breast conservative surgery is associated with a better quality of life and a higher level of satisfaction with the postoperative breasts compared to mastectomy or reconstructive surgery (Han et al., 2010).

In addition to mastectomy, chemotherapy could adversely affect young women's perceptions of body image and sexual function (Fobair et al., 2006). This is related to chemotherapy-induced alopecia, weight changes, and abrupt menopause with the associated symptoms (Alhusban, 2019; Perz et al., 2014). Chemotherapy-induced alopecia (CIA) is considered one of the most painful and devastating experiences for women who receive chemotherapy, and most of the women described losing hair as more difficult than losing the breast itself (Alhusban, 2019; Doumit et al., 2010; Kim et al., 2012). Kim et al. (2012), in their qualitative study of Korean women with breast cancer, stated that 11 out of 15 women (73.3%) started crying when they were asked to express their emotions and psychological responses to alopecia. They said they were feeling depressed when they saw their hair drop out in the morning. They felt less self-esteem, miserableness, and guilt about the past. Moreover, women changed their attitudes about alopecia after experiencing it; they

stated that if they knew about the experience of alopecia, they would avoid the chemotherapy. Furthermore, alopecia distress not only reduces women's self-esteem but also impacts their social lives because they feel that people could easily recognize them as cancer patients. Therefore, they minimize their outside activities, such as shopping or exercising, which could result in a worse quality of life. Similarly, Lebanese women reported that hair loss was the most devastating loss in their breast cancer journey; although it was expected by most of them, they all described it as shocking, distressing, and upsetting (Doumit et al., 2010).

Furthermore, young women have concerns about the changes in sexual functioning that could adversely affect their relationships with their partners and their quality of life (Miaja et al., 2017). Sexuality is a complex and subjective concept that changes as a person gets older and more experienced. It goes beyond simply having the physical capacity to perform a sex act or have a child. Instead, sexuality can refer to a person's perception of her body, her overall health, and her sexuality, as well as her interest in, enjoyment from, and roles in sexual activity (Pelusi, 2006). The sexual problems of young women result from chemotherapy-induced premature menopause and the associated factors of reduction in desire, vaginal pain and dryness, and discomfort (Ljungman et al., 2018), in addition to the negative perception of body image, a feeling of unattractiveness, and a fear of refusal from their partners. Sexual dysfunction was reported in 64% of young women while they were still undergoing treatment and in 45% of those who had completed the treatment (Kedde et al., 2013). Likewise, Ljungman et al. (2018) found that sexual dysfunction in at least one domain and at least two domains of these five domains (vaginal lubrication, vaginal discomfort, vulvar discomfort—clitoral, vulvar discomfort—labial, and satisfaction with sex life) was reported by 68% and 38%, respectively, of young breast cancer women.

2.8.2 Premature Menopause and Loss of Fertility

Despite the expected long-term survival of many younger women, their quality of life may be hampered by premature menopause, infertility, negative psychosocial effects, and the risk of recurrence (Howard-Anderson et al., 2012). Premature menopause and loss of fertility are often considered serious challenges faced by young women after receiving oncological treatment, causing additional trauma to those women who are childless or wish to have more children (Perz et al., 2014). The chances of pregnancy in younger women with breast cancer are lower than those of their matched counterparts in the general population (Lee et al., 2020). A large cohort study of young women with breast cancer in Korea found that only 992 women (3.1%) got pregnant after receiving the treatment. Of those, 622 (67.5%) successfully delivered, while the rest 370 (32.5%) failed to deliver (Lee et al., 2020). Studies revealed that greater concern about fertility was reported among women who are still planning for future pregnancies (Ljungman et al., 2018; Perz et al., 2014; Ruddy et al., 2014; Villarreal-Garza et al., 2017). A survey of young women with breast cancer found that 58% of women reported significant reproductive concerns (Ljungman et al., 2018). Reproductive concerns have been associated with decreased quality of life (QoL) and long-term depressive symptoms in young breast cancer women (Howard-Anderson et al., 2012; Ljungman et al., 2018).

The international guidelines published by the American Society for Reproductive Medicine recommend that each woman of fertile age be informed about the effects of oncological treatment on fertility and the available options for preserving fertility before initiating the treatment (Lee et al., 2006). Several qualitative and quantitative studies have demonstrated that fertility issues are infrequently discussed, and only a minority of young women with breast cancer are informed about the effects of oncological treatment on fertility

(Assi et al., 2020; McCray et al., 2016; Villarreal-Garza et al., 2017). Women generally do not have enough information about the effects of breast cancer treatment on fertility and ovarian function. A previous study found that women's knowledge about the treatment-effects on fertility increased significantly after receiving the educational program. The percentage of women who had no information significantly dropped from 56.5% before the program to 1.8% after the program (Shin et al., 2019). Another study has also found that less than one-third (26%) of women had discussed with their physicians the risk of infertility after the treatment, and nearly 90% of those who had discussed it with their physicians required more fertility consultation and options (McCray et al., 2016).

Furthermore, studies concluded that women's preferences and concerns about fertility could impact their treatment decisions and adherence to the treatment recommendations. Due to the increasing trend among women to delay marriage and childbearing until later in life because of professional, personal, and socioeconomic factors (Gerstl et al., 2018), young women who have not completed their families at the time of cancer diagnosis may fall into a struggle between surviving cancer and establishing families (Chuang et al., 2020). Some may sacrifice the dream of being mothers and choose their survival as their priority (Hubbeling et al., 2018; Shin et al., 2019). While others may choose to change or delay the treatment to achieve the dream of being a mother (Ruddy et al., 2014; Senkus et al., 2014; Villarreal-Garza et al., 2017). A previous study found that 26% of women reported that their treatment decision had been affected by fertility concerns, either by choosing not to receive chemotherapy, choosing one chemotherapy regimen over another, deciding not to receive endocrine therapy, or receiving a shorter period of endocrine therapy for < 5 years (Ruddy et al., 2014). Adherence to tamoxifen is poor in young women, despite its effectiveness in reducing cancer recurrence and mortality (Assi et al., 2020). This is

because pregnancy is contraindicated during treatment due to its teratogenic effects; therefore, young women who are planning to become pregnant in the future may refuse or delay the initiation and discontinuation of tamoxifen (Assi et al., 2020; Llarena et al., 2015). A retrospective study of young breast cancer survivors in the Middle East found that among women who intended to become pregnant but did not achieve it successfully, the majority (n = 8, 88.9%) had specifically received tamoxifen, however, all women with intent for pregnancy who succeeded did not receive any hormonal therapy, including tamoxifen (Assi et al., 2020). On the contrary, when young Mexican survivors were directly asked about reproductive concerns, they explained that they gave priority to survival during diagnosis and treatment over any thoughts about fertility.

Concerning the safety of pregnancy for disease-free survival (DFS) and overall survival in women with a history of breast cancer, young women are often advised not to become pregnant during and after cancer treatment (Azim et al., 2011). Physicians and women generally worry about cancer recurrence if women get pregnant after breast cancer. This is based on the purely theoretical aspect that cancer recurrence could be stimulated by hormonal surges during ovarian stimulation or subsequent pregnancy (Azim et al., 2011; Ruddy et al., 2014). This assumption has adversely impacted women who wish to conceive after the treatment. Previous qualitative research showed that many of the women expressed feelings of fear of becoming pregnant after the treatment because they received conflicting views from health professionals regarding the safety of pregnancy for their survival. They thought that pregnancy could stimulate the growth of cancerous cells because of hormonal effects (Lee et al., 2011). However, the results have been surprising to date. The safety of pregnancy for women with a history of breast cancer has been demonstrated in several studies and meta-analyses (Azim Jr et al., 2013; Chuang et al., 2020; Lee et al., 2020).

Furthermore, it has been revealed that pregnancy after breast cancer not only does not increase the risk of recurrence and death but has also been found to produce a protective effect and can boost maternal immunity against cancerous cells (Chuang et al., 2020). A previous study found that women who got pregnant after breast cancer diagnosis had lower mortality compared to non-pregnant women with breast cancer at a similar age, year at diagnosis, and clinical characteristics. In contrast, women who had abortions, whether spontaneous or induced, had the same average mortality as non-pregnant women (Chuang et al., 2020). The timing of conception after the disease is still a matter of debate, especially in women receiving adjuvant endocrine therapy. In general, clinicians recommend women wait at least 2 years from diagnosis before starting the pregnancy experience to allow early recurrences to manifest (Pagani et al., 2011).

In conclusion, young premenopausal women with breast cancer have unique fertility and reproductive concerns, including anxiety and uncertainties about the possibility of having children after receiving the treatment, premature menopause, the risk of infertility, whether pregnancy will be safe for cancer survival, and when they can conceive. All of these questions need to be answered by the health professionals before initiating the treatment. Young women who are still at fertile age should be discussed and counseled about the potential effects of treatment on their fertility and reproduction and what the available strategies are to conserve their fertility before initiating the treatment, particularly those who are childless or want more children.

2.9 Quality of life of young women with breast cancer

As mentioned previously, the diagnosis and treatment of breast cancer can be very distressing and devastating for younger women because they are still establishing their professional careers, education, and families (Ahmad et al., 2015; Fitch et al., 2008). They

can affect all aspects of young women's quality of life, physically, psychologically, socially, and spiritually (Ferrell et al., 1997; Wonghongkul et al., 2006). Ferrell et al. (1997) proposed a model of quality of life for cancer patients consisting of four dimensions: physical, psychological, social, and spiritual well-being. Physiological well-being is focused on the control of symptoms and the preservation of independence and function. Psychological well-being is focused on the struggle to remain under control despite a life-threatening illness, characterized by emotional distress, rearranged priorities, and fear of the future, as well as positive changes in one's life. Social well-being reflected the roles and relationships with those around. Finally, spiritual well-being is focused on the ability to maintain optimism and derive meaning from the cancer experience. Studies have revealed that younger women are at higher risk for impaired quality of life up to several years after the diagnosis of breast cancer (Avis et al., 2005; Bloom et al., 2004; Bloom et al., 2011; Wenzel et al., 1999). Bloom et al. (2011) assessed the quality of life of young breast cancer survivors ten years after the diagnosis. They found that the patients reported poorer general health and physical well-being, less sexual activity, and more chronic conditions than at 5 years. However, they were unsure whether these changes could be attributed to the late effects of treatment or to the normal effects of aging. Similarly, Avis et al. (2005) have also found that young breast cancer women 4 - 24 months after the diagnosis have more symptoms and a lower QOL than women without breast cancer. They found that more than 70% of young breast cancer patients reported general aches, pains, and dissatisfaction with appearance as the most common symptoms. Similar findings were also reported in a qualitative study by Nizamli et al. (2011), in which the women also experienced a set of chemotherapy side effects such as nausea, vomiting, pain, fatigue, hair loss, and changes in their physical appearance. In terms of psychological well-being, younger women with breast cancer were also found to

experience higher levels of psychological distress, uncertainty, fear of cancer recurrence, and fear of death (Almeida et al., 2015; Avis et al., 2012; Deshpande et al., 2022; Thewes et al., 2012). Avis et al. (2012) have found that younger women were significantly more likely to report depressive symptomatology than older women. Similarly, Nizamli et al. (2011) and Hasan et al. (2023) have also found that breast cancer and its treatment have also affected the emotional and psychological well-being of young Syrian breast cancer women. The women experienced psychological distress and an alteration in their self-esteem and femininity due to the loss of their breasts. Deshpande et al. (2022) have also found that fear of recurrence and metastasis, distress from the chemotherapy and the initial diagnosis, and anxiety were the worst responses among their participants.

Regarding social well-being, the available literature has consistently shown that young women with breast cancer are at high risk of impaired social roles as wives and mothers and experiencing more psychosocial issues such as isolation (Almeida et al., 2015; Fitch et al., 2008; Hasan et al., 2023; Hubbeling et al., 2018). Hasan et al. (2023) and Nizamli et al. (2011) have both found that Syrian young women with breast cancer have reported difficulties in playing their social roles as mothers, such as the responsibility of caring for children. The women in these two studies have also reported some issues in their sexual relationships with their partners. In addition, they were pitied by society and stigmatized for having breast cancer, which has sometimes made them socially isolated. Deshpande et al. (2022) have also found that their participants were more concerned about the financial burden on the family, the distress of illness on a family, sexuality, and isolation due to illness. Spiritually, studies revealed that young women with breast cancer were uncertain about their future, the effectiveness of the treatment, and the recurrence of their disease. Edib et al. (2016) found that 76.6% of their participants were uncertain about their future.

Similarly, another qualitative study has also found that younger women with breast cancer experienced doubt and uncertainty regarding the future (Almeida et al., 2015).

In conclusion, the results of these studies have confirmed that young women with breast cancer are more likely to have a lower quality of life physically, psychologically, and socially. These results suggest that those women should be well prepared for the treatment and its side effects. Psychological care should also be provided for those women throughout the disease trajectory to help them accept and better cope with this new situation.

2.10 Cognitive Appraisal of Breast Cancer

As mentioned earlier in the conceptual framework, appraisal is a process in which individuals decide whether stressful situations are threats to their well-being or not (primary appraisals) and whether they have the resources to deal with the stressor if it is viewed as a threat (Bigatti et al., 2012; Kessler, 1998; Lazarus & Folkman, 1984). There is a dearth of studies that have explored types of primary and secondary appraisals of breast cancer in young women in the current literature. However, studies that are available on the appraisal of breast cancer have concluded that breast cancer can be appraised as a threat, which is associated with anxiety, or as harm/loss, which is associated with depression (Bigatti et al., 2012), as well as a challenge when the cancer is interpreted as an obstacle to overcome (Bigatti et al., 2012; Mazanec et al., 2011; Wonghongkul et al., 2006). Previous studies have revealed that appraisal processes play a significant role in psychological adjustment to breast cancer (Bigatti et al., 2012; Gallagher et al., 2002; Mazanec et al., 2011). Gallagher et al. (2002) found that having lower levels of threat appraisal and higher levels of secondary appraisal in terms of having confidence in the ability to cope with the disease in women with breast cancer was associated with improved psychological functioning from 2 to 6 months after breast cancer diagnosis. In contrast, Bigatti et al. (2012) found that higher appraisals of

harm/loss and greater use of escape-avoidance coping predicted higher depressive symptoms. Similarly, Mazanec et al. (2011) found that young age and higher levels of threat appraisal, harm/loss appraisal, uncertainty, and symptom distress were significantly associated with poor adjustment.

2.11 Coping Strategies and Quality of Life

As mentioned in the previous sections, younger breast cancer women face many stressors and challenges throughout the disease trajectory about acceptance of the disease, making the best treatment decisions, adjusting to treatment side-effects, thinking about the future and survival, and further, acceptance of death (Sajadian et al., 2017). Therefore, they need different coping strategies to help them adjust to their new life after a breast cancer diagnosis (Manuel et al., 2007).

Lazarus and Folkman (1984) proposed one of the most comprehensive models of stress and coping: the Transaction Model of Stress and Coping. Coping was defined as constantly changing cognitive and behavioural attempts to cope with specific external and/or internal demands appraised as taxing or exceeding the person's capacity (Lazarus & Folkman, 1984). Coping strategies could be problem-focused coping or emotional-focused coping. Problem-focused coping directly solves an individual's problems that cause stress. It is used when the individual appraises the situation as changeable. However, emotion-focused coping aims to manage the resulting emotions of stressful events, and it is often used when the individual appraises the situation as unmodifiable (Lazarus & Folkman, 1984). Problem-focused coping strategies include learning new skills or developing new standards of behavior. However, emotion-focused strategies include wishful thinking, minimization, or avoidance (Lazarus & Folkman, 1984).

Research has demonstrated the effectiveness of coping strategies in predicting the quality of life of young women with breast cancer more than treatment or medical factors (Avis et al., 2005). The patients' coping methods can determine their psychological adjustment to breast cancer. Women who used active coping strategies such as acceptance of cancer, seeking social support, positive cognitive restructuring (trying to find positive points of having breast cancer), emotional expressiveness, and use of spirituality and religious approaches had better adjustment and quality of life compared to those who used passive coping strategies such as wishful thinking and avoidance or minimizing the importance of their cancer (Avis et al., 2005; Danhauer et al., 2009). The use of active coping strategies by young women was not consistent in the literature. For example, one study found that younger women used more active coping strategies (Avis et al., 2012), while another study found that younger breast cancer women tend to use less active coping strategies than older women (Compas et al., 1999). So far, there is no information about how Syrian young women cope with breast cancer compared with women from other countries. Therefore, a study to explore the coping strategies used by young Syrian women with breast cancer is necessary.

Spirituality and religious approaches were the most frequently used strategies by young and old women who "trusted God" to cope with their cancer (Danhauer et al., 2009; Hasan et al., 2023; Manuel et al., 2007; Sajadian et al., 2017). In religious communities, women highly believe in fatalism and consider their diagnosis of cancer as a test from God. They strongly believe that God is the ultimate healer and that all power is present with Him. So, they surrender themselves to their fate (Nizamli et al., 2011). A spiritual coping strategy has been defined as a process that people utilize to find meaning in stressful circumstances and relieve them (Sajadian et al., 2017). Hasan et al. (2023), in their qualitative study on

young women with breast cancer found that engaging in spiritual practices such as offering prayer and reading the Quran helped Syrian women accept their situation more easily. Another qualitative study was conducted to explore the coping strategies used by young women with breast cancer in Ghana and found that the majority of women used spirituality and religious artifacts as strategies for coping with their cancer. They believed that God could heal them and change their situation in minutes. They also believed that prayer was the solution to all their problems. The majority of the participants listened to preaching on the radio and read the Bible and devotional books to encourage themselves (Iddrisu et al., 2019). A mixed-methods study, also found that young women used spirituality as a coping strategy for breast cancer, but less frequently than seeking social support and positive cognitive restructuring (Manuel et al., 2007). These results suggest that healthcare professionals who are working with breast cancer patients in religious communities have to know the culturally dependent roles that religion and spirituality play in coping with cancer (Sajadian et al., 2017).

Seeking social support was also among the strategies used by young women to cope with the disease (Hasan et al., 2023; Iddrisu et al., 2019; Manuel et al., 2007). Social support has been defined as the support and help that patients receive from other people, particularly from those who are specific to them. Social support has been found to play an important role in mediating the coping process (Naseri & Taleghani, 2018) and decreasing levels of anger and depression in young women with breast cancer (Manuel et al., 2007). It has also been found that social support is positively related to QOL among breast cancer patients (Ban et al., 2021). Social support could be emotional, informational, or physical. Emotional support could be as simple as advising, sharing concerns, being with patients in difficult situations, and giving them the information they need (Cheng et al., 2013). A qualitative study found

that the support women received from their families, partners, friends, employers, and churches helped them cope with the disease. Family support took the form of financial, emotional, and physical support. Financially, women indicated that the financial support from their families helped them manage the expensive treatment. Emotionally, women received calls, visits, and advice from family members to encourage them to cope with the disease. Physically, women were supported by taking care of their children and doing household activities, and others promised to get them breast prostheses. Women also received physical and emotional support from their partners. Additionally, most of the participants indicated that they received support from the church in the form of advice, prayer, visits, and encouragement (Iddrisu et al., 2019). Another qualitative study from Syria by Hasan et al. (2023) also revealed the vital roles that partners and family members played in providing emotional support to their patients during their breast cancer journey.

Acceptance of the disease is also one of the active coping strategies used by women diagnosed with breast cancer to facilitate the coping process with the disease (Almeida et al., 2015; Hasan et al., 2023; Iddrisu et al., 2019; Nizamli et al., 2011). Young breast cancer women were encouraged to accept their disease when they compared themselves to those women who died from the disease or those who could not complete the treatment, and with those patients who have other types of cancer like cervical or anal cancer and they have to undergo radiotherapy to this place; therefore, they considered themselves lucky to have breast cancer. Furthermore, the noticeable improvement in their condition also encouraged women to accept their diagnosis. Moreover, women used different strategies to distract their thinking from breast cancer, like listening to music, watching television, walking in flowery gardens, touching the flowers, and reading stories, books, and novels (Iddrisu et al., 2019).

The relationship between coping strategies and quality of life is not in one direction, but it is reciprocal, as the patient's quality of life could impact their choice of coping strategies (Danhauer et al., 2009; Lazarus & Folkman, 1984; Manuel et al., 2007). Lazarus and Folkman's (1984) model is transactional, reciprocal, and bidirectional and proposes that people may adjust their coping strategies according to the stressors and problems they face and to their quality of life. A previous study examined the reciprocal relationship between coping strategies and quality of life at three-time points: within six months of diagnosis, six weeks later, and six months later (Danhauer et al., 2009). The results supported Lazarus and Folkman's (1984) model of stress and coping, as women adapted their coping strategies based on their quality of life. They found that lower quality of life was a predictor of seeking social support, keeping feelings to oneself, and wishful thinking from the first to the second time points. In addition, it was also a predictor for keeping feelings to oneself from the second to the third time point. However, a better quality of life was associated with lower use of social support, keeping feelings to oneself, spirituality, wishful thinking, and greater use for positive cognitive restructuring at all three time points. Likewise, a mixed-methods study examined the coping strategies of young women with breast cancer who were 50 years old or younger. The quantitative results found that positive cognitive restructuring, wishful thinking, and making changes were the most commonly used coping strategies. Whereas, qualitatively, women adapted their strategies based on their stressors and chose the strategies that were more helpful with some specific stressors. They found that social support was the best strategy for emotional stress. While positive cognitive restructuring was more useful when they were concerned about the future, women also used additional strategies to help them cope, like exercising, asking for information, resting, taking medications, and using complementary or alternative medicine (Manuel et al., 2007). These results suggest that

health providers should first identify the problems that women face to assist them in choosing the most appropriate strategies to solve their issues.

In conclusion, the results of these studies indicate that young women with breast cancer need help with the development of coping skills, as the majority of those women may not have faced such a life-threatening illness before. Young women supported by others (family, partners, and friends) and used more positive coping strategies reported better adjustment and a better quality of life. However, those who used less adaptive coping strategies were more likely to have less adjustment and a poorer quality of life.

2.12 Breast Cancer: Young Women Versus Older Women

Breast cancer in young women symbolizes a particular entity because of its unique biological features. Understanding of this specific biology in young women has significantly improved in the last few years (Ribnikar et al., 2017). Many studies compared the pathologic characteristics of breast cancer in younger and older women, and the results showed that breast cancer in younger women is more serious and aggressive than that in older women. A younger age at diagnosis of breast cancer was found to be associated with negative clinicopathological characteristics such as more advanced stages, larger tumor sizes, and more involvement of lymph nodes (Yazdani-Charati et al., 2019). The reasons beyond this worse presentation may be attributed to the aggressive biological nature of breast cancer at a younger age and the delay in asking for screening and medical consultation by young women due to their awareness that breast cancer is uncommon and unexpected to occur in young women (Freedman & Partridge, 2013; Partridge et al., 2012). Moreover, younger women with breast cancer have been reported to have a poorer prognosis and lower disease-free survival compared to older women (Garicochea et al., 2009). There is an urgent need to increase young women's awareness of breast cancer and encourage them to undergo

continuous screening, and ask for medical consultation, specifically for those who have a strong family history of cancer.

2.13 Summary of the Literature Review

2.13.1 Psychosocial Needs

The reviewed studies on the psychosocial needs of young women with breast cancer were inconsistent in the definition of young women, the time since diagnosis, and the methodologies that have been used. Regarding young women's definition, some studies have adopted a chronological definition of age to define young women. However, it was noticed that the cut-off for young age was not consistent among these studies, which makes it difficult to establish a true threshold for women in the young age group. Five studies established an age cut-off for young women of equal or under 40 years old (Abdollahzadeh et al., 2014; Connell et al., 2006; Hubbeling et al., 2018; Rana et al., 2017; Villarreal-Garza et al., 2019); and one study of 42 years-old (Ruddy et al., 2014). In contrast, three studies determined an age limit of under or equal to 45 years old (Fitch et al., 2008; Gould et al., 2006; Miyashita et al., 2015); and one study determined a younger age limit of under or equal to 50 years old in addition to being premenopausal (Karaoz et al., 2010). Lastly, one study included women older than 30 years old but did not specify an age limit, and the participants ranged from 30 to 45 years old (Nizamli et al., 2011). On the other hand, some studies have suggested that the functional definition is more appropriate to address psychosocial needs than the chronological definition of age and classified women as young if they were: (a) pre-menopausal; or (b) had primary-school-aged children (Thewes et al., 2004).

Another variation among the studies was in the time since the diagnosis of breast cancer for women to be included in the studies. For example, Hubbeling et al. (2018)

included women with 5 years or more since diagnosis, and Ruddy et al. (2013) included women who were diagnosed during the 4 years before study recruitment, whereas, Rana et al. (2017) included those women who were diagnosed within the first 12 months. In contrast, Miyashita et al. (2015) included women regardless of the time since diagnosis. According to what was mentioned earlier in the literature review, women differ in their perceptions and needs according to the phase of treatment. Thereby, the variation in the time since diagnosis among the participants could influence the homogeneity and consistency of the samples, making it difficult to address the specific needs of young women at each stage of the treatment. Further to that, a review of studies also revealed that, to date, research into the psychosocial concerns and needs of young breast cancer women has primarily focused on the extended or permanent survival phases (Hubbeling et al., 2018; Ruddy et al., 2013; Thewes et al., 2004), and few studies have examined the psychosocial concerns and needs that arise in the diagnosis and treatment phases.

2.13.2 Shortcomings Concerning the Methodologies Used in Psychosocial Needs

This literature review showed that most studies have explored the psychosocial needs of young breast cancer women qualitatively (Hubbeling et al., 2018; Rana et al., 2017; Ruddy et al., 2013; Thewes et al., 2004; Villarreal-Garza et al., 2019). Qualitative studies gave, on the one hand, a clear understanding of the needs and issues facing young women as they perceive them throughout the disease trajectory. However, generalizing the results of these studies to the entire population has been limited by the small sample sizes. In contrast, studies conducted quantitatively on young women have been limited and focused on one area of psychosocial needs. For example, Miyashita et al. (2015) are the only quantitative study conducted on young breast cancer survivors in Japan to identify unmet information needs and examine the relationships between unmet information needs and QOL. In the other

quantitative studies that combined young and old women, the percentages of young women were lower than older women. For example, one study included 45 women younger than 50 versus 72 older women (Edib et al., 2016). Another study from Iran included 136 women, of whom 36 (26.5%) were equal to or younger than 40, compared to 100 (73.5%) older women than 41 (Abdollahzadeh et al., 2014). Chou et al. (2020) also included 308 (27.3%) of equal or younger 45-year-olds versus 821 (72%) older than 45 years. This unequal representation of young and older women may not reflect the specific needs of this young age group.

In regards to participants' recruitment, in most quantitative studies, patients were not recruited via random sampling but via convenience (Edib et al., 2016), or consecutive sampling (Iskandarsyah et al., 2013; Miyashita et al., 2015), which limits the possibility of generalizing the results to the entire population (Etikan et al., 2016)). Further, the participants were selected from only one hospital or center in most of the studies, which could also affect the generalization of the results (Abi Nader et al., 2016; Edib et al., 2016; Fitri et al., 2017; Iskandarsyah et al., 2013). Another limitation noticed through the reviewed studies was that most studies interviewed the patients after a long time since their diagnosis with breast cancer, which could cause a kind of recall bias as after 3 or 4 years of the diagnosis, women may not recall well what they received from their health care professionals at their initial diagnosis. The cross-sectional nature of the studies gave an idea of the needs of women at a one-time point but did not give a chance to follow those women and explore how their needs change throughout the disease trajectory.

Regarding the instruments used to identify the psychosocial needs of young women. Three studies by Abdollahzadeh et al. (2014); Edib et al. (2016); and Perez-Fortis et al. (2017) have employed the Supportive Care Needs Survey (SCNS-SF34) to assess the

supportive care needs of the participants. One study by Fitri et al. (2017) used the Psychosocial Needs Inventory (PNI) to identify the psychosocial needs of breast cancer patients in Indonesia. Both of these instruments can assess the psychosocial needs of breast cancer women. However, the Psychosocial Needs Inventory (PNI) can measure both, the level of significance and the level of satisfaction with acquiring support to meet the psychosocial needs. It is a reliable and valid instrument developed by Thomas et al (2001) on four types of cancer patients including breast, colorectal, lymphoma, and lung. This instrument was widely used in the literature to assess the psychosocial needs of cancer patients. For example, Yi et al (2014) used it to measure the psychosocial needs of low-income people with cancer in Korea. Similarly, Fitri et al (2017) also used this instrument to assess the psychosocial needs of Indonesian women diagnosed with breast cancer. It was also used to measure the psychosocial needs of cancer patients related to religious beliefs (McIlmurray et al., 2003).

Finally, the majority of reviewed studies were from politically stable countries, with a few studies from Arabic countries: Abi Nader et al. (2006) from Lebanon, Al-Azri et al. (2014) from Oman, and Nizamli et al. (2011) from Syria before the war. It should be noted that Syria has greatly changed since this war started in 2011. Given these limitations, this study aimed to gain a deep understanding of the psychosocial needs of young breast cancer women in Syria using an explanatory sequential mixed-methods design. The Psychosocial Needs Inventory (PNI) was used to identify the psychosocial needs in this study because it was the best instrument for that as discussed earlier.

2.13.3 Quality of Life

The quantitatively reviewed studies on the quality of life of young women with breast cancer have used different instruments to assess the quality of life of those patients. For

example, Avis et al. (2005) used the Functional Assessment of Cancer Therapy— Breast Cancer (FACT-B). Whereas, Bloom et al. (2011) used many measures to collect data on quality of life, including health-related QOL from the Medical Outcomes Study Short-form (MOS SF-36). Deshpande et al. (2022) have used the Quality of Life Instrument—Breast Cancer Patient Version developed by Ferrel et al. (1996). All these instruments can assess the quality of life of breast cancer women. However, the Quality of Life Instrument—Breast Cancer Patient Version is more appropriate to measure the quality of life of breast cancer women because it can assess the QOL of short- and long-term breast cancer women. The Quality of Life Instrument—Breast Cancer Patient Version is a reliable and valid instrument that represents four domains of quality of life. These domains include physical, psychological, social, and spiritual well-being (Ferrell et al., 1995). This instrument was widely used in the literature to assess the quality of life of women with breast cancer. For example, Wonghongkul et al. (2006) have used this instrument to measure the quality of life of Thai breast cancer survivors. Similarly, Al Zahrani et al. (2019) have also used this instrument to assess the quality of life of women with breast cancer in Saudi Arabia. The authors translated this instrument from English to Arabic and tested it for reliability and validity before using it in their study (Al Zahrani et al., 2019). Consistent with these studies and using Ferrell’s Quality of Life Model as the conceptual framework for this study, the Quality of Life Instrument—Breast Cancer Patient Version was chosen to be used in the current study.

2.13.4 Coping Strategies

The majority of reviewed studies on the coping strategies of young women with breast cancer were from politically stable countries. There were no studies from countries in ongoing crises to explore how young women cope with breast cancer in stressful

situations. The reviewed studies on coping strategies with breast cancer used different methodologies. For example, Hasan et al. (2023) and Iddrisu et al. (2019) explored the coping strategies of young women with breast cancer qualitatively; Danhauer et al. (2009) and Sajadian et al. (2017) assessed these strategies quantitatively; and Manuel et al. (2007) explored these strategies both quantitatively and qualitatively. All the quantitatively reviewed studies used a modified version of the WOC-CA, developed by Dunkel-Schetter et al. (1992) specifically for individuals coping with cancer. All of these studies checked the modified measure for its reliability and validity before using it in their studies. Given these limitations, there was a need to explore the coping strategies used by young Syrian women to cope with breast cancer using a modified version of the WOC-CA.

2.13.5 Cognitive Appraisal of Breast Cancer

The reviewed studies revealed that there is a lack of studies that assess the cognitive appraisal of breast cancer in young women. However, most of these studies were from politically stable countries, with no studies from countries in ongoing crises. The reviewed studies were different in assessing the appraisal of breast cancer. Gallagher et al. (2002) measured the appraisal by asking the women to rate their response to the question, “How much worry is breast cancer and all the concerns it brings to you in the last month?” using a 5-point gradation of seriousness: not at all (5), slight (4), mild (3), moderate (2), and extreme (1). Mazanec et al. (2011) and Bigatti et al. (2012) used the Cognitive Appraisal of Health Scale (CAHS). The Cognitive Appraisal of Health Scale was developed by Kessler in 1998 to assess the cognitive appraisal of health conditions. It is a reliable and valid scale that was tested on a sample of 201 women with breast cancer; therefore, it was considered the proper instrument to be used to assess the cognitive appraisal of breast cancer in the current study.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter describes in detail the research design and methods utilized in this research project to identify the factors influencing the quality of life and the psychosocial needs of young Syrian breast cancer women. It also gives a general explanation of the mixed-methods approach and the rationale for integrating the quantitative and qualitative methodologies in this study. The rationale for employing the sequential explanatory approach to meet the aims and objectives of this study was also explained. It also describes in detail the methods utilized in both phases of the study, including ethical considerations, the participants and sampling techniques, the standardized measures of the study, the development of participant interview guides, the data collection procedures, and finally the data analysis.

3.2 The Mixed-Methods Approach

Mixed-methods research refers to the type of research in which qualitative and quantitative research approaches are combined into the research methodology of a single study (Creswell & Clark, 2007). The fundamental principle of this type of research is that combining quantitative and qualitative approaches in one study can give a more comprehensive understanding of the phenomena under investigation than either approach alone (Creswell & Clark, 2007; Johnson et al., 2007).

The beginnings of mixed methods can be traced back to the late 1980s. Many definitions have been developed over the years for mixed methods that integrate different elements of methods, research processes, research purpose, and philosophy (Creswell &

Clark, 2018). An early definition of mixed methods originated in the field of evaluation, where mixed-method designs were defined as those that include at least one quantitative method and one qualitative method (Greene et al., 1989). Ten years later, the definition of mixed methods moved from mixing two methods to integrating all phases of a research process, i.e., a methodological orientation (Tashakkori & Teddlie, 1998). Later on, Creswell and Plano-Clark (2007) provided a more comprehensive definition that had both methods and methodological orientation. They emphasized the priority of the quantitative and qualitative data in a study (Creswell & Clark, 2011). However, later on, in 2018, they updated their points of view about the definition of mixed-methods research and concluded that mixed-methods research should integrate many diverse viewpoints; thus, they tend to stress the intent of a study rather than the priority, which is often vague and confusing (Creswell & Clark, 2018). Accordingly, they tend to rely on a definition of the core characteristics of mixed-methods research that adequately describes mixed-methods research. It is the definition they suggest in their teaching, workshops, and presentations on mixed-methods research. It combines methods, research design, and philosophical orientation. It also highlights the key components that go into designing and conducting a mixed-methods study (Creswell, 2014; Creswell & Clark, 2018). Core characteristics of mixed-methods research include the collection and analysis of both qualitative and quantitative data (based on research questions); the integration of the two forms of data; the organization of these procedures into specific research designs; and the framing of these procedures within philosophical worldviews and theoretical lenses (Creswell, 2014; Creswell & Clark, 2018).

There has been an increase in the use of mixed-method research approaches in social sciences such as sociology, nursing, health, and education because the combination could

give a more comprehensive understanding of the research phenomenon (Creswell & Clark, 2007). This type of research has particularly developed because neither a quantitative nor qualitative method is sufficient to address the phenomenon under investigation (Creswell, 2014; Ivankova et al., 2006). Creswell (2014) mentioned that all research methods have strengths and weaknesses. For example, the quantitative methodology has some strengths in offering reliable and credible results; however, the information produced by quantitative results may be too abstract and cannot provide a deep understanding of the research problem, and it could be difficult to use the quantitative methodology to get individuals' perceptions and motivations about a specific phenomenon. Similarly, the qualitative methodology can provide a clear understanding and description of the investigated phenomenon; however, the ability to generalize the results of this methodology to other settings is limited (Creswell, 2014; Creswell & Clark, 2011). Therefore, combining both the quantitative and qualitative approaches in a study will offset the weaknesses of each approach and provide a more meaningful understanding of the research problem (Creswell, 2014; Creswell & Clark, 2018).

Furthermore, the mixed-methods approach also helps to answer complex research questions that are difficult to answer by using quantitative or qualitative approaches alone (Bryman, 2006; Creswell & Clark, 2018). In addition, a mixed-methods approach encourages the use of multiple worldviews, or paradigms, rather than the typical paradigms associated with qualitative or quantitative research (Creswell & Clark, 2018). It is also practical and enables the researcher to use all methods possible to investigate a research problem. It is also beneficial for producing many publications from one study and helps researchers develop their skills (Creswell & Clark, 2018).

Despite the strengths and advantages of using the mixed-methods approach, the researchers may face many challenges that should be considered when planning to utilize this approach in their studies. According to Creswell and Plano Clark (2018), this approach needs more time and resources to collect and analyze both quantitative and qualitative data and requires that the researchers have a wide range of qualifications, knowledge, and skills not only in conducting mixed-methods research but also in carrying out both qualitative and quantitative research.

Table 3.1: Purposes of Mixed-Methods Research

Purposes	Rationales
Complementarity	To combine two distinct but related responses to a research question: one from the quantitative methodology and another from the qualitative.
Completeness	To achieve a better understanding of the research phenomenon by integrating quantitative and qualitative findings.
Development	To employ the findings from one method to build up another method
Expansion	To expand the breadth and range of the findings derived from the first phase.
Corroboration / Confirmation	To validate the quality of conclusions obtained from one type of study by checking them against mixed designs.
Compensation	To employ the strengths of one method to offset the weaknesses of the other method.
Diversity	To compare different depictions of the same research problem.

Sources: Greene et al. (1989); Bryman (2006); Tashakkori and Newman (2010)

Despite the advantages and challenges of utilizing the mixed methods approach, mixed methods studies are not conducted arbitrarily and unnecessarily; not all situations fit the use of mixed methods. Table 3.1 shows that there are seven purposes for employing mixed methods in research, as shown in Table 3.1: completeness, complementarity, development, corroboration or confirmation, expansion, diversity, and compensation (Bryman, 2006; Greene et al., 1989; Tashakkori & Newman, 2010).

There are a number of mixed-methods designs, and there are several approaches that can be used by the researchers to design their mixed-methods studies (Creswell & Clark, 2011, 2018). According to Creswell and Plano Clark (2018), the “typology-based approach”, is the most dominant approach to classifying mixed-methods designs in the literature. This approach classifies mixed-methods designs based on four dimensions: 1) level of interaction: the extent to which both data sets remain autonomous or interact with each other; 2) timing: the implementation of the data collection procedure (simultaneous or sequential); 3) priority: the priority of qualitative and quantitative data in answering the research question; and 4) the mixing point where the quantitative and qualitative are combined (Creswell & Clark, 2011, 2018). Table 3.2 shows the major types of mixed-methods designs.

Table 3.2: Types of Mixed-methods Research

Research Design	Level of Interaction	Implementation	Priority	Point of Interaction
Convergent	Independent	Concurrent	Equal	Analysis phase or interpretation phase
Exploratory sequential	Interactive	Sequential (qualitative first)	Qualitative dominant	Data collection phase or interpretation phase
Explanatory sequential	Interactive	Sequential (quantitative first)	Quantitative dominant	Data collection phase or interpretation phase
Embedded	Interactive	Sequential or concurrent	Either qualitative or quantitative	Design level
Transformative	Interactive	Sequential or concurrent	Equal, qualitative or quantitative	Design level
Multiphase	Interactive	Multiphase combination	Equal	Design level

Sources: Cresswell and Plano Clark (2011) & Halcomb and Hickman (2015)

3.3 The Rationale for Using Mixed-Methods Design in This Study

The mixed-methods approach was employed in this study for many reasons. The main reason was to offset the weaknesses of both quantitative and qualitative methods. As shown from the literature, quality of life is a multidimensional construct and highly subjective; therefore, neither a qualitative nor quantitative method was adequate to address the phenomenon of the quality of life of young women with breast cancer. For example, the quantitative studies that were conducted on the quality of life of young women with breast cancer were suitable in determining the quality of life of young women and showed that young women have a poor physical, psychological, and social quality of life; however, they did not provide an explanation of the reasons contributing to the poor quality of life among these women (Avis et al., 2005; Avis et al., 2012). In contrast, the qualitative studies on young breast cancer women were suitable in addressing the factors that affect the quality of life of young breast cancer women from their perspectives but they were not appropriate in providing measurable outcomes about the physical, psychological, and social aspects of the quality of life of those women. In addition, the results cannot be generalized to other populations, such as Syrian women, who are living in a war-torn country (Coyne & Borbasi, 2009; Fitch et al., 2008). Therefore, employing a mixed-methods approach by combining both quantitative and qualitative methods in this study helped in gaining a deeper understanding of the quality of life and the factors affecting the quality of life of young breast cancer women in war-torn Syria (Creswell & Clark, 2018; Fiorini et al., 2016). For example, Thomas et al. (2001) showed the benefits of following up their survey with semi-structured in-depth interviews with a sub-sample of questionnaire respondents to get an explanatory light on the nature of the psychosocial needs of cancer patients.

The second reason for employing the mixed methods approach in this study was to achieve the complementarity of the data. As mentioned in Chapter I, this study aimed to determine the factors affecting the quality of life of young women with breast cancer in war-torn Syria. The findings of neither the quantitative nor the qualitative interview phase might not be sufficient to achieve this aim. For example, the quantitative phase findings provided only numerical data that reflected low levels of physical, psychological, and social well-being among young women and a high level of dissatisfaction with the information and services provided to those patients. Moreover, these findings were very abstract and did not provide textual or verbal information, thus failing to reflect the perspectives, experiences, and voices of young women that explain the factors contributing to their poor quality of life in the difficult circumstances they live in. Accordingly, using the mixed methods approach offered a clear understanding of young women's perspectives regarding the factors that affect their quality of life through the integration of the findings of the qualitative interview phase with those of the quantitative phase and vice versa.

Furthermore, the mixed methods approach was also employed in this study for development. As previously mentioned, in the mixed methods approach, development means employing the findings from one method to build up another method. In this study, the quantitative phase was the first phase, so the results from this phase were used to develop the qualitative interview phase (Halcomb & Hickman, 2015; Tashakkori & Newman, 2010). Firstly, these results helped in setting up the questions that should be asked to the participants in the qualitative interview phase to ensure getting enough rich data to explain the quantitative results that need more clarification, such as the poor quality of life of young Syrian breast cancer women and their significant unmet needs. In addition, the quantitative phase also helped in selecting a representative sample of young breast cancer

women for the qualitative interview phase from those who had already participated in the first phase. As this study was designed as an explanatory sequential mixed methods study, the participants of the qualitative interview phase in this type of research should be purposefully selected from the sample of the first quantitative phase. Those participants are the best individuals who can provide rich information to adequately explain the quantitative results (Creswell & Clark, 2011, 2018). The participants in the qualitative phase of this study, therefore, were selected according to the quantitative statistical results on the level of quality of life. In more specific words, the participants who reported low levels of quality of life scores and were willing to participate in the qualitative interview phase were selected for the qualitative interview phase. Therefore, selecting the participants of the qualitative interview phase in this way ensured that the selected participants could provide the rich qualitative data that could best help in explaining and elaborating on the factors that affect their quality of life reported in the first quantitative phase.

3.4 Philosophical Worldviews

According to Creswell and Plano Clark (2011), every research project needs a philosophical foundation, and researchers should acknowledge the philosophical assumptions they adopt to guide their studies. Philosophical assumptions in mixed-methods studies are a set of beliefs and values that researchers bring to their studies. Creswell and Plano Clark (2011) used the term worldview to describe these assumptions, and they concluded that post-positivism, constructivism, transformative, and pragmatism are the most useful worldviews for informing mixed methods research. These worldviews differ in terms of ontology (the nature of reality), epistemology (how we gain knowledge of what we know), axiology (the role values play in research), methodology (the process of implementing research), and rhetoric (the language of research) (Creswell & Clark, 2018). Pragmatism has

been embraced by a large number of mixed methods researchers as a philosophical worldview for their research (Teddlie & Tashakkori, 2009). Pragmatism focuses on the significance of the research question over the methods employed, and multiple data collection methods to inform the research problems. It draws on many ideas, including employing “what works”, using diverse approaches, and placing value on both objective and subjective knowledge (Creswell & Clark, 2018). In pragmatism, the nature of reality can be singular or multiple realities because the researchers test hypotheses and provide multiple perspectives; the epistemology is practicality because data are collected based on “what works” to address the research questions. The multiple stances in pragmatism allow researchers to include both biased and unbiased perspectives, and methodologically, the approach combines deductive and inductive thinking because the researchers collect and mix quantitative and qualitative data (Creswell & Creswell, 2017).

3.5 Research Design: An Explanatory Sequential Mixed-Method Study

The decision to choose the mixed methods explanatory sequential design to conduct this study was guided by the answers on the level of interaction between the strands, timing, priority or weighting, and theoretical perspectives (Creswell, 2009). The explanatory sequential approach is a mixed-methods approach in which the researchers start by carrying out a quantitative phase and follow up on specific results with a subsequent qualitative phase. The purpose of implementing the qualitative phase is to explain certain results from the first phase in more depth. Therefore, it was named explanatory to reflect how the qualitative data help explain and investigate certain initial quantitative findings (Creswell & Clark, 2018). In the sequential explanatory design, the data are collected sequentially in two separate phases. In this study, the explanatory sequential design was achieved in two sequential phases: A cross-sectional survey followed by a qualitative interview phase, as shown in

Figure 3.1. The figure shows the process of applying the sequential explanatory mixed methods design in this study. As Figure 3.1 shows, the study started with a cross-sectional survey to determine the psychosocial needs, cognitive appraisal, coping strategies, and quality of life of young Syrian breast cancer women. Accordingly, four measures (PNI, CAHS, WCO-CA, and Quality of Life- Breast Cancer Questionnaire) were used in this phase to collect quantitative data related to these topics. After analyzing the quantitative data, the second qualitative interview phase was conducted by employing semi-structured interviews with purposefully selected young breast cancer women. This phase was conducted to provide a clear explanation and understanding of the factors that affect the quality of life and the psychosocial needs of young women with breast cancer in war-torn Syria.

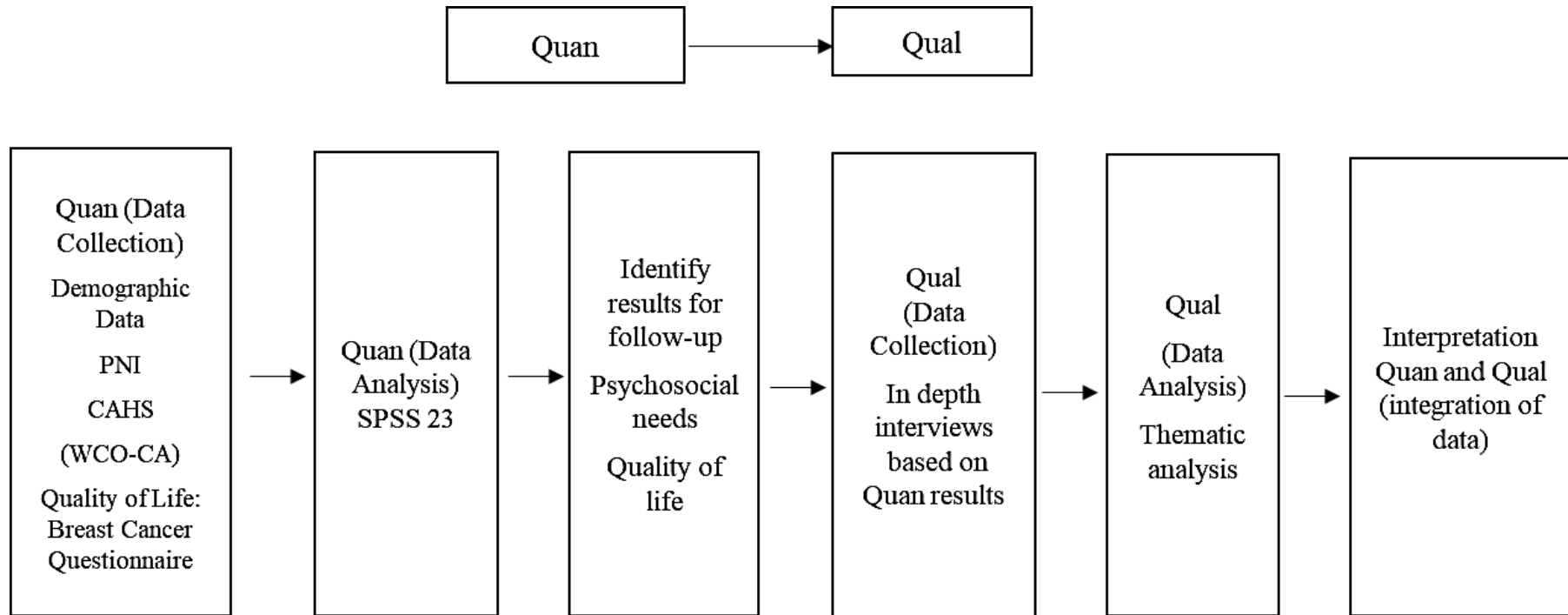


Figure 3. 1: The Process of the Study Using an Explanatory Sequential Mixed-Methods Design

Notes: Quan (quantitative), Qual (qualitative), PNI (Psychosocial Needs Inventory), WCO-CA (Ways of Coping Strategies- Cancer Version), CAHS (Cognitive Appraisal of Health Scale), Quality of Life- Breast Cancer Questionnaire.

3.6 Ethical Considerations

3.6.1 Ethical Approvals

Before commencing the study, ethical approval was obtained from the institutional medical ethics committee of the Universiti Malaysia Sarawak (No. FME/22/42). The approval was also obtained from the Department of Oncology of Tishreen University Hospital. Written informed consent was also obtained from all the participants in both phases to ensure that each participant had read and understood the information sheet. Although those in the qualitative interview phase were already a part of the quantitative phase, they were re-asked for second written informed consent to ensure that the participant read and understood all the information.

3.6.2 Confidentiality and Anonymity

The participants were informed that their participation in this study was completely voluntary, they had the right to withdraw at any time before data analysis, and all their information would be treated in a non-identifiable and confidential manner. They were also informed that their treatment and care would not be affected, whether they agreed to participate in the study or not. The participants were given a chance to ask any questions about the study. In the qualitative phase, the identifying information, like names, locations, and phone numbers, was deleted from the transcripts. The participants were given pseudonyms instead of their real names to ensure confidentiality. In the quantitative phase, the privacy and anonymity of the participants were kept by removing all participants' identifiers from the questionnaires and coding the data for each participant (via the use of a unique study ID number).

3.6.3 Risks and Benefits Involved in The Study

The risk to participants was considered to be at the lowest level. The participants were informed that the interview would be stopped directly if they experienced emotional discomfort while they were talking about the diagnosis and experience of breast cancer.

3.6.4 Data Storage

All interview recordings were transferred from the digital recorder into a secure file on a computer accessible only by password. All data, including the completed transcripts and questionnaires, was kept securely in a locked cabinet. Raw data and all computer files will be protected in a secure file accessible by password only by the researcher and her supervisor. The hard copies of the transcripts and questionnaire will be kept for five years after the completion of the thesis. At the end of the period, all raw data will be disposed of as confidential waste.

3.7 Study Design: The Cross-Sectional Study (Phase 1)

The cross-sectional survey was the first phase of this explanatory sequential mixed-methods study and was conducted to determine: The unmet psychosocial needs of young Syrian breast cancer women; the young Syrian women's appraisal of their breast cancer; the strategies used by young Syrian women to cope with breast cancer; and the quality of life of young Syrian breast cancer women. It also aimed to determine the relationship between unmet needs and the quality of life of young Syrian breast cancer women and predictors of the quality of life of young Syrian breast cancer women.

3.7.1 Data Collection Instruments

A structured questionnaire was used to collect data from the participants, including the following parts: demographic and medical data questions, the Psychosocial Needs Inventory

(PNI), The Cognitive Appraisal of Health Scale (CAHS), Modified Ways of Coping Strategies, the Cancer Version (WCO-CA), and the Quality of Life: Breast Cancer Version Questionnaire. The demographic and medical data questions were developed to get the personal characteristics of the subjects in this phase. The demographic data included questions about the age, marital status, age at diagnosis, number of children, age of the last child, education status, religion, monthly income, employment, health insurance status, family history of breast cancer, place of residence, time to arrive at the hospital, time since diagnosis (months), type of surgery, chemotherapy, radiotherapy, and hormonal therapy.

3.7.1.1 The Psychosocial Needs Inventory (PNI)

This instrument was used to measure both the importance of psychosocial needs and the satisfaction of psychosocial needs among young Syrian breast cancer women within the last six weeks. It was developed by Thomas et al. (2001) for four types of cancer: Breast, lung, colorectal, and lymphoma. The PNI consists of 48 items under seven need categories: 1) needs relating to interaction with health professionals (9 items), 2) information needs (5 items), 3) needs related to support networks (5 items), 4) identity needs (5 items), 5) emotional and spiritual needs (15 items), 6) practical needs (8 items), and 7) childcare needs (1 item). Each item was used to measure both the importance of this need on a 5-point Likert scale ranging from 1 (not at all important) to 5 (very important), and the satisfaction about this need on a 5-point Likert scale ranging from 1 (unsatisfied) to 5 (very satisfied). The psychosocial need was considered significant if the item was marked by over 50% of the subjects as "important" or "very important". A significant unmet psychosocial need was identified as the need that was identified as "important" or "very important" by the subjects, and the level of satisfaction was reported as "unsatisfied" or "very unsatisfied". The PNI is a relevant, discriminative, and sensitive instrument to assess and measure the

psychological needs of cancer patients (Fitri et al., 2017; Thomas et al., 2001; Yi et al., 2014). An internal reliability assessment of the seven categories was satisfied with a Cronbach's alpha of 0.86, 0.71, 0.80, 0.93, 0.92, 0.68, and 0.76 for interaction with health professionals, information needs, support networks, identity needs, emotional and spiritual needs, practical needs, and childcare needs, respectively.

3.7.1.2 The Cognitive Appraisal of Health Scale (CAHS)

This scale was used to measure the cognitive appraisal of breast cancer among young Syrian breast cancer women. It was developed by Kessler (1998) to measure multiple dimensions of primary and secondary appraisals associated with health-related events. It has 28 items: 23 to measure the primary appraisal (threat, challenge, harm or loss, and benign or irrelevant) and 5 to measure aspects of the secondary appraisal. Threat scale: 5 items (4, 6, 7, 17, 18), score range 5–25; challenge scale: 6 items (1, 2, 11, 14, 24, 26), score range 6–30; harm/loss scale: 8 items (3, 8, 9, 10, 13, 19, 21, 25), score range 8–40; and benign/irrelevant scale: 4 items (5, 15, 23, 28), score range 4–20. All items are scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores on each scale or item indicate greater agreement with that appraisal. The items were not developed to create a single instrument score; the items were created theoretically to create separate appraisal scores. It is a reliable and valid scale to measure the cognitive appraisal of breast cancer (Bigatti et al., 2012; Kessler, 1998; Mazanec et al., 2011). An internal reliability assessment of the four scales was acceptable with a Cronbach's alpha of 0.72, 0.59, 0.83, and 0.60 for the threat, challenge, harm/loss, and benign scales, respectively. The secondary appraisal items (12, 16, 20, 22, and 27) stand independent of each other, and scores range from 1 to 5 for each item (Kessler, 1998).

3.7.1.3 A Modified Ways of Coping - Cancer Version (WOC-CA)

This instrument was used to determine the coping strategies used by young Syrian breast cancer women to cope with breast cancer. It is a modified version by Manuel et al. (2007) of the original Ways of Coping-Cancer Version (Dunkel-Schetter et al., 1992). The modified WCO-CA consists of 21 items representing 7 factors: seeking and using social support (6 items), keeping feelings to oneself (2 items), positive cognitive restructuring (3 items), spirituality (2 items), wishful thinking (2 items), detachment (4 items), and making changes (2 items). Items were rated on a 5-point Likert scale where 1 = not at all, 2 = rarely, 3 = sometimes, 4 = often, and 5 = very often. It is a reliable and valid instrument to assess the coping strategies of young breast cancer women (Danhauer et al., 2009; Manuel et al., 2007; Sajadian et al., 2017). The internal reliability assessment was acceptable for six factors with Cronbach's alpha of 0.66, 0.44, 0.74, 0.76, 0.94, 0.86, and 0.76 for seeking and using social support, keeping feelings to oneself, positive cognitive restructuring, spirituality, wishful thinking, detachment, and making changes, respectively.

3.7.1.4 Quality of Life Instrument - Breast Cancer Patient Version

This instrument was used to measure the quality of life of young Syrian breast cancer women. It is a revised version of the previous versions of the QOL instrument (Ferrell et al., 1995). It is a 46-item ordinal scale that measures the Quality of Life of breast cancer patients, representing the four domains of quality of life, including physical well-being (8 items), psychological well-being (22 items), social well-being (9 items), and spiritual well-being (7 items). Each item included a numeric scale from 0 to 10, with 0 being the worst and 10 being the best. Several items have reverse anchors, and therefore these items needed to be reversed when coding them. For example, if a subject circles "3" on such an item ($10-3 = 7$), you would record a score of 7. The items that should be reversed are 1–7, 9, 10, 17–29, 31, 33–39, and 43. Possible scores ranged from 0 to 460. To obtain the same numeric "0-10" scale, the subscales were created for analysis by adding all

items within a subscale and making a mean score. The total quality of life was the sum of the 46 items divided by 46. This strategy was used with the computation of the 4 dimensions of quality of life, which aimed to keep the score from 0 to 10. A higher score or least concern determined a higher quality of life. The total quality of life was considered high if the score was higher than 7, moderate if the score was 6–7, low if the score was less than 6, and very low if the score was less than 5 (Wonghongkul et al., 2006). The Quality of Life Instrument—Breast Cancer Patient Version is a reliable and valid instrument to assess the quality of life of breast cancer women (Al Zahrani et al., 2019; Deshpande et al., 2022; Wonghongkul et al., 2006). The internal reliability assessment was acceptable for the four dimensions with Cronbach's alphas of 0.71, 0.91, 0.66, and 0.62 for physical well-being, psychological well-being, social well-being, and spiritual well-being, respectively.

3.7.2 Translation of the Instruments

All the instruments were originally developed in the English language, and they were difficult to use by the study participants because they were non-English speakers. Therefore, there was a need to translate these instruments into Arabic and test their possibility of use in Arabic. Initially, permission was obtained from the original authors to translate and use these instruments. Then these instruments were translated into the Arabic language following the translation processes outlined by Beaton et al. (2000). Initially, the forward translation was conducted by two bilingual experts and then the synthesis of the two reports was achieved and came up in one version. Following this, the measures were back-translated into English by another bilingual expert, with limited information about the English version. The translated instruments were tested by a committee consisting of an oncologist, a psychologist, and two lecturers from the faculty of Nursing at Tishreen University who had already worked on breast cancer patients (Beaton et al.,

2000). Very minor modifications were suggested by the committee on the level of words, not the meaning, and the questionnaire package was modified accordingly and was ready for pilot testing.

3.7.3 Study Population

The target population of this study was young women with breast cancer in Syria. Young women were defined as those women who were 50 years old or younger and/or premenopausal at the time of diagnosis, taking the age of 50 years as a cut-off to define premenopausal.

3.7.3.1 Inclusion and Exclusion Criteria

The subjects were included in the study if they were between 18 and 50 years of age, and had histologically proven breast cancer for the first time. Underwent mastectomy or any other related surgical procedures followed by chemotherapy or radiotherapy and were proficient in the Arabic language. Women with evidence of recurrence of the disease were excluded from the study because this would affect the heterogeneity of the sample.

3.7.3.2 Sample Size Estimation

The sample size was determined by a G-power analysis with an effect size of 0.15, an alpha error probability of 0.05, and a power (1-beta error probability) of 0.80. This is the most commonly recommended setting for social and business science research, according to a review by Memon et al. (2020). The sample size was determined to be 131 subjects; however, the researcher added 20% to the sample size to consider any missing data; thereby, the final sample size was 167 young Syrian breast cancer women.

3.7.3.3 Sampling Methods

The sample was selected conveniently from young breast cancer women who were in outpatient clinics coming to receive chemotherapy, hormonal therapy, or for follow-up; the surgical ward; and the radiotherapy department at Tishren University Hospital in Lattakia City.

This center is the only specialist oncology center in the west and north of Syria. It receives patients from many cities around Latakia and provides surgical, chemotherapy, radiotherapy, and hormonal services. The sample was selected conveniently because there was no access to the sample frame as the data was not computerised at the hospital.

3.7.4 Pilot Testing

Before commencing the main survey, a pilot study was conducted on 20 young Syrian breast cancer women using the Arabic-validated versions of these instruments. This pilot study included only 20 women because all the instruments were tested for validity and reliability in previous studies. The pilot study was conducted for many purposes: 1) to check whether the questionnaire was clear and readable by the participants; 2) to test the internal consistency and comprehension of these instruments; and 3) to estimate the required time to fill out the questionnaire and whether it needs any modification. Participants for the pilot study were selected from those who met the inclusion criteria at the Tishreen University Hospital. The researcher explained the purposes of this pilot study to every woman. The participants were informed that their answers would be handled with full confidentiality. Those who were willing to participate in the study were asked to sign the consent form first, and then they were given the questionnaire package to fill out and return to the researcher. The internal consistency for these instruments was tested by Cronbach's alpha coefficient and was acceptable as mentioned in the description of these instruments. The questionnaire package was also readable and understandable by the participants and took roughly 30 minutes to fill in. The participants and the data of the pilot study were not included in the main study to avoid any possible contamination of the main study findings (Leon et al., 2011).

3.7.5 Data Collection Procedures

Initially, an official letter from the main supervisor of the Ph.D candidate, enclosed with the ethical approval letter from the institutional medical ethics committee of the Universiti Malaysia Sarawak, was attached to the International Relations Department at Tishreen University to render the needed assistance to complete the data collection. Consequently, an official letter was sent from the Presidency of Tishreen University to the Deanship of the Faculty of Medicine at Tishreen University, who in turn informed the head of the Oncology Department at the Tishreen University Hospital to take the required procedures to facilitate the process of data collection by the researcher. Accordingly, the researcher had a meeting with the head of the oncology department, explained the purposes and methodology of the study, and enclosed a copy of the supporting documents, which included the questionnaire set that will be used to collect the data and an ethical approval letter from the institutional medical ethics committee of the University Malaysia Sarawak. In turn, the head of the oncology department had a meeting with the oncologists in the department, explained to them the purposes of the study, and presented the enclosed supporting documents. After reviewing the supporting documents, the researcher was contacted and informed that she had approval to start the data collection process.

After getting approval to start the data collection from the oncology department, the researcher had a meeting with the staff of each department involved in the data collection. The researcher introduced herself to the staff, explained the purposes of the study, and asked them to facilitate the data collection. Their role was limited to helping the researcher in getting access to the participants and the medical records. However, they were not involved in collecting the data in any way.

Data were collected within 3 months, from May to July 2022. The participants were selected from the convenience sample at the identified departments from those who met the inclusion criteria. After recruiting the women, they were informed about the purposes and phases of the study and the questionnaire package. The participants were also informed that their answers would be handled with confidentiality and that they could withdraw from the study and this would never affect their treatment. Those who were willing to participate in the study were asked to read the information sheet to ensure that all the information was understandable for them before signing the consent form. The questionnaire package was then distributed to the participants, and the researcher explained the process of completing the questionnaires and gave them the required time to fill them out and return them to the researcher. To minimize the chance of missing data in the questionnaires, the returned questionnaires were checked for completeness by the researcher, and if there was any missing data, the participants were asked again to complete the missing data. The participants in this phase were asked if they were interested in participating in the second phase (the qualitative interview phase), and those who were willing were asked to give their contact details to the researcher so she could contact them later.

3.7.6 Data Analysis

Data were analyzed using the software of the Statistical Package of the Social Scientists (SPSS) version 23.0. Descriptive statistics were used to analyze the sample's demographic and medical characteristics, the frequencies, mean scores, and standard deviations of the PNI, CAHS, WOC-CA, and QOL-BC. Spearman's rank correlation coefficient was used to determine the relationship between unmet needs and the quality of life. The predictors of quality of life were determined using a hierarchical multiple regression analysis. The assumptions of the hierarchical multiple regression were tested before conducting the analysis, and they were all met as follows:

1. The dependent variable (the quality of life) was on a continuous scale and normally distributed, as evidenced by the Shapiro-Wilk test of $p > 0.05$ of 0.633.
2. There are more than two independent variables measured by categorical means.
3. There was linearity, as checked by a scatterplot.
4. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values.
5. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1.

3.8 Phase 2: The Qualitative Study

The qualitative study was the second phase of this explanatory sequential mixed-methods study. It was employed to help explain the quantitative findings obtained in the first phase (the survey) in more depth (Creswell & Clark, 2018). As this study was conducted in a war-torn country, which is considered unique for this kind of study, the analysis of the quantitative data revealed that young Syrian breast cancer women have high levels of significant unmet needs across a wide range of psychosocial areas and a low quality of life. Therefore, the qualitative phase was built on these findings using a descriptive qualitative design to identify the factors affecting the psychosocial needs and quality of life of young Syrian breast cancer women. Accordingly, the research questions that guided this phase were:

- What are the perspectives of young Syrian breast cancer women on the factors affecting their psychosocial needs?
- What are the perspectives of young Syrian breast cancer women on the factors affecting their quality of life?

3.8.1 Sampling Procedure

Once the data analysis of the quantitative data was completed, the sample for the qualitative interview phase was selected. The participants in this phase were young breast cancer women who had already participated in the quantitative phase and were willing to participate in the qualitative interview phase. Since the aim of the qualitative interview phase in the explanatory sequential design is to explain the initial quantitative results, Creswell and Plano Clark (2018) recommended including the same subjects in both phases of the study. However, this does not mean using the same sample size for the qualitative phase because the aim of the explanatory sequential approach is not to compare the data from the two phases as in the convergent procedures. They recommend including a much smaller sample in the qualitative phase than in the initial quantitative phase, taking into consideration the need to collect enough qualitative information to develop meaningful themes that will explain selected quantitative results. Therefore, the qualitative sample for the second phase of this study was purposively selected from those young women with breast cancer who had already completed the quantitative survey because they were the best ones to give more details and explanations of the psychosocial needs and quality of life of young women with breast cancer in Syria (Creswell & Clark, 2011, 2018). The purposive sample for this phase was selected as follows:

- Initially, the list of participants who were willing from the first quantitative phase to participate in this phase was reviewed, and their questionnaires were identified accordingly, 24 participants were identified for this phase.
- The questionnaires were categorized according to the marital status of the subjects, the age of the children, their level of education and work, and their residence. It is noteworthy to mention that the subjects were different in their age and the time since diagnosis.

- The level of quality of life and psychosocial needs were calculated for these identified participants and were systematically organized from the lowest level to the highest level.
- The researcher contacted the participants to arrange the time and place of the interviews, starting with those who reported the lowest levels of quality of life, and if the participant was not able to be contacted due to a changed number or indicated an unwillingness to proceed to this phase, The second participant was contacted, and so on. They were contacted by the researcher to arrange a time and place. The recruitment process was iteratively continued until data saturation was achieved and no new findings and insights could be generated from the data. The interviews were discontinued after interviewing 11 participants.

3.8.2 Data Collection Procedure (Semi-Structured Interviews)

The data for this phase was collected using semi-structured interviews with the selected participants. Semi-structured interviews were employed to collect the data in this phase because they are simple, efficient, and practical means of collecting qualitative data (Creswell & Clark, 2007). In qualitative research, the semi-structured interview is more effective than other types of interviews because it enables the researchers to get in-depth information and supporting evidence from their interviewees while considering the focus of the study. In addition, it also gives the researchers a sense of flexibility and adaptability to hold their track as compared to an unstructured interview, where its direction is not fully considered (Ruslin et al., 2022). This kind of data collection is recommended in mixed-methods research because it can serve as an assistant and add depth to other approaches (Adams, 2015).

In this phase of this study, semi-structured interviews were used to explore the experiences and perspectives of young Syrian breast cancer women about the factors influencing their psychosocial needs and quality of life. Thereby, providing a clear explanation of the obtained

quantitative results. The interviews were conducted using an interview guide that was developed by the Ph.D candidate and her supervisory committee based on the quantitative findings that needed more explanation and understanding. More specifically, the results from the quantitative phase revealed low levels of quality of life and a high level of unmet significant needs; therefore, there was a need to ask both open-ended and closed-ended questions that could explain these results more in the interview guide, such as: What does the important need mean to you? What were the needs that you feel are important to you but are unmet? How do these unmet needs affect your life? How do you see your life after you have been diagnosed with breast cancer? What are the things that can make your life worse than this? What are the things that can make your life better? How do you see Syrian society's view of women with breast cancer? How did the Syrian crisis affect your life and your experience with breast cancer? In addition, some probing questions were developed during the interview, such as: What do you think prevents the doctor from giving an adequate explanation to his patients about their condition? How do you wish society's view to be towards breast cancer patients? Do you think the hospital environment is suitable for a patient to receive treatment?

As this interview guide was originally developed in the English language, there was a need to translate it into the Arabic language before using it to conduct the interviews. Accordingly, this guide was translated into Arabic by a professional expert. There was also a need to test the interview guide before commencing the actual interviews, therefore, a pilot study was conducted with one young breast cancer woman to check the possibility of this guide in achieving the aims of this phase and to estimate the time required to answer these questions. This interview was recorded and transcribed verbatim and translated into the English language to be understandable by the supervisory committee as it was originally conducted in the Arabic language. Following

that, this interview was discussed with the supervisory committee, and minor suggestions were given to the researcher to increase the interview time to 45–60 minutes. Following that, the interviews started as follows:

The selected participants were contacted by the researcher to arrange a possible time to do the interviews. The researcher visited the participants at home based on the proposed data and time. Initially, the researcher reminded the participant of the study, its objectives, and its phases. The researcher explained the interview phase and the questions involved in this phase, and the participants were given the information sheet to ensure that they read and understood all the information. Permission to record the interview was obtained from the participants, and they were asked to sign the form before conducting the interview. The interviews were conducted in a private room at the participants' homes to allow the participants to answer the questions without any influences from family members, and the interviews lasted between 45 and 60 minutes. At the end of the interview, the researcher thanked the participants for accepting to be a part of this phase as well, and they were informed to contact the researcher if they had any inquiries.

3.8.3 Data Analysis

Thematic analysis was employed to analyse the qualitative data in this study using the six-stage analytical framework outlined by Braun and Clarke (Braun & Clarke, 2006). Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data. Thematic analysis was chosen for this research because of its flexibility, suitability for a pragmatic framework, ease of use, and acceptability academically, specifically in nursing research. In the study, the following procedural steps were followed to prepare the data for analysis.

After each interview, the researcher listened twice to the audiotaped recordings before starting the transcription; this allowed the researcher to become more familiar with the data. Then

the audiotapes were transcribed verbatim into the Arabic language in the form of word files. To ensure the accuracy of the transcribed data, the researcher listened to the audiotaped recordings while she was reading the transcribed data. After that, all the Arabic transcripts were translated into English by the researcher. Following that, all transcripts were back-translated into the Arabic language by a professional language expert to ensure the validity of the translation process. Finally, all transcripts were imported into "NVivo 10" to be coded and analysed. and stored in the software, and the entire qualitative data analysis was done there using the six-stage analytical framework outlined by Braun and Clarke (Braun & Clarke, 2006).

i. Phase 1: Data Familiarization

Data familiarization started with the first contact with the respondents. The researcher did the entire interviewing process, verbatim transcription, and translation. Before starting the verbatim transcription, the researcher listened twice to the recordings to get familiar with the data, and then the verbatim transcription was done. After the verbatim transcription, the researcher listened to the recordings at least once while reading the transcript together. This allowed the researcher to review the interview and make sure that every word and mannerism of the respondents in the interviews was transcribed. In addition to that, it also allowed the researcher to gain an overall picture of the interview session. Therefore, throughout the entire process, the researcher was immersed in and became familiar with the data. The initial patterns, ideas, and meaning of the data were noted during the familiarization process.

ii. Phase 2: Generating Initial Codes

Following the data familiarization phase, the initial coding of the data was done by the researcher using NVivo 10 software. Coding is the process of identifying aspects of the data that relate to the research question. A code could be a word or brief phrase that captures the essence of

why you believe a specific bit of data may be useful (Braun & Clarke, 2006; Clarke & Braun, 2013). The data were coded using an inductive ‘bottom-up’ approach, in which the data coding and analysis are driven by what is in the data (Braun & Clarke, 2006; Clarke & Braun, 2013). All the features of the sentences or paragraphs that were thought to be meaningful, interesting, and relevant to the research issues were coded in NVivo (version 10) software. These codes were reviewed, and those that have similar meanings were merged or clustered to minimise the number of codes at this phase.

iii. Phase 3: Searching for Themes

In this phase, the analysis starts taking shape and shifts from the code level to the theme level. A theme captures something significant about the data concerning the research question and represents some level of patterned response or meaning within the data set (Braun & Clarke, 2006). Searching for themes is an active process in which the themes are generated and constructed rather than discovered. This phase involved reviewing all the codes and clustering or collapsing multiple codes together based on their unifying features to reflect the meaningful pattern of the data (Braun & Clarke, 2006, 2012).

iv. Phase 4: Reviewing the Themes

The initially developed themes were reviewed and discussed with the researcher (a PhD candidate) and her supervisor, which in turn minimized the researcher’s bias. The reviewing process involved reviewing the initial themes in relation to the coded data and the entire dataset to determine whether these themes captured something meaningful in relation to the research questions (Braun & Clarke, 2006, 2012). In this phase, some of the themes were removed, reconstructed, split into more specific and coherent themes or sub-themes, or merged with other themes.

v. Phase 5: Defining and Naming Themes

This phase involved defining and naming the themes. The themes were reviewed to determine the essence of each theme and the aspects that each theme captured (Braun & Clarke, 2006, 2012). The meaning of each theme was explained, and it was important at this stage to ensure that the sub-themes under each theme were captured by the definition of this theme. Finally, each theme was given an appropriate name that reflected the overall concept.

vi. Phase 6: Producing the Report

After completing the previous phase, a full report was produced. In total, the qualitative data generated eight major themes and related subthemes, as shown in the coding framework (Table 3.3). These themes were: (1) Challenges of adequate information needs; (2) Psychological challenges; (3) Financial challenges; (4) Social influences; (5) Cancer invaded my life; (6) Factors affecting the quality of life; (7) Environmental stressors; and (8) Coping mechanisms. These themes and subthemes are discussed in detail in the subsequent chapter.

Table 3.3: Coding Framework of Themes and Sub-themes Generated from the Qualitative Data Analysis (N=11)

Major Themes	Sub-themes
Theme 1 Challenges of adequate information needs	• Inadequate communication with the health professionals • Lack of educational programs and awareness campaigns • An inadequate number of nurses • Need for a nutritionist • Effects of unmet informational needs
Theme 2 Psychological challenges	• Uncertainty of the future • Fear for the children • Treatment-related effects and the loss of a woman's identity • Inadequate psychological support from the health professionals

Table 3.3 continued

Major Themes	Sub-themes
Theme 3 Financial challenges	• Treatment is expensive and not available • Low incomes and high cost of living • Other financial challenges
Theme 4 Social influences	• Society's view and stigma • Lack of marriage choices
Theme 5 Cancer invaded my whole	• Psychological effects • Unmet family and child care needs • Physical effects
Theme 6 Factors affecting the quality of life	• Factors that worsen the life • Factors that improve the life
Theme 7 Environmental Stressors	• Stressful hospital environment
Theme 8 Coping mechanisms	• Acceptance and challenge of the disease • Religion and spiritual practices • Social support • Other coping strategies

3.9 Mixed-Methods Analysis

The analysis of data in mixed method research involves the analysis of both quantitative and qualitative data independently, and each data set is analysed using an appropriate method of analysis; quantitative data is analysed quantitatively and qualitative data is analysed qualitatively (Creswell & Clark, 2007). As this study employed a sequential explanatory design, sequential data analysis was conducted initially, followed by the final data integration phase. This phase involved the integration of the results of both the quantitative survey phase and the qualitative interview phase to answer the mixed method question of this study: In what way does the qualitative data help to explain the quantitative findings? In more specific words, in what way do the qualitative interviews help to provide a clear explanation of the factors affecting the quality of life and the

psychosocial needs that have been reported by young Syrian breast cancer women in the first quantitative phase?

A side-by-side comparison was undertaken to provide a clear answer to this question using the process outlined by Creswell and Plano Clark (2011, 2018). This offers a vehicle for the presentation of integrated results, which can later be used to discuss the findings from this study. To achieve this process, the qualitative findings were compared to the quantitative findings about the psychosocial needs and the quality of life. It is necessary to mention here that the aim of the comparison process was not to compare the results as in the convergent design but rather to show how the qualitative results provided further insight and explanation of the results obtained in the quantitative survey. More specifically, the qualitative findings made the quantitative results of psychosocial needs and quality of life more understandable. The findings of the quantitative and qualitative phases were used together to provide a rich picture capturing the concept of the quality of life of young Syrian breast cancer women. The integration of qualitative and quantitative data using the side-by-side comparison process is presented in Chapter 5.

3.10 Rigour of the Study

The criteria used to evaluate the quality of mixed-methods research are in debate since this kind of research is relatively new. As quantitative or qualitative research has its roots in a varied paradigm, Onwuegbuzie and Johnson (2006) suggested that to enhance the quality of mixed-methods research, researchers have to address multiple validations of both qualitative and quantitative research (Onwuegbuzie & Johnson, 2006). In this study, the researcher has employed many strategies to enhance the rigour of the mixed methods, as summarized in Table 3.4.

Table 3.4: Strategies to enhance the rigour of the study

Areas of Quality Control	Strategies to Improve the Quality of the Study	
	Quantitative Study	Qualitative Study
<i>Research Instruments</i>	Identification of appropriate measures (PNI, CAHS, WOC-CA, and QOL- BC) Employing a back translation to have an Arabic version of the instruments Conducting a pilot study to test the internal consistency of the instruments	Developing an interview guide based on the quantitative results Conducting a pilot study to check the possibility of the interview guide in achieving the aims of the study
<i>Sample</i>	Using a specific inclusion criterion to identify the participants of the study	Purposive sampling of the participants who provide rich information to explain the quantitative results
<i>Data Analysis</i>	Employing appropriate data analysis to address the research questions Testing the assumptions of hierarchical multiple regression	Thematic analysis Discussing the pilot study findings within a research team Discussion of the findings within a research team Member checking was done by asking some participants to verify the transcribed data and to compare the results of the study with their own experiences. Two expert supervisors reviewed the transcripts, data analyses, and findings

CHAPTER 4

FINDINGS OF THE STUDY

4.1 Quantitative Findings

4.1.1 Introduction

This section presents the quantitative findings of the current study. It specifically describes the socio-demographic characteristics of the study's participants and the results related to the psychosocial needs, the cognitive appraisal of the health scale, coping strategies, and the quality of life of young Syrian breast cancer women. In addition, it also provides an examination of the relationships between the quantitative data.

4.1.2 Characteristics of Sample

A total of 167 young breast cancer patients participated in this phase. The results showed that a high percentage of 104 (62.3%) were between 41 and 50 years old, while only 6 (3.60%) were less than 31 years old. The majority were married 140 (83.8%) and had children 138 (82.8%). In terms of the age of children, which refers to the age of the last child in the case of more than one child, 56 (40.5%) were between 7 and 12 years old, 51 (37.0 %) were more than 12 years old, 27 (19.6%) were between 3 and 6 years old, and only 4 (2.9 %) were less than 3 years old. Almost all the participants were Muslims 158 (94.6%). Regarding the level of education, 43 (25.7%) completed the secondary level, 40 (24.0%) completed the preparatory level, 32 (19.1%) completed the university level, 27 (16.2%) completed the institute, and 25 (15.0%) completed the elementary level. A high percentage were housewives 109 (65.3%), and 51 (30.5%) were working. The monthly income of almost half of the participants 82 (49.1%) was between (36–50 USD) and less

than 35 USD for 58 (34.7%) of the participants, and >100 USD for only 5 (3.0%). The majority reported that they do not have medical insurance 125 (74.9%), and they do not have a family history of breast cancer 117 (70.1%). The majority were living outside Latakia 121(72.5%), 52 (31.1%) reported that they needed 30–60 minutes to arrive at the hospital, 42 (25.1%) reported they needed (91–120) minutes, and 26 (15.6%) reported (121–180) minutes. Regarding the age at diagnosis, 66 (39.5%) were between (41-45) years at their diagnosis, 48 (28.7%) were between (36-40) years at their diagnosis, and 20 (12.0%) were between (31-35) and between (46-50) years at the diagnosis. Regarding the time since the diagnosis, 70 (41.8%) reported 3–12 months, 29 (17.4%) reported 13–24 months, and 26 (15.6%) reported more than 48 months. The majority had undergone a mastectomy 139 (83.2%) versus 28 (16.8%) who had undergone conservative surgery. Regarding chemotherapy, the majority 116 (69.5%) reported they completed it. For radiotherapy, 96 (57.5 %) reported that they completed it, 57 (34.1 %) reported that they had not started it yet, and 14 (8.4%) were undergoing it. For hormonal therapy, 99 (59.3%) reported that they were undergoing it versus 68 (40.7%) who completed it. Table 4.1 shows the characteristics of the sample.

Table 4.1: The Socio-demographic Characteristics of the Sample (N=167)

Variables	Classifications	Frequency (%)
Age (years) (M = 42.04, SD = 5.141, min-max = 27-50)	Less than 31	6 (3.60)
	31- 40	57 (34.1)
	41-50	104 (62.3)
Marital status	Single	17 (10.20)
	Married	140 (83.80)
	Divorced	1 (0.60)
	Widowed	9 (5.40)
Number of children	No children	29 (17.40)
	One child	18 (10.80)
	Two children	41 (24.60)

Table 4.1 continued

Variables	Classifications	Frequency (%)
	Three children	38 (22.80)
	More than 3 children	41 (24.60)
Age of the last child	Less than 3 years old	4 (2.90)
	3- 6 years old	27 (19.60)
	7-12 years old	56 (40.50)
	More than 12 years old	51 (37.00)
Religion	Muslim	158 (94.60)
	Christian	9 (5.40)
Level of education	Elementary	25 (15.00)
	Preparatory	40 (24.00)
	Secondary	43 (25.70)
	Institute	27 (16.20)
	University	32 (19.10)
Work	Housewife	109 (65.30)
	Worker	51 (30.50)
	Retired	2 (1.20)
	Private work	5 (3.00)
Monthly income	Less than \$35	58 (34.7)
	\$36-50	82 (49.1)
	\$51-75	15 (9.00)
	\$76-100	7 (4.2)
	>\$100	5 (3.0)
Health insurance	Yes	42 (25.1)
	No	125 (74.9)
Family history of breast cancer	Yes	50 (29.9)
	No	117 (70.1)
Place of residence	Inside Lattakia	46 (27.5)
	Outside Lattakia	121 (72.5)
Time to arrive hospital	Less than 30 minutes	26 (15.6)
	30- 60 minutes	52 (31.1)
	61- 90 minutes	18 (10.8)
	91 - 120 minutes	42 (25.1)
	121- 180 minutes	26 (15.6)
	>180 minutes	3 (1.8)
Age at diagnosis years	18-30	13 (7.8)

Table 4.1 continued

Variables	Classifications	Frequency (%)
	31-35	20 (12.0)
	36-40	48 (28.7)
	41-45	66 (39.5)
	46-50	10 (12.0)
Time since diagnosis (months)	3-12 months	70 (41.8)
	13- 24 months	29 (17.4)
	25-36 months	24 (14.4)
	37 – 48 months	18 (10.8)
	More than 48 months	26 (15.6)
Type of surgery	Conservative	28 (16.8)
	Mastectomy	139 (83.2)
Chemotherapy	Undergoing treatment	51 (30.5)
	Completed	116 (69.5)
Radiotherapy	Have not yet started	57 (34.1)
	Currently undergoing	14 (8.4)
	Completed	96 (57.5)
Hormonal therapy	Have not yet started	68 (40.7)
	Currently undergoing	99 (59.3)

4.1.3 Significant Psychosocial Needs

As shown in Table 4.2, the information needs category was reported as having the highest percentage (82.12%) of significant psychosocial needs (significant means those who reported 4 and 5 on the scale). It was followed by the interaction with health professionals' category (79%), support network (77.22%), practical needs (74.7%), identity needs (73.36%), spiritual and emotional needs (72, 90%), and child care needs (66.9%), respectively. Out of 48 items, 44 were reported as important or very important by more than 50% of the participants (Table 4.2), representing significant psychosocial need items. The highest positive response was reported for item no. 15, 'support from family' (94%), followed by 'advice about food and diet' (91.7%), a

health professional who treats me with respect (91%), and ‘someone to talk to’ (90.4%). On the other hand, item no. 47, ‘help in filling out forms’, reported the lowest response (31.8%), followed by ‘help with any feelings of guilt’ (45.1%), ‘easy and quick access to health professionals other than doctors’ (46.1%), and ‘support from neighbors’ (47.9%).

4.1.4 Significant Unmet Psychological Needs

As shown in Table 4.2, the highest percentage of unmet psychosocial needs (unmet means those who reported 1 and 2 on the scale) was reported for the practical needs category (40.05%). It was followed by the information needs category (38.34), child care needs (36%), interaction with health professional needs (25.1%), identity needs (24.84%), emotional and spiritual needs (24.44%), and support network needs (19.9%). The highest percentage of significant unmet psychosocial needs was in item no. 46, ‘help with financial matters’ (67.7%), followed by ‘advice about the food and diet’ (61%), ‘help with transport’ (56%), and ‘advise on what services help are available’ (49.7%). In contrast, the lowest percentage was in health professional who treats me with respect (4.2%), followed by opportunities for personal prayer (8.4%), honest information, and support from family (9.6%).

Table 4.2: Prevalence of Psychosocial Needs and Unmet Needs (N=167)

Needs Category/Items	Rating as important or very <u>important</u>	Rating as unsatisfied or very <u>unsatisfied</u>
	<u>N (%)</u>	<u>N (%)</u>
Interaction with Health Professionals		
Confidence in the health professionals I meet	145 (86.80)	19 (11.40)
Health professionals have time to discuss issues with me	145 (86.80)	67 (40.10)
Easy and quick access to doctors	142 (85.00)	60 (36.00)
Honest information	150 (89.80)	16 (9.60)
Health professional who treats me with respect	152 (91.00)	7 (4.20)
Information given sensitively	136 (81.40)	27 (16.20)

Table 4.2 continued

Needs Category/Items	Rating as important or very important	Rating as unsatisfied or very unsatisfied
	N (%)	N (%)
Health professionals who listen to me	142 (85.00)	62 (37.10)
Easy and quick access to health professionals other than doctors	77 (46.10)	68 (40.80)
Opportunities to participate in choices around treatment	103 (61.60)	51 (30.60)
<i>Mean prevalence</i>	<i>132 (79.00)</i>	<i>41 (25.10)</i>
Information		
Information about treatment plans	147 (88.00)	44 (26.40)
Information about what to expect	142 (85.00)	59 (35.30)
Information about medication and side effects	139 (83.20)	61 (36.60)
Advise on what services help are available	136 (81.40)	83 (49.70)
Access to other sources of information	122 (73.00)	73 (43.70)
<i>Mean prevalence</i>	<i>137 (82.12)</i>	<i>64 (38.34)</i>
Support Network		
Support from family	157 (94.00)	16 (9.60)
Support from friends	132 (79.00)	23 (13.80)
Support from care professionals	125 (74.80)	39 (23.40)
Someone to talk to	151 (90.40)	19 (11.40)
Support from neighbours	80 (47.90)	69 (41.30)
<i>Mean prevalence</i>	<i>129 (77.22)</i>	<i>33 (19.90)</i>
Identity		
Help in maintaining independence in the face of illness	123 (73.60)	33 (19.80)
Help in maintaining a sense of control in my life	127 (76.00)	37 (22.20)
Support in dealing with changes in my body	134 (80.20)	44 (26.40)
Support in dealing with any changes in the way others see me	108 (64.60)	49 (29.40)
Support in dealing with any changes in my sense of who I am	121 (72.40)	44 (26.40)
<i>Mean prevalence</i>	<i>122 (73.36)</i>	<i>41.4(24.84)</i>
Emotional and Spiritual		
Hope for the future	149 (89.20)	17 (10.20)
Help with any fears	147 (88.00)	35 (21.00)
Help in dealing with the unpredictability of the future	105 (62.80)	59 (35.40)
Time for myself	138 (82.60)	54 (32.40)
Helping with finding a sense of purpose and meaning	147 (88.00)	25 (15.00)
Help with any sad feelings	136 (81.40)	26 (15.60)
Help in dealing with the feelings of others	100 (59.80)	54 (32.40)
Opportunities for personal prayer	147 (88.00)	14 (8.40)

Table 4.2 continued

Needs Category/Items	Rating as important or very important	Rating as unsatisfied or very unsatisfied
	N (%)	N (%)
Opportunities for meeting others who are in a similar situation	137 (82.00)	27 (16.20)
Help with any loneliness	118 (70.60)	36 (21.60)
Support from people of my faith	129 (77.20)	34 (20.40)
Help with any anger	99 (59.30)	47 (28.20)
Support from a spiritual advisor	104 (62.20)	51 (30.60)
Help with any feelings of guilt	69 (45.10)	61 (36.60)
Help in considering my sexual needs	90 (57.40)	67 (42.70)
<i>Mean prevalence</i>	<i>121 (72.90)</i>	<i>40 (24.44)</i>
Practical		
Help with any distressing symptom	144 (86.20)	40 (24.00)
Help with transport	115 (68.90)	95 (56.80)
Help in dealing with any tiredness	139 (83.20)	37 (22.20)
Advise about the food and diet	153 (91.70)	102 (61.00)
Help with housework	147 (88.00)	29 (17.40)
Help with getting out and about socially	99 (59.20)	59 (35.40)
Help with financial matters	149 (89.20)	113 (67.70)
Help in filling out forms	53 (31.80)	60 (35.90)
<i>Mean prevalence</i>	<i>124 (74.77)</i>	<i>66 (40.05)</i>
Child Care		
Help with child care	93 (66.90)	50 (36.00)
<i>Mean prevalence</i>	<i>93 (66.90)</i>	<i>50 (36.00)</i>

Notes: A significant psychosocial need was identified if a psychosocial need item was marked by over 50% of the subjects as either "important or "very important". While the significant unmet psychosocial need was identified as "important" or "very important" and the level of satisfaction was reported as "unsatisfied" or "very unsatisfied" (Fitri et al., 2017; Thomas et al., 2001; Yi et al., 2014).

4.1.5 Cognitive Appraisal of Health Scale Results

Table 4.3 shows the mean scores (M) of the four separate scales for the primary appraisal (threat, challenge, harm or loss, and benign or irrelevant). The results show that the challenge appraisal was the most predominant, followed by harm/loss, benign, and threat appraisals. However, there was not much difference between the mean benign and threat appraisals. Most of

the participants in this study viewed their situation as a challenge in life ($M = 3.66$, $SD = 0.574$) and least as benign ($M = 2.76$, $SD = 0.810$). The participants also experienced slightly more past harm ($M = 2.91$, $SD = 0.838$) and anticipated some threat in the future ($M = 2.71$, $SD = 0.791$).

Table 4.3: Means and Standard Deviations of Primary Appraisal Health Scales (N=167)

Primary Appraisal Scales	N	Mean (M)	Standard Deviation (SD)
Threat appraisal	167	2.71	0.791
Challenge appraisal	167	3.66	0.574
Harm appraisal	167	2.91	0.838
Benign appraisal	167	2.76	0.810

As shown in Table 4.4, the highest mean scores have been reported for the items that are related to the challenge appraisal: ‘I have to accept this health condition’ ($M = 4.03$, $SD = 0.723$), followed by ‘I can beat this health condition despite the difficulties’ ($M = 3.95$, $SD = 0.887$), and ‘there is a lot I can do to overcome this health condition’ ($M = 3.82$, $SD = 0.887$). While the lowest mean scores have been reported for the items relating to harm and threat appraisals, ‘relationships with my family and friends have suffered’ ($M = 2.16$, $SD = 1.121$), followed by ‘things will only get worse because of this health condition’ ($M = 2.31$, $SD = 0.968$), and ‘this health condition will not go well’ ($M = 2.34$, $SD = 1.056$). Regarding secondary appraisal items, the highest mean score was reported for item 27 ‘I have to accept this health condition’ ($M = 4.03$, $SD = 0.723$), followed by item 22 ‘I need to know more before I can do anything about this health condition’ ($M = 3.72$, $SD = 0.918$).

Table 4.4: Means and Standard Deviations of Items of the Cognitive Appraisal of Health Scale (N=167)

Items	N	Mean (M)	Std. Deviation (SD)
I can control what will happen to me.	167	3.42	1.066
This health condition won't get me down.	167	3.46	1.112
I have not been able to do what I want to do because of this health condition.	167	2.86	1.261
This health condition is frightening to me.	167	2.79	1.212
This health condition isn't stressful to me.	167	2.71	1.203
Things will only get worse because of this health condition.	167	2.31	0.968
This health condition will not go well.	167	2.34	1.056
This health condition has damaged my life.	167	3.08	1.263
I have lost interest in the things around me.	167	2.50	1.202
I have had to give up a great deal because of this health condition.	167	2.98	1.326
I can beat this health condition despite the difficulties.	167	3.95	0.887
This health condition is one that I can change or do something about.	167	3.47	0.930
I have a sense of loss over the things I can no longer do.	167	2.81	1.201
I feel I can handle this health condition.	167	3.57	1.008
I have nothing to lose because of this health condition.	167	2.57	1.117
During this health condition, I have to hold myself back from doing what I want to do.	167	3.19	1.154
I have a lot to lose because of this health condition.	167	2.78	1.204
I worry about what will happen to me.	167	3.32	1.209
Relationships with my family and friends have suffered.	167	2.16	1.121
There is nothing I need to do for this health condition.	167	2.34	0.986
I have been harmed in some way by this health condition.	167	3.44	1.175
I need to know more before I can do anything about this health condition.	167	3.72	0.918
I don't think much about this health condition.	167	2.90	1.126
This health condition has caused be to learn more about myself.	167	3.77	0.969
I have been hurt by this health condition.	167	3.47	1.161
There is a lot I can do to overcome this health condition.	167	3.82	0.887
I have to accept this health condition.	167	4.03	0.723
This health condition doesn't affect my life.	167	2.84	1.312

4.1.6 Coping Strategies

Table 4.5 shows the mean scores (M) for each modified WOC-CA subscale and item. The results show that spirituality and positive restructuring were the most frequently used strategies ($M = 3.87$, $SD = 0.749$), followed by seeking social support and making changes ($M = 3.54$, $SD =$

0.763). Detachment was the least frequently used strategy, with a mean score of (2.56, $SD = 1.071$). The most frequent strategies used by the women at the level items were 'praying' ($M = 4.11$, $SD = 0.996$), followed by 'looking for the silver lining' ($M = 4.01$, $SD = 0.843$), 'treating the illness as a challenge or battle to be won' ($M = 3.93$, $SD = 0.983$), 'trying to get professional help' ($M = 3.84$, $SD = 1.179$), and 'rediscovering what is important in life' ($M = 3.80$, $SD = 0.952$). Whereas, the lowest-used strategy was 'made light of the situation and refused to get too serious about it' ($M = 2.09$, $SD = 1.241$), followed by 'tried to forget the whole thing' ($M = 2.53$, $SD = 1.226$), and went on as if nothing was happening ($M = 2.74$, $SD = 1.359$). Noticeably, all these strategies are related to the detachment strategy.

Table 4.5: Means and Standard Deviations of Ways of Coping Strategies Factors (N=167)

Items	N	Mean (M)	Std. Deviation (SD)
Factor 1: Seeking social support	167	3.54	0.763
Let my feelings out somehow	167	3.39	1.075
Talked to someone about how I was feeling	167	3.75	1.015
Talked to someone to find out more about the situation	167	3.25	1.112
Asked a relative or friend I respected for advice	167	3.77	1.018
Talked to someone who could do something concrete about the problem	167	3.27	1.215
Tried to get professional help	167	3.84	1.179
Factor 2: Keep feelings for me	167	3.29	0.968
Tried to keep my feelings to myself	167	3.35	1.070
Kept others from knowing how bad things were	167	3.23	1.161
Factor 3: Positive reconstructing	167	3.87	0.749
Looked for the silver lining, so to speak; tried to look at the bright side of things	167	4.01	0.843
Treated the illness as a challenge or battle to be won	167	3.93	0.983
Came out of the experience better than when I went in	167	3.67	1.084
Factor 4: Spirituality	167	3.87	1.000
Prayed	167	4.11	0.996
Found new faith	167	3.63	1.333
Factor 5: Wishful thinking	167	3.47	1.034
Wished that the situation would go away or somehow be over with	167	3.58	1.116
Had fantasies or wishes about how things might turn out	167	3.36	1.099

Table 4.5 continued

Items	N	Mean (M)	Std. Deviation (SD)
Factor 6: Detachment	167	2.56	1.071
Went on as if nothing were happening	167	2.74	1.359
Didn't let it get to me; refused to think about it too much	167	2.89	1.219
Made light of the situation; refused to get too serious about it	167	2.09	1.241
Tried to forget the whole thing	167	2.53	1.226
Factor 7: Made changes	167	3.54	0.879
Rediscovered what is important in life	167	3.80	0.952
Changed something about myself	167	3.28	1.080

4.1.7 Quality of Life

The results of this study showed a low (low means the mean score is less than 6) level of overall quality of life ($M = 5.24$, $SD = 1.186$), a low level of physical well-being ($M = 5.10$, $SD = 1.883$), and a very low (very low means the mean score is less than 5) level of psychological well-being ($M = 4.51$, $SD = 1.607$). A very low level of social well-being was also noted ($M = 4.28$, $SD = 1.469$), and a high (the mean score is higher than 7) level of spiritual well-being ($M = 7.07$, $SD = 1.378$). Table 4.6 shows the means and standard deviations of quality of life subscales.

Table 4.6: Means and Standard Deviations of Quality of Life Subscales (N= 167)

Quality of Life Subscales	N	Mean (M)	Std. Deviation (SD)
Physical well-being	167	5.10	1.883
Psychological well-being	167	4.51	1.607
Social well-being	167	4.28	1.469
Spiritual well-being	167	7.07	1.378
The overall quality of life	167	5.24	1.186

4.1.7.1 Physical Well- Being

As shown in Table 4.7, of the 8 items of physical well-being, 6 items reported low responses, with the worst responses for fatigue and aches or pain ($M = 3.66$, $SD = 2.938$; $M = 3.82$, $SD = 2.911$,

respectively). While two items reported moderate responses, the best response was for weight gain ($M = 6.50$, $SD = 3.568$).

Table 4.7: Means and standard deviation of Physical well-being items (N=167)

Items	N	Mean (M)	Std. Deviation (SD)
Fatigue	167	3.66	2.938
Appetite changes	167	5.24	3.153
Aches or pain	166	3.82	2.911
Sleep changes	167	4.67	3.368
Weight gain	167	6.50	3.568
Vaginal dryness/menopausal symptoms	167	5.32	3.660
Menstrual changes or fertility	167	5.44	3.905
Rate your overall physical health	167	6.10	2.265

4.1.7.2 Psychological Well-Being

Table 4.9 shows the mean scores and standard deviations of the psychological well-being items. Of the 22 items, only 1 item, ‘How useful do you feel?’ reported a high response ($M = 7.58$, $SD = 2.037$), and 3 items reported moderate responses, with the best responses for the item ‘How satisfying is your life?’ ($M = 6.63$, $SD = 2.421$). Whereas the lowest responses were mostly related to distress from the illness and treatment: distress from the initial diagnosis ($M = 1.16$, $SD = 2.248$), distress from cancer surgery ($M = 1.62$, $SD = 2.458$), distress from cancer chemotherapy ($M = 1.68$, $SD = 2.191$), and changes in appearance ($M = 2.93$, $SD = 2.810$). Followed by those items related to fear: fear of cancer recurrence ($M = 3.25$, $SD = 3.055$), fear of second cancer ($M = 3.38$, $SD = 3.167$), and fear of spreading cancer ($M = 3.39$, $SD = 3.226$).

Table 4.8: Means and Standard Deviations of Psychological Well-Being Items (N=167)

Items	N	Mean (M)	Std. Deviation (SD)
How difficult is it for you to cope today as a result of your disease?	167	5.82	2.816

Table 4.8 continued

Items	N	Mean (M)	Std. Deviation (SD)
How difficult is it for you to cope today as a result of your treatment?	167	5.72	2.891
How good is your quality of life?	167	5.40	2.297
How much happiness do you feel?	167	5.48	2.641
Do you feel like you are in control of situations in your life?	167	6.25	2.409
How satisfying is your life?	167	6.63	2.421
How is your present ability to concentrate or to remember things?	167	5.55	2.783
How useful do you feel?	167	7.58	2.037
Has your illness or treatment caused changes in your appearance?	167	2.93	2.810
Has your illness or treatment caused changes in your self-concept (the way you see yourself)?	167	4.40	2.937
Distress from the Initial diagnosis	167	1.16	2.248
Distress from cancer chemotherapy	167	1.68	2.191
Distress from cancer radiation	113	2.96	2.918
Distress from cancer surgery	167	1.62	2.458
Distress from completion of treatment	147	6.12	3.883
How much anxiety do you have?	167	4.10	2.817
How much depression do you have?	167	5.83	3.238
Fear of future diagnostic tests	167	3.71	2.948
Fear of a second cancer	167	3.38	3.167
Fear of recurrence of cancer	167	3.25	3.055
Fear of spreading (metastasis) of your cancer	167	3.39	3.226
To what degree do you feel your life is back to normal?	167	5.83	2.461

4.1.7.3 Social Well-Being

Social well-being consisted of 9 items, the lowest responses were shown for distress in the family due to the illness, the financial burden resulting from illness and treatment, and for breast cancer daughters or other close female relatives ($M = 0.49$, $SD = 1.613$; $M = 0.58$, $SD = 1.466$; $M = 1.38$, $SD = 2.748$, respectively). Whilst, the best responses were for adequate support, relationships with others due to the treatment, self-isolation, and interfered with your employment ($M = 7.37$, $SD =$

2.741; $M = 6.71$, $SD = 3.451$; $M = 6.63$, $SD = 3.161$, and $M = 6.62$, $SD = 3.819$, respectively). Table 4.9 shows the means and standard deviations of social well-being Items.

Table 4.9: Means and Standard Deviations of Social Well-Being Items (N=167)

Items	N	Mean (M)	Std. Deviation (SD)
How distressing has your illness been for your family?	167	0.49	1.613
Is the amount of support you receive from others sufficient to meet your needs?	167	7.37	2.741
Is your continuing health care interfering with your personal relationships?	167	6.71	3.451
Is your sexuality impacted by your illness?	161	4.77	3.541
To what degree has your illness and treatment interfered with your employment?	111	6.62	3.819
To what degree has your illness and treatment interfered with your activities at home?	167	4.89	2.814
How much isolation do you feel is caused by your illness?	167	6.63	3.161
How much concern do you have for your daughter(s) or other close female relatives regarding breast cancer?	167	1.38	2.748
How much financial burden have you incurred as a result of your illness and treatment?	167	0.58	1.466

4.1.7.4 Spiritual Well-Being

Table 4.10 shows the means and standard deviations of spiritual well-being items. The highest response was for participation in spiritual and religious activities ($M = 8.50$, $SD = 1.997$; $M = 8.47$, $SD = 2.257$, respectively). The lowest response was for uncertainty about the future ($M = 3.51$, $SD = 2.790$), followed by positive changes in life ($M = 5.42$, $SD = 2.894$).

Table 4.10: Means and Standard Deviations of Spiritual Well-Being Items (N=167)

Items	N	Mean (M)	Std. Deviation (SD)
How important to you is your participation in religious activities	167	8.47	2.257

Table 4.10 continued

Items	N	Mean (M)	Std. Deviation (SD)
How important to you are other spiritual activities such as meditation or praying?	167	8.50	1.997
How much has your spiritual life changed as a result of cancer diagnosis?	167	7.21	3.014
How much uncertainty do you feel about your future?	167	3.51	2.790
To what extent has your illness made positive changes in your life?	167	5.42	2.894
Do you sense a purpose/mission for your life or a reason for being alive?	167	8.11	2.109
How hopeful do you feel?	167	8.26	2.072

4.1.8 Correlation Between Quality of Life and Unmet Needs (Level of Satisfaction)

Spearman's rank correlation was computed to assess the relationship between quality of life and each of the following: health professions, information needs, support network, emotional and spiritual needs, identity needs, practical needs, and child care needs. The results of the Spearman correlation indicated that there was a positive correlation between overall quality of life and health professionals, as follows: $r(165) = 0.18, p = 0.021$; a positive correlation between overall quality of life and support network $r(165) = 0.30, p < 0.001$; a positive correlation between overall quality of life and emotional and spiritual needs $r(165) = 0.41, p < 0.001$; a positive correlation between the quality of life and identity needs $r(165) = 0.27, p = 0.001$; a positive correlation between quality of life and practical needs $r(165) = 0.36, p < 0.001$; while there was no correlation between the quality of life and each of the information and child care needs.

4.1.9 Predictors of Quality of Life

A hierarchical multiple regression analysis was run to identify the variance in quality of life caused by the predictors (level of education, primary appraisals, coping strategies, secondary appraisals, and unmet psychosocial needs). The variables were entered into five models; the level

of education was entered into the first model of the regression and considered a control variable based on previous literature (Haddou Rahou et al., 2016; Jhajharia et al., 2017). The four scales of primary appraisals (challenge, harm or loss, benign, and threat) were entered into the second model to determine if appraisals significantly contributed to the model. Coping strategies were entered into the third model, and secondary appraisal was entered into the fourth model to determine if coping strategies significantly contributed to the model. Unmet psychosocial needs were entered into the fifth model. As shown in Table 4.11, the first model was significant: $F(1, 165) = 14.609$, $p < 0.001$, $R^2 = 0.081$. The second model was significant: $F(4, 161) = 20.705$, $p < 0.001$, $R^2 = 0.393$. The third model of level of education, primary appraisals, and coping strategies was statistically significant: $F(7, 154) = 4.019$, $p < 0.001$, $R^2 = 0.487$, and adjusted $R^2 = 0.447$, which means that the full model accounted for 44.7% of the variance in the QOL score. While models four and five were not statistically significant, adding the secondary appraisal and unmet psychosocial needs does not make the prediction of quality of life statistically significant.

Table 4.11: Model Summary of Hierarchical Multiple Regression Predicting Quality of Life (N=167)

Model	R	R ²	Adj R ²	Std. Error of the Estimate	Change Statistics				
					ΔR^2	ΔF	df1	df2	$\Delta \text{Sig. F}$
1	0.285	0.081	0.076	1.140	0.081	14.609	1	165	< 0.001
2	0.627	0.393	0.375	0.938	0.312	20.705	4	161	< 0.001
3	0.698	0.487	0.447	0.882	0.094	4.019	7	154	< 0.001
4	0.699	0.489	0.445	0.883	0.002	0.537	1	153	0.465
5	0.701	0.491	0.444	0.884	0.002	0.720	1	152	0.398

Notes: R^2 represents the variation in the dependent variable explained by the independent variables; " ΔR^2 " which indicates " R^2 Change" refers to the change in the R^2 value from the previous model; and " $\Delta \text{Sig. F}$ " which represents " Sig. F Changes " refers to whether this change is statistically significant or not.

In addition, the hierarchical multiple regression analysis also revealed that six of the independent variables were determined to be predictors of QOL: level of education, challenge appraisal, harm appraisal, spirituality, wishful thinking, and detachment. Table 4.12 shows that the level of education was a significant predictor of quality of life with a direct relationship ($\beta = 0.134$, $t = 2.168$, $p = 0.032$). The challenge appraisal was a significant predictor of quality of life with a direct relationship ($\beta = 0.172$, $t = 2.338$, $p = .021$), while the harm/loss appraisal was a significant predictor of quality of life with an inverse relationship ($\beta = -0.364$, $t = -4.210$, $p < 0.001$). Among coping strategies, spirituality was a significant predictor of quality of life with a direct relationship ($\beta = 0.156$, $t = 2.357$, $p = 0.020$); however, wishful thinking was a significant predictor of quality of life with an inverse relationship ($\beta = -0.225$, $t = -3.236$, $p = 0.001$), and detachment was a significant predictor of quality of life with a direct relationship ($\beta = 0.170$, $t = 2.410$, $p = 0.017$).

Table 4.12: Variables Predicting Quality of Life of Hierarchical Multiple Regression Analysis (N=167)

Variables	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
	B	Std. Error	β		
Model 3					
Level of education	0.119	0.055	0.134	2.168	0.032
Threat appraisal	0.005	0.133	0.003	0.038	0.970
Challenge appraisal	0.356	0.152	0.172	2.338	0.021
Harm appraisal	-0.516	0.122	-0.364	-4.210	< 0.001
Benign appraisal	-0.113	0.105	-0.077	-1.079	0.282
Seeking social support	0.001	0.106	0.001	0.008	0.993
Keep feelings for me	-0.093	0.079	-0.076	-1.166	0.245
Positive reconstructing	0.179	0.128	0.113	1.404	0.162
Spirituality	0.185	0.079	0.156	2.357	0.020
Wishful thinking	-0.258	0.080	-0.225	-3.236	0.001
Detachment	0.189	0.078	0.170	2.410	0.017
Made change	0.040	0.096	0.030	0.414	0.679

Notes: **B** indicates the change in the dependent variable for a one-unit change in the value of the independent variable;

β is a standardized coefficient that shows the strength of the prediction; *p* is the level of significance.

4.1.10 Summary of Quantitative Findings

The quantitative phase of this study aimed to determine the psychosocial needs, cognitive appraisal, coping strategies, and quality of life of young Syrian breast cancer women. The results of this phase were as follows:

Regarding psychosocial needs, the highest percentage of significance was reported for the information needs category (82.12%), followed by the interaction with health professionals category (79%). The highest percentage of unmet psychosocial needs was reported for the practical needs category (40.05%), information needs category (38.34%), child care needs (36%), interaction with health professional needs (25.1%), identity needs (24.84%), emotional and spiritual needs (24.44%), and support network needs (19.9%), respectively. Help with financial matters was reported as the most significant unmet psychosocial need (67.7%) among the subjects, followed by 'advice about food and diet' (61%), and 'help with transport' (56%).

Regarding cognitive appraisal, the challenge appraisal was the most predominant appraisal among the subjects ($M = 3.66$, $SD = 0.574$), followed by harm/loss ($M = 2.91$, $SD = 0.838$), benign ($M = 2.76$), and threat ($M = 2.71$, $SD = 0.791$) appraisals.

Regarding coping strategies, spirituality, and positive restructuring were the most frequently used strategies by the subjects ($M = 3.87$, $SD = 0.749$), followed by seeking social support and making changes ($M = 3.54$, $SD = 0.763$). The most frequent strategies used were 'praying' ($M = 4.11$, $SD = 0.996$), followed by 'looking for the silver lining' ($M = 4.01$, $SD = 0.843$), and 'treating the illness as a challenge or battle to be won' ($M = 3.93$, $SD = 0.983$).

Regarding the quality of life, there was a low overall quality of life among the subjects ($M = 5.24$, $SD = 1.186$) and a low level of physical well-being ($M = 5.10$, $SD = 1.883$). There was

also a very low level of psychological and social well-being ($M = 4.51$, $SD = 1.607$; $M = 4.28$, $SD = 1.469$), respectively. However, there was a high level of spiritual well-being among the subjects ($M = 7.07$, $SD = 1.378$). The highest concerns about physical well-being were reported for fatigue and aches or pains ($M = 3.66$, $SD = 2.938$; $M = 3.82$, $SD = 2.911$, respectively). The highest concerns about psychological well-being were reported for the items related to distress from the illness and treatment. In regard to social well-being, the highest concerns were for distress in the family due to the illness, the financial burden resulting from the illness and treatment, and for breast cancer daughters or other close female relatives ($M = 0.49$, $SD = 1.613$; $M = 0.58$, $SD = 1.466$; $M = 1.38$, $SD = 2.748$, respectively). Finally, the highest concern in spiritual well-being was reported for uncertainty about the future ($M = 3.51$, $SD = 2.790$).

Regarding the predictions of quality of life, six independent variables were determined as predictors of the quality of life including the level of education, challenge appraisal, harm appraisal, spirituality, wishful thinking, and detachment. These variables explained 44.7% of the variance in the quality of life score.

4.2 Qualitative Findings

4.2.1 Introduction

The previous section reported the findings from the quantitative data collected using these measures: PNI, CAHS, WOC-CA, and Quality of Life-Breast Cancer Version Questionnaire. This section presents the findings of the qualitative interview phase, which was conducted with the clear aim of helping explain the quantitative results in depth. The research questions driving the qualitative interview phase were:

- What are the perspectives of young Syrian breast cancer women on the factors affecting their psychosocial needs?

- What are the perspectives of young Syrian breast cancer women on the factors affecting their quality of life?

The data collected in this phase not only aimed to help expand and explain the quantitative data in more detail but also, more importantly, to allow the participants to express their experiences and perspectives on the psychosocial needs, coping strategies, and quality of life within these stressful situations in the country. Therefore, this section aims to represent the perspectives of the young Syrian breast cancer women in the study, adding strength and richness to the quantitative data and providing a thorough explanation of the phenomenon of the psychosocial needs and quality of life of young Syrian breast cancer women. As was previously mentioned in Chapter 3, the qualitative data analysis revealed that eight major themes were identified from the data collected from the participants during the interviews. These themes are as follows:

- (1) Challenges of adequate information needs; (2) Psychological challenges; (3) Financial challenges; (4) Social influences; (5) Cancer invaded my life; (6) Factors affecting the quality of life; (7) Environmental stressors, and (8) Coping mechanisms.

4.2.2 Theme 1: Challenges of Adequate Information Needs

The qualitative phase revealed that all the participants in this study expressed that they had not received enough information about the disease, treatment, treatment side effects, and available services for breast cancer patients, highlighting the significance of receiving adequate information to help them understand their situation better and make the best treatment decision. For example, when the participants were asked, do you feel that you have received all the information you need? They said:

"No, I am not lying to you; no one is telling you anything. Do you believe that, from the first time I got sick until now, my doctor has not said five words at the hospital, and I have not visited him at his clinic because I do not have the financial ability to visit him at the clinic? They just give you simple information, such as avoiding sugar, vegetable oil, and red meat. This is all that they told us. As for something else, something in detail, what should I do? Never." G

"I felt that I was coming to a place where I have to discover everything by myself: the pain of the doses, the pain of the catheters, the atmosphere, and the stages that will happen with you when you take chemotherapy and what will happen to you. The aches—no one prepared you for these aches; they are supposed to tell you." A

4.2.2.1 Inadequate Communication with the Health Professionals

Almost all the participants in the study expressed that they were dissatisfied with the communication with their oncologists, attributing that to the restricted time and the workload of the oncologists. They repeatedly mentioned that their oncologists have no time to discuss issues with them or to answer their calls because they have a lot of patients to check on every day, either at the hospital or at the clinic. Therefore, they were unable to adequately explain to their patients the disease, treatment, and treatment side effects. For example, when the participants were asked what the factors were that prevented the health professionals from explaining adequately to the patients, their responses were as follows:

"The large number of patients, overcrowding, and many commitments at the hospital, at least the doctor has 40 files per day, so you can see the patients over each other (a lot of patients)." R

Another participant said:

"I think the first thing that prevents them is the crowding and the time; there is no time to explain to each patient in detail. It may be through the private clinic, and honestly, the clinic is also so

crowded. Sometimes he can barely check on me, and you can ask him the question that is coming to mind at that time. I was informed to write my questions on a piece of paper when I want to go there in order not to forget anything." Ri

"The crowdedness—even when I visit him at the clinic, there are a lot of patients at the clinic. I feel that I didn't take my time. Even at the clinic, if I want to ask him a question, I can't because he is very urgent. He gives you a feeling of hurry up" I sometimes feel in need to talk to him and ask about something, but his phone is always closed." W

Additionally, the participants also considered the limited number of oncologists at the hospital as a barrier for the patients to have good communication with the oncologists and receive enough information, as they are very few and the majority of them are hematological specialists, highlighting the need for more oncologists to manage a large number of patients. They attributed this small number of oncologists to the effects of the Syrian crisis that forced many physicians to leave the country, and the majority of those who are getting their specialists abroad have not returned to the country due to the crisis, as said by this participant:

"There are some doctors who left the country during the crisis; they went out and didn't come back to the country because they get more appreciation and support abroad. There is more financial and moral support abroad; I mean, the doctors are comfortable, so why do they think to return to the country? They will not come back." W

"There should be more doctors; there are only 4 or 5 specialists and 4 rooms, which means that all those 200 patients have to enter these 4 rooms." H

In addition to that, some participants also considered that the routine and boredom of the oncologists could also be an affecting factor in the patient-oncologist communication process,

highlighting that the oncologist considers cancer like the flu due to the large number of patients he sees every day. For example, the participant when asked what prevents the oncologist from explaining adequately to the patients said:

"Boredom, boredom, the routine of the patients—I told you; he meets a lot of patients every day at the clinic other than those who see at the hospital; I mean, he sees thousands of patients; in my opinion, he considers it the flu because it got normal to him." Ra

4.2.2.2 Lack of Educational Programs and Awareness Campaigns

The participants in this study expressed that there is a lack of educational programs and awareness campaigns for cancer patients in Syria. They highlighted the need for these programs and campaigns to raise women's awareness about breast cancer, as awareness is very low among women. They mentioned that these educational programs and campaigns are important and supportive to them as a treatment because they don't know how to take care of themselves with this disease, as stated by one of the participants:

"I feel that there is a great need for educational programs on television, advertising, campaigns in the streets, or coming to the houses. I do not know how to solve them, but I feel that we are missing a lot. Awareness campaigns are important, as are treatment and support, as we really do not know how to take care of ourselves". R

4.2.2.3 An Inadequate Number of Nurses

The majority of the participants highlighted the positive role of the nurses in supporting the patients. They mentioned that the nurses were very kind in their dealings with the patients, and they helped them a lot; however, due to their inadequate number, they were unable to give adequate information and explanation to each patient. For example, one of the participants said:

"The nurses have a big load and their number is very little; some of them prepare the medicine, and some of them give the medicine and run from here to here, so they do not catch up, and there are many patients who ask a lot." W

4.2.2.4 Need for Nutritionist

Almost all the participants in this study expressed that they were dissatisfied with the information they had received about the diet they must adhere to as breast cancer patients. Moreover, they mentioned that they have received inconsistent information about the foods that should be followed and those that should be avoided, making them feel lost. They highlighted a great need for involving nutritionists in the treatment plans of cancer patients because they believe that diet can greatly affect the cure of cancer, such as the treatment. For example, when the participants were asked, did they feel the nutritionist was necessary to be available at the hospital? One of the participants said:

"Exactly, it is very necessary to be available because there are some patients who understand the information wrong. For example, with the understanding that sugar doesn't affect, it really affects. For me, I avoided it completely in the first period. It makes you tired, not because it could spread the disease but because of the dose of chemotherapy you are taking with sugar. At the first dose, I was eating sugar, and I got tired. After that, I avoided the artificial sugar and replaced it with natural sugar, and I felt some difference." A

"Regarding the matter of eating, the doctor did not tell us what we should eat or avoid eating. I feel there are many mistakes regarding that." W

"I felt that I was lost because everyone wanted to give an opinion. For example, you should eat like this, and it is not allowed for you to eat like this." RA

"Like the food that we should eat and that should be avoided, for example, no one gives you the exact information about that in relation to the disease. Did you know?"

The majority of them mentioned that they relied on the internet as their first source of information, either by themselves or by their children. Some of them also suggested the possibility of having written information about the diet that should be adhered to by the hospital. For example, one of the participants, when asked how she got the information about the diet, said:

"From the internet, no one told me, by the way, but from the internet and with help from the surgeon, he said to eat this, and this you have to avoid for a while, diet, and internet aids." A

"Breast cancer patients should be provided with a list of allowed and avoided foods to organise their diet when they are taking their doses at the hospital. This does not mean organising breakfast, lunch, and dinner for the patients. No, I mean the patient has to know what is allowed and what is not allowed, and you are the one who can follow or not, and let the patients understand the short- and long-term results." Ra

4.2.2.5 Effects of Unmet Informational Needs

Some of the participants indicated that receiving inadequate information about the disease and the treatment side-effects affected them negatively physically and psychologically, lessened their confidence in the doctors and the medicines, and also made them more stressed. They wished that they had information about the exercises that can prevent lymphedema of the hand. They highlighted that they get such information from other patients who were informed about it by their doctors. For example, the participants said:

"He made me hate the medicines, the doctors, and the hospitals. I started to ask if any doctor I would go to would be like this. What did I gain from him? They can prescribe the medicine to me, and the nurse in the department gives it to me. He made me stressed and have no confidence". Ra

"The last 4 doses affected me a lot; I needed to know what the side effects of the medicines were. I got constipation and stayed for 4 or 5 days; I could not enter the bathroom. Why did they not tell me that you might experience such a thing? Don't eat a lot. My abdomen reached my chest at the first dose. and I was unable to enter the bathroom even with suppositories or medicines". W

Another participant said:

"For example, I wished to get information about how to play my hand sport after the surgery, but I did not get this information from my doctor; I got it from other patients whose doctors told them about it." R

4.2.3 Theme 2: Psychological Challenges

Almost all the participants in this study expressed the importance of being psychologically comfortable, ranking the psychological aspect at the first degree because they believe that it can adversely impact the cure and recurrence of the disease.

4.2.3.1 Uncertainty of the Future

All of the participants expressed that they have uncertainty and anxiety about their future. They mentioned that their future is still vague and uncertain, and they cannot predict what they are going to experience in the future. They repeatedly mentioned that they fear the recurrence and spreading of the disease because they believe that their lives would be very complicated and worse with the recurrence of the disease. For example, one of the participants said:

"I feel fear of recurrence of the disease, and everyone is feeling fear of recurrence. It is impossible to find someone who is not afraid. I don't show that, and I don't talk about that in front of my family in order not to make them feel I am scared." L

Some participants expressed that the thing they are most scared of in case of recurrence is the chemotherapy, expressing that they will never go through the chemotherapy again in case of recurrence, as said by one of the participants:

"Believe me, I will be destroyed. I mean, psychologically. I will not say financially, but psychologically, I may reach a stage where I will not take the treatment. I will tell you that if the doctor says, for example, that you have cancer and you should take chemotherapy, I will not go. It is impossible to take the chemotherapy again." A

4.2.3.2 Fear for the Children

The participants in the study showed concern about their daughters and children having cancer because cancer is a genetic disease. For example, one of the participants discovered the disease one year after she had birthed her child, so she was very scared about her son and tried to ask her doctor about the possibility of transmitting the disease to him while she was pregnant, as said:

"Look to where I am scared. I was pregnant with my son, and I was thinking that I might have had this lump many years ago, so I asked the doctor if this could affect my son because I was pregnant and I also fed him from the breast. He said, No, it would not." RA

Additionally, they also showed fear of death, leaving their children motherless and wondering how they were going to live without their mothers, what would happen to them, and who would take care of them. They mentioned that they just want to live for their children and grow them up—nothing more than this. For example, one of the participants said:

"The children were the most important thing I thought about when I went into the surgery. I started thinking, If I died, what would happen to them? For example, they would be orphaned. In the first period, I was looking at them and saying, for example, that they would become orphans, and the people would sympathise with them. No, I would never deprive them of anything." RI

"I was thinking about my children at first and then about myself and my health; therefore, I have to accept because I want to live for my children". R

Moreover, one of the participants mentioned that she started to make her children depend on themselves for many tasks because she wanted them to be prepared for everything, and when she was asked what she feared the most, she said:

"My children, for example, when I see someone has a good relationship with them, I try to attract him to me so that my children remain attached to him, and this could relieve them later. Moreover, I sent my little girl to kindergarten; I did not leave her with me because I wanted her to get used to my absence and make herself busy with anything. I did not take her to the kindergarten; I asked her father to take her there." Ro

4.2.3.3 Treatment-Related Effects and the Loss of a Woman's Identity

All of the participants in this study described their difficult experiences with the treatment (surgery, chemotherapy, and hormonal therapy), expressing that they have experienced a lot of physical and psychological issues that have affected their lives and their families. The most distressing experience was the mastectomy, which altered their body image, caused a loss of sense of femininity and self-confidence, and altered their self-esteem because breasts represent a woman's identity. They mentioned that they avoided looking at themselves in front of the mirror or felt uncomfortable during showers. They also stated that the loss of their breasts added an extra burden to them because they always had to pay attention to the shape of their breasts while they were walking on the street, as described by these two participants:

"Look, the lady really misses a feminist part of her body; I think she feels there is something missing. She loses self-confidence, specifically if she is married. Life got more exhausting; you

have to take care of the issue of the breast by putting on pads. It becomes like a burden, and you have to attend to it." RA

"As a female, in terms of my view of myself, any woman feels that she has lost an important part of her femininity, which is the breast. Now that I am suffering with my general appearance, I always want to keep the breasts in a similar shape with fillings, bras, and these things. I mean, my main concern when I am walking in the street is to keep them in the same shape, so I have to be attentive, focused, and adjust the position of the breasts." D

Some participants also shared their struggles with adjusting to their new body image and finding appropriate clothing post-mastectomy to hide removing their breasts, as described by these participants:

"There are many T-shirts I can no longer wear because they are open tops. I can no longer wear them if I don't wear something higher under them because they will look very bad. Even at parties, I can't wear what I want; I asked my uncle to get married before I had the surgery. I told him I was not going to your wedding party if you didn't do it before my surgery." W

"I am one of those people who sometimes feel upset because I like to wear a nice shirt, but because I am a breast cancer patient, I find it difficult to fit the bra and the fillings, so I cancel the idea and say it would not be nice on me to wear that shirt." D

"I look like I have a bigger side than the other, and people know I am a cancer patient, so they immediately look at my chest, so I always wear loose clothes." Rh

The other distressing experience shared by those participants was the chemotherapy, which resulted in a set of physical and psychological reactions that affected their quality of life, such as hair loss. It was described as more distressing than mastectomy, specifically for those who had

long and attractive hair before the disease. Some of the participants expressed that hair loss was a very difficult experience for them and for those who are around them because they were unable to accept and look at the mirror to see themselves without hair; therefore, they avoided looking at the mirror, and some of them covered all the mirrors at home in order not to have a chance to look at themselves, as described by these participants:

"I have not approached the mirror for 3 months. I do not know what has been in the mirror for 3 months. I covered all the mirrors at home. I did not accept it at all because my hair was long to the lower part of my back." A

When my hair started falling, I was upset, so I tried to annoy the others. Automatically and unintentionally, I get angry and annoy them with my speech like this; even I left my fiancé when my hair started falling. I did not accept to look at myself at 1%, and I never accepted. After a while, I started to take off the hijab and look at myself and cry and then got used to that, but when I was passing near the mirror, I was not looking at it at all." W

Additionally, the participants also expressed that the issue of hair loss made them easy to recognise as cancer patients; therefore, they felt shy when they were going out and people started looking at them strangely, as mentioned by this participant:

"Sometimes, especially in the days when I was without eyebrows, I felt people on the street look at me, and even on the bus, people were looking at me strangely. I am not upset, ashamed of this look, or feeling I have something wrong." Ri

On the other hand, some participants mentioned that hair loss was not an issue for them; it was a chance for them to wear hijab, and they expressed that they were happy and

felt more pretty with hijab, and they are committed to it and will not take it off, as stated by this participant:

"Hair loss was the last of my concerns; on the contrary, I am now happy that I put it on my head and no longer will remove it. I felt that I am now more beautiful than before." Ro

The participants also mentioned that the chemotherapy has caused a lot of other physical symptoms, such as nausea, vomiting, fatigue, and premature menopause, that have adversely affected their quality of life. Almost all of the participants mentioned that they were unable to rise from bed for many days after they were taking the chemotherapy and that they were completely dependent on their families to take care of them. They attributed that to the bad quality of the medicine they received and expressed that the government is unable to import good-quality types of oncological medicines during this crisis, as stated by the participants:

"I was feeling a complete breakdown; I was unable to move, and I was moving with difficulty, even to the bathroom. I could not go for 3 days after the first dose. For the second dose, the symptoms lasted for a long time; I only felt rested a few days before the next dose and started again." R

"The quality of the medicine is never good, and its efficacy is low. Effective medicines are expensive, and the country cannot import good types from countries that export good types, such as French and Swiss medicines. What are the types they bring to us? The Indians and the Iranians come to the hospitals, and sometimes they come damaged, and some patients got hurt from the doses, as I heard." H

The hormonal therapy was also distressing to those who were receiving it due to the changes in their weight and the effects on their mood, in addition to the issue of premature

menopause, which was very distressing due to experiencing the hot flashes that were very annoying to the majority of them. They mentioned that they feel older than reality because of stopping their period, specifically those who want to have children, as they have to wait to complete their hormonal therapy. For example, one of the participants said:

"I'm 38, but I feel like I'm 68 due to the hormonal therapy. I feel each year of stopping the period is for 10 years. Before, I was able to bring children." Rh

"Of course, last week I took the needle, and since that time my mood has not been at all good, with headaches, tension, and weight gain. My clothes are not fitting me; I was 68 kilos, and now I am 90 kilos, despite the fact that I don't eat more and my lifestyle hasn't changed." Rh

"Hot flashes were annoying when they came; I felt my head dripping, and I was wiping and drying it." D.

4.2.3.4 Inadequate Psychosocial Support from the Health Professionals

The majority of the participants expressed that they had not received adequate psychological support and care at the hospital because of the workload of their oncologists and nurses. They highlighted the need to involve psychologists and sociologists in the treatment plan of cancer patients, specifically in these distressing conditions where they live. They mentioned that the psychologist could play an active role in supporting the patients psychologically and socially. For example, when the participants were asked what needs should be met at the hospital to feel that they had received adequate psychological care, they said:

"There should be a psychologist to support the patients psychotically and socially." L

Another participant said:

*"The psychologist is very helpful. For example, you can tell him things that you might not feel comfortable sharing with your doctor, husband, or anyone else in your family. He can be the keeper of your secrets. I am eagerly waiting to go to the hospital to meet the psychologist and tell him what I need. It is comforting to talk to him about the situations that have happened to you."*A

4.2.4 Theme 3: Financial Challenges

4.2.4.1 Treatment is Expensive and Not Available

All the participants in this study expressed the issue of the unavailability of treatment at the hospital, highlighting the difficulties they have experienced getting their treatment. They expressed that their need to buy medicines from outside put them under a very big financial burden because these medicines were very expensive. Some of them mentioned that they sold possessions such as their gold and their houses to be able to get the treatment. Some of them also mentioned that they spent the savings they were keeping for emergencies to receive the treatment, and some had loans, putting their families under extra financial pressure within these difficult conditions. Some of the participants also expressed the difficulty of getting some kinds of unavailable medicines even outside; therefore, they were ordering them from neighboring countries, which cost them more and more. For example, when the participants were asked how they managed the cost of their treatment, they said:

"The financial burden. Praise be to God for my financial condition; let me say that it is acceptable, and with that, I bought 7 doses; each dose was for one million and 250 thousand. I owed and sold a house, and I paid half of its price for my treatment and returning my debts. Otherwise, I was not able to get my doses, while the other patients were unable to get their doses. I got into debt until I sold the house to buy my doses, but for the others, what can they do?" H

"Honestly, my family helped me in part, and this was in the first degree. I also sold a gold ring, and my husband was saving some money aside for urgent events, so we were able to collect the cost of this expensive dose." L

"Sometimes we get debt, sometimes a loan, and if there was a quick loan, my family would withdraw a loan. but it was a debt most of the time, and we returned it later." W

Additionally, some of the participants expressed that they felt guilty towards their families and wished this money to be spent on the children or in the house instead of their treatment, as described by these participants:

"I wished the money that was spent on my treatment had been spent on my children." R

"I feel guilty towards my family every day, and that is what prompted me to work rather than thinking to depend on myself. I would like to tell you honestly that I am running and working, and I also opened an office and taught students to help my family or to be a small part of their daily assistance. Honestly, I do not need money; I can sit at home and eat the food they eat, but I am working for two things: the first thing is to occupy myself, and the second thing is to be a source of help for my family." W

The participants attributed the unavailability of the treatment to the ongoing crisis in the country, highlighting that these issues were not present before the crisis and the patients were receiving their treatment at the hospital easily, as was described by these participants:

"The crisis affected a lot in terms of the availability of the treatment, ensuring the patient's requirements, more expensive medicine, and lower quality." H

"The Syrian crisis has affected a lot. Before the crisis, the medicine was available, and if it was only cut off for a few days or a maximum of a week, I know that from the experiences of patients before me." R

"The crisis affected us mostly financially. The doses were not available, and we sometimes requested the doses from Damascus. We suffered to find a trustworthy source to buy the dose." W

4.2.4.2 Low Incomes and High Cost of Living

All of the participants expressed that the effects of the Syrian crisis were not only restricted to the unavailability of medicine but extended more than that to affect the daily cost of living, making it very high and imbalanced with the incomes that are getting low and low due to the sharp drop of the currency. The majority of the participants highlighted the challenges they are facing within these difficult conditions in the country, highlighting the need for cancer patients to follow a healthy diet to help them cure, but unfortunately, they are unable to follow any diet with this high cost of living where the prices are increasing daily, therefore they have to give up a lot of things and prioritise their children's needs over their own, as said by these participants:

"I told you before that if you want to eat healthy food, you cannot, for example, eat an avocado or a fruit cream, as they said it is very useful for us. However, when I asked about its price, it was 25 thousand per kg, so I cannot buy it at this price, even if it is just one pill. I say no; I can get another thing, so the children can eat, not just me. I mean, the priority is for my children, not for me." Ri

"I have not eaten fish for more than one month, and we should eat it continuously, specifically roasted, but we are unable to buy it." L

"I say to myself, no need for a spoon of honey, no need for the date; did you know what?" A

Additionally, the participants also highlighted the issue of transportation, which became very difficult and expensive due to the extensive lack of fuel, as one of the effects of the crisis. This issue was more annoying for those who were coming from outside Latakia, as they had to travel to another city to receive the treatment, adding more financial burden to those patients.

"We used to drive the car to the hospital in Lattakia, and this also caused a great financial burden. But we had to go in the car because I was vomiting all the way back home even though I was taking the medicines, but I don't know why my stomach was so allergic to the medicines." W

"Transportation is walking; ha-ha-ha, there is no transportation; it is walking; you are not allowed to use the transportation ways (due to their cost). One time, I took a taxi because I was very tired from my house to the doctor's clinic for 7,000 Syrian lira. I was going to cry. Do you know what? I was going to cry." A

4.2.4.3 Other Financial Challenges

The participants also highlighted the other financial challenges they are facing, as they have to do regular follow-up checks and diagnostic tests, which are also very costly, and most of them are not available at the hospital. They wish to take their conditions into account, give them special deals, and provide them with some facilities. For example, the participants said when they were asked how they would like to deal with them.

"I wish everything to be easy; if you want to enter any place to do anything, people think she is a cancer patient; we must do a discount for her. Doctors and laboratories in general should think that she is a cancer patient, so we have to give her an appropriate price. It is enough for her to face the pressure she faces outside; those should have special prices, not free but symbolic prices."

A

"During the first period, all the tests were outside the hospital because there were no substances at Tishreen Hospital. I think it was Al-wasemat, and it was so expensive; the last year, I paid around 40 thousand with a discount, and I visited the surgeon twice, and I paid 15 thousand for each time, just for questions without any examination."

Even those participants who have insurance mentioned that the coverage of their insurance was very limited.

"The insurance does not cover me a quarter; the insurance should cover 100% of such a disease. When I discovered the disease, I did tests, a CT scan, and an echo, and I paid 950,000 Syrian Lira—no, 950 without the echo. I mean, 950,000 tests with the scan in Damascus, and the insurance did not pay me 100,000." H

In addition to that, the participants also highlighted the issue of breast reconstruction, expressing that they wish to do it to improve their appearance but are unable to do it due to the high cost of the operation compared to their current financial status.

"The operation is very expensive—about \$1000; it is impossible. It is a very big financial burden." W

"I want \$1,000 to reconstruct this breast and \$1000 for the second breast because I want to do evacuation and filing, which means I need \$2000, and this is not easy at all." A

Another challenge was also the cosmetics, wigs, and breast prosthetics, which were also very expensive, highlighting the need for comprehensive centres to provide women with such services that might improve their condition.

"Do you know that I searched throughout Damascus to find a silicone breast, and when I finally found it, it was larger and without a carrier? In Latakia, I could not find it anywhere."

There should be at least two comprehensive centres to provide such services for both women and men in such circumstances. I believe that they contribute at least 20% to the recovery of some women because their mood improves a lot." H

"It is unreasonable for a woman who needs 100,000 Syrian lira per month to buy the medicine to go and pay 50,000 to pigment her hair." H

4.2.5 Theme 4: Societal Influences

4.2.5.1 Society's View and Stigma

All the participants talked about the negative social view and stigmatisation of breast cancer patients. They expressed that there are still many wrong beliefs about cancer in society, such as that cancer is a contagious disease, a "disease of death," and that the patients are going to die shortly despite the high percentage of cures among the patients. They mentioned that these beliefs not only affected them as patients but also affected their families and children. For example, one of the participants described how her children were affected by this negative societal view as follows:

"The people around them tell them that their mother is a cancer patient, and she will not live for a long time; she will die. My older child's friends put in his mind that at any moment he may come to the house and not find me (death). The society is ill." A

"You feel like it is a contagious disease, and they didn't want to be close to you; oh, cancer, may God heal you; oh, and they walk because they are scared of infection (laugh)". A

In addition to that, they expressed that they experienced some negative and annoying comments from the outside that made them very sensitive and distressed, as stated by these participants: *"For example, they say, Look, how did she shave her hair like crazy? I was hearing*

these words on the bus and at the bus station. The way that people bully you is very ugly; they don't know your reasons. Why do they talk in this way? Even after my hair grew up and was still shorter than this, while I was walking at the bus station, I heard a woman say to her little girl, Shut up, or I will bring that girl of short hair to you, as if I were a source of intimidation. This was affecting me in a very negative way. I used to cry at home when I heard these hurtful words, and sometimes I got angry with my mama. Look what they were talking about me or saying to my fiancé or my father, and sometimes I was taking it in jokingly after a while." W

"I sometimes get denounced by outsiders for having the mastectomy. For example, I hear some comments such as, it is good that your husband is still willing to touch you, it is good that he is not disgusted by your appearance." A

Additionally, they expressed that they dislike pity from others, wishing to be treated as normal people in society, not like someone who deserves pity. For example, when they were asked how they wished people would treat them, they said:

"As normal people, we don't have anything. In our day, cancer has become like the flu. In the neighbourhood, there are around 50 or 60 women, not just me. They can go to the hospital to see that it is full of patients." Rh

"I felt weak in some moments, but I was also very strong in a lot of moments. I wish they would treat her as a normal person." W

"They pity them, you know? Yahram, this is what they say. Once, I was walking with my children, and I heard them say, "Yahram." This word bothers me a lot; why "Yahram? It's so annoying; why pity? Anyone can get sick." Ro

Some of them also reported that some people are very curious about their condition, and they often focus on their chest area to know if the breast was removed or not. They mentioned that this bothers them and makes them feel sad because they missed the breast, and people can easily recognise them as breast cancer patients, as described by these participants:

"The only thing that made me sad was that I felt ashamed whenever I went outside of the house because anyone who knew what I had gone through would immediately focus on my chest, and that made me feel sad that my breast was removed and that I am a cancer patient. That was what I had to learn to cope with." D

"As for the community, like relatives, but of course not everyone, they look at you and focus on your chest area—has the breast been removed or not removed?" L

4.2.5.2 Lack of Marriage Choices

The unmarried participants expressed that they might not think of getting married after their diagnosis of breast cancer because they do not think that anyone can accept their current disease or how the partners would perceive their physical appearance with only one breast. The community is not that understand and stigmatises breast cancer patients. For example, these participants said:

"It is possible that I or any other woman is thinking of getting married, but now she may not think of that anymore. Why? Because who wants to marry a sick woman who has undergone a mastectomy, will be in long-term treatment, and has become deformed in her body? I will be ashamed to expose myself to a man. He may not accept me, and he may be angry at me at once and stigmatise me for my illness because, in our culture, this is bad for men, friends, and family." H

"I told my fiancé that if they are going to do a mastectomy, I will break up with you. I couldn't let you see me as distorted. If I cannot accept my appearance like this, how will he accept me?" W

4.2.6 Theme 5: Cancer Invaded my Whole Life

The majority of the participants in this study expressed that their lives before breast cancer were better psychologically, socially, financially, and physically, indicating that cancer has affected all aspects of their lives.

4.2.6.1 Psychological effects

Most of the participants mentioned that their disease affected them psychologically. They mentioned that they were not appreciating what they had before the disease. They wished they had not removed the breast. They wished for days to come back when there were not that many concerns about the disease, the recurrence or spreading of the disease to another part of the body, the treatment, the cost of the treatment, and most importantly, their children. They had no concerns about them before; they were just thinking about feeding and drinking them, but now the concern is bigger; they are thinking about what will happen to their children if they pass away, specifically those who have young children. They need to ensure their future and make them independent, even from them and from their father, as stated by these participants:

"Before, I was psychologically comfortable, and I wish the days would go back to the past so that I would not be ill. Before, I had no worries except for children, eating and drinking them, securing them, and seeing their demands for the university. Now that there is concern about the disease, I wish I had not had the breast removed. I am afraid for the children that if something happened to me (passed away), there would be a recurrence or not. I think more about the children, especially the youngest, while before I had no worries. Now, my concern has become bigger for them too, as

I want to secure their future and see that they can depend on themselves and don't need anyone, neither me nor their father.” R

Another participant said:

"Before the illness, I was psychologically comfortable. I did not feel the blessing of health until I got sick. I felt that when my husband was sick. There were things in life that I did not feel joy for. There were things that I was annoyed with, but now I wish they were; even financially, I was also more comfortable, and even socially, I now feel isolated. Of course, the reason is not that I do not want to see people; the reason is that I don't want to go out; I don't feel like I have to wear my clothes and prepare myself. Even I am afraid to drive my car, and I feel that I don't have the energy to drive." H

4.2.6.2 Unmet Family and Child Care Needs

Some of the participants mentioned that their roles as mothers and wives have been affected as they are unable to meet the children's and family's needs as before the disease due to treatment side effects, which have affected them psychologically, as described by one of the participants:

"It was Ramadan. I couldn't cook the foods they liked while they were fasting. This affected me a lot psychologically, but then, thank God, now I am coming back a little by little, not fully functioning like before, but at least a dish that they like, like sweet food or something like that." Ri

They also mentioned that the disease has affected their sexual relationships with their husbands, as some of them were avoiding sexual contact because they felt shy, incomplete, and unattractive with only one breast, while others mentioned that their sexual relationships have not changed and their partners were supportive and understanding of their situations. For example, when the participants were asked if their sexual relationships had changed because of their disease, they said:

"Of course, it has been affected a lot because I am always under stress and nervousness. Hormonal medications make me always feel tension and nervousness, and my voice is always high even though there is nothing." Rh

"I was completely far from this topic, especially in the first period, and praise be to God; he was accepting of the situation and encouraged and supported me." Ri

For me, yes, but for him, no. I no longer want to have sexual intimacy, and I try to avoid it. I have always tried to hide the wound from him, but he says, 'Let me see. I want to see how the wound has healed.' He wants to tell me that he has no problem with it. He told me that as soon as I came out of surgery, I was still under anesthesia. The first thing I asked was if he had seen me without a breast. Even when I was unconscious, I asked about this point. This shows how much this subject affects me, and I have no idea about that." RA

While another participant said,

"No, not at all; thank God my husband is understanding, and when he sees me tired, he never forces me or gets close. Our relationship is like the usual foreplay, and our lives are very normal."

L

In addition to that, the participants also expressed that the disease made their lives more restricted physically and socially, as they had to pay more attention to their health and consider many things that they had not before. They have to avoid engaging themselves in crowded places and try to avoid circumstances that could aggravate their situation. For example, one of the participants said:

"From the health aspect, I have to pay more attention to myself so that there is no chaos in anything, because this disease is malignant, as it can destroy the patient as long as he does not

feel, so I am careful not to ignore anything. For example, once I feel anything I don't usually have, I immediately check and follow up. It affected my life; muscular strength is not the same as before, and movement is not as easy as before. During the past two years, the coronavirus has affected my life. I was not going to crowded areas because our immunity is weak, so I am trying not to go to any crowded place and don't expose myself to any infection." D

Another participant said:

"Life has changed a lot in terms of sitting at home, trips, going to the neighbours, and the way of dressing. Before, everything was better. For example, let's say if I want to go to any place, I cannot be absent for 2 days from home because anything could happen to me. I have to carry my medications wherever I go, and sometimes if I forget them, I have to come back home because of it. It limits all my behaviours and actions." H

4.2.6.3 Physical Effects

The participants also indicated the physical effects that resulted from the treatment. Some of them expressed that they had some physical limitations, such as reduced hand mobility, making them unable to work like before and needing assistance in their daily activities, which affected them psychologically as well, as described by the participants below:

"I was more active; there are many things I can't do because of my hand; is it right or not? This is what is bothering me: that I can't work like before." RI

"My hand is now 70% I can't use it, and I wonder if I will be able to use it for carrying or not; specifically, it is the right hand." Rh

Some participants also indicated the physical effects that had resulted from the chemotherapy and the hormonal therapy. Premature menopause was one of the most distressing

issues, especially for those who wished to have a new baby. For example, one of the participants expressed that she was annoyed by the words she kept hearing from her husband's family telling him to renew his youth, as described by this participant:

They say to my husband: Renew your youth and bring a child. She knows that I am sick, I am being treated, and I have no period at the moment. Maybe this is what makes me have this desire to have a child because I want to prove to people that there is nothing wrong with me and that I can still have children." Rh

Another participant also indicated that she had been burned by the radiotherapy, which was very annoying, as described by this participant:

"I received 16 sessions of radiotherapy. I felt that my body was afflicted with burns, and all this area (referring to the left breast area) became burned as if boiling water had been spilled on it, and this was bothersome psychologically and physically." D

On the contrary, some participants expressed that life after breast cancer was better in some aspects, as the disease gave them a chance to explore the people around them who love and support them and those who do not, thereby keeping only those who are supporting them and giving up those who are not. For example, one of the participants said when she was asked, how do you see your life now after you have been diagnosed with breast cancer?

"I see it better because there were many people in my life; I was delusional about them, and during my illness, I discovered who loved me for myself and who was loving me just for fakery. During this time, I learned who I could trust and who I couldn't. So, those who were with me supported me, and I felt them try to make me stronger. I kept my relationship with them. In contrast, those I felt made me weak, so I gave up on them. I deleted a lot of people from my life." A

Another participant also expressed that her disease had some positive and negative points in her life because it motivated her to work, and she is happy and successful in that, as she described:

"The best thing is that I took a step because of the disease, and I am fully successful in it, which is my work at the school, and the worst is that I am still a girl at the beginning of my life. I can't take care of my hair; I cannot make it straight or do any design, and I see how the girls do designs with their hair, sweet movements, and sweet makeup." W

4.2.7 Theme 6: Factors Affecting the Quality of Life

4.2.7.1 Factors That Worsen the Life

The participants in this study indicated that their lives could be worsened by some factors. The first factor mentioned by all the participants was the recurrence or spreading of the disease to another part of the body because they knew that the recurrence would have a lot of consequences. For example, one of the participants who was engaged stated that she would break up with her fiancé completely in case of a recurrence, as described below: *"If the disease comes back, my life will be worse because at that time I will break up with my fiancé." W*

Other participants said:

"The recurrence of the disease will make everything worse." R

"If the disease appeared in the second breast or any part of my body, this would make my life worse." Ri

In addition, the participants also mentioned that being in a worse financial situation will make their lives worse because at that time they will not be able to buy their medicines and treat themselves, which will make their lives worse, as described by one of the participants:

"If the financial situation gets worse and I do not have money to buy the medicine, I will be affected psychologically and physically. Honestly, financial status affects all aspects of life." D

Moreover, the situational factors were also described by the participants as distressing factors affecting their lives. All of the participants in this study expressed that they are living in very stressful situations, highlighting that young breast cancer patients in Syria are suffering a "double whammy" due to their diagnosis of breast cancer at a young age and the difficult circumstances in which they live where the basic needs are not available, such as the extensive lack of electricity, water, gas, and fuel, which negatively affects their quality of life. They attributed that to the effects of the ongoing crisis in the country, which started in 2011 and affected all aspects of life. The lack of electricity was described as the most distressing factor for those participants because everything in this life is connected to electricity. They wondered what 1 hour of electricity could do for every 5 hours without it. They mentioned that they were unable even to turn on the fan when they were going back from the chemotherapy in the summer or to heat themselves in the winter, as Syria is well-known for its cold weather. All these factors added extra pressure and stress to those participants, along with their disease, making their lives worse, as described by these participants:

"Is this a situation that we live in? You took a dose of chemotherapy and went out; you want at least an atmosphere a little bit wet and cold, at least a fan; you cannot turn on the fan because there is no electricity or water; I have been for two days without water." A

"Before the crisis, there was some restriction on the electricity, but not in this unfair way, 30 minutes every 5.30 hours, and in the winter, we may not see it all day." Rh

"For example, if you are sitting and waiting for electricity, or you have been cut off from water, or you are unable to bring the food you want, does it cause you anxiety and psychological stress?"

L

4.2.7.2 Factors That Improve Life

The participants in this study also indicated many factors that could improve their lives and make them better. The first important thing mentioned by all the participants was the cure for the disease and restoring the life that was before the disease, as described by this participant:

"The first thing is to recover from the disease, and this will be the top of my happiness when the doctor tells me that the treatment has ended and everything is over. Success in any aspect of life makes me happy; the success of children also makes me happy." D

Having a better financial situation was also mentioned as a significant factor in improving one's life by the majority of participants. They mentioned that with good financial status, they could ask for a consultation outside the country and ensure their lives and their children's lives, as said by this participant:

"If I had more money, I would have been able to follow up and do consultations for my illness outside (maybe abroad) and be more reassured and confident. As for the children, to be secure, satisfied, and finish studying." R

"If the financial situation improves a little and we can provide the children with things they like to secure our lives, we will register the children in institutes to benefit. Because one of us works for his children and their future, we always think of this." Ri

Restoring their shape and doing breast reconstruction were also mentioned by some participants as things that could improve their quality of life, as described by this participant:

"Breast reconstruction is what I am missing; it could improve my life psychologically and physically." W

Another participant indicated that having a partner could improve life, but at the same time she was wondering who would accept marrying a breast cancer patient.

"My life would be better when they tell me that you are cured, have a reconstruction, and the financial situation is better. I don't know if I had a life partner; I may feel more comfortable because there is someone I can depend on". H

Another participant indicated that having a new baby could improve her life because, by having a new baby, she will feel that she is cured and may not get annoyed words from the people around her. For example, the participants said:

"If I have a baby, I feel cured, and it changes our lifestyle as a whole."

4.2.8 Theme 7: Environmental Stressors

4.2.8.1 Stressful Hospital Environment

The majority of the participants expressed that the hospital environment is uncomfortable and distressing for the patients. They highlighted the need for more organisations and making a lot of improvements to make this environment more suitable and attractive for the patients to receive their treatments. They mentioned that cancer patients are different from other patients because cancer is a distressing disease, and therefore, cancer patients need a more comfortable environment than this one that gives them a sense of revulsion. They also mentioned that the hospital lacks a lot of equipment, which makes the patients sometimes wait a long time to do the necessary

procedures they need, which in turn could affect their treatment. In addition to that, they also mentioned that the place is very crowded, which puts the patient under stress from the early morning until leaving and increases the opportunity for more infections for those patients as their immunity is low, as described by this participant:

"When you go there, you can see 10 patients in the room; especially in the upper ward, the companions are more than the patients. It might be someone who is sick and transmits the infection to us because our immunity is not good. No one wears a mask or gloves. I mean, there is not that much restriction." Ri

"It is too much crowding; it is unreasonable for a small hall to accommodate 200 patients. Is it a suitable environment for patients who are coming to take doses? The waiting halls are supposed to be bigger, and the number of chairs is less." H

"The hospital environment should be better and more organised than this. There is a lot of crowdedness and randomness, and people are on top of each other, and the patient is not tolerated. In the summer, the situation is very bad; there is no air conditioning, and this is very annoying and tiring, and the room is not prepared for the patients' companions to stay with them." Ra

One of the participants said that she had to have an ultrasound to get injections of hormonal therapy from the hospital. She also said:

"Is it reasonable that I should wait for two months? I went in the last half of the ninth month, and they gave me a turn in the 12th month. I got nervous and said, it is unreasonable; the injections might be finished tomorrow from the hospital, and I have to buy them from outside." Rh

Another participant described her status as follows:

"For example, I have to do a scan, and I have to wait for my turn in the hospital. I am currently stopping the medication because this is a scan to re-evaluate my condition as a whole, so based on this scan, I have to continue the medicine or stop. It's been a week; I'm not taking the medicines and waiting until it's my turn to do this scan, but if I cannot do the scan in the hospital, I have to do it outside at my own expense, and honestly, I am not able to do it outside. Did you know how?" D

Another participant, when asked about the hospital environment and whether it was comfortable, said:

"Certainly, no. Do you imagine that during those crowded days, I was sitting down on a wooden chair to receive my dose? It is difficult when other patients are sitting in bed and you are sitting on a wooden chair. I do not say that I am better than anyone; no, we are all patients, but this is too much; I mean, the hospital needs more equipment." W

Furthermore, the participants in this study suggested many suggestions to make this environment better and improve the psychological aspects of the patients, such as doing some nice decorations, listening to music, installing air conditioners, and putting televisions in the patients' rooms. Some of them also highlighted the need for another hospital to suit the increased number of cancer patients, as this hospital is the only oncological centre in the region and patients come to this centre from many cities around Latakia. For example, when the participants were asked, what do you suggest to improve the hospital environment? they said:

"Atmosphere: I like the hospital to have a different decoration to give the patients a sense of psychological comfort. The colour of the paint should be different, or these sets." L

"I prefer the colours to be more joyful; the simplest example is TVs. To put TVs and songs on, turn on music from the morning (Fairuz is a very relaxing singer famous in the Arabic world). How beautiful is it when you come in depressed and hear these songs? You may get distracted by the way because you feel that something takes your mind, but this is not available at the hospital." A

"The crowding issue must be organised because there is a lot of crowding. For example, set up another centre, because cancer patients need rest and a calm atmosphere. They can be put on television screens because the dose is large. There must be improvement and organization. If the patient is in a difficult situation, let him watch a movie or listen to music so that he can get away from thinking about medicine and illness." Ro

4.2.9 Theme 8: Coping Mechanisms

4.2.9.1 Acceptance and Challenge of the Disease

Despite all these challenges they are facing and the difficulty of having breast cancer at such a young age, the participants tried to be strong and accept their disease, expressing that they put themselves in a challenge with this disease and that they have to fight to overcome it for their children at the first degree. Some of them felt that this disease was a fate and a test from God for them, and they had to be at the level of this test and accept it. For example, the participants said:

"I have to accept, and I wanted to live for my children." R

I have to accept; it is a fate from God; there is no rejection of the judgment of the Lord of the Worlds." L

"God tested me with illness, and I hope to be on the level of this test. If he wants to take me to him, neither I nor anyone else in the world can do anything. Did you know how? This is my thinking, and I don't say why this disease happened to me and did not happen to someone else; no, never." D

4.2.9.2 Religion and Spiritual Practices

All the participants mentioned that they depended mainly on their religious and spiritual beliefs, such as offering prayer and reading the Quran, to help them cope with the disease. They mentioned that these practices were their shelter when they felt weak and stressed, expressing that engaging themselves in such practices was very helpful and supportive, made them closer to "God almighty," and gave them a sense of peace and reassurance, as stated by these participants:

"Yes, a lot; I felt a great rest. Reading the Quran, perseverance in prayer, and thanks to God gave me a sense of psychological comfort." L

"They give a lot of rest and comfort; they make you relax psychologically; and they give you strength, safety, and hope." Ri

"It is mentioned in the Quran, 'In the remembrance of Allah will the hearts find peace' So, for sure, spirituality gives psychological comfort, and this is related to the person himself." D

"It's been a while since my hand was painful, and for the children, it was very difficult in all aspects. I could not be calm until my husband read to me what he memorises from the Quran, then I went to sleep and rested. 'I feel better, and I had nothing left.' Ro

4.2.9.3 Social Support

Social support was also one of the most common strategies used by those participants to help them cope with the disease. The majority mentioned that their husbands, children, families, and friends

were very supportive of them during this distressing journey, financially, psychologically, physically, and socially. For example, the participants said:

"At the first shower, the whole family was waiting for me at the door. This helped me. There was my husband, my children, and my mother, and I felt they were waiting for me outside, so I knew I had to be strong, and this helped me a lot. My children keep asking, do you need anything, Mom? They just want to know my situation inside." R

"We were having a little, we were in debt a little, and someone gave us money from my family and his family; by doing so, we were able to collect the required money; they were not available comfortably." Ra

"For example, the support of my friends when someone was calling me and asking about me promoted me a lot." Ri

"My husband was helping me in everything—the home, the children, in everything." Ra

In addition to that, some participants indicated that receiving inadequate social support has resulted in a lot of negative psychological effects such as depression, fear, anxiety, constant nervousness, getting angry about anything, and crying, as stated by this participant:

"Of course, the lack of support put me in a state of depression, constant nervousness, getting angry about anything, being nervous, and crying. Inadequate support could make everything bad." H

4.2.9.4 Other Coping Strategies

Additionally, the participants mentioned that comparing themselves with those who were in worse situations helped them accept their situation easier. They also mentioned that they used other coping strategies to cope with the disease, such as going out with friends, doing physical exercises, listening to music, visiting their villages, going to the sea, occupying themselves at home and at

work, taking medications, avoiding thinking, doing tests, and using diagnostic procedures to overcome the sense of fear of recurrence. For example, the participants said:

"Now I am suffering from the discomfort in my hand, and I can't work that much because of it. But I say, Praise be to God, it is the left hand because I see someone else suffering at her right hand, so I say, it should be easier for me to handle, praise be to God." Ro

"I chose to get busy and came to school, and they accepted me. I took the last two doses while I was working at school because I said it was better to work and be busy with the work; otherwise, if I stayed alone, I would think more because I am of this type." W

"My husband was kidding me to relieve me of the matter. Also, my mother rented a flat for 4 days near the sea in Om Al-Tayour, Latakia, to rest my psychology and soul because I was so stressed and tired. I also go and come and don't think a lot about the disease." L

"I don't occupy myself; I go to do tests and scans; I did a CT scan and a uterine examination test." A

4.2.10 Summary of Qualitative Findings

The qualitative phase of this study aimed to explore the perspectives of young Syrian breast cancer women on the factors affecting their psychosocial needs and the factors influencing their quality of life. In this phase, eight major themes were identified. The first theme was the challenges of adequate information needs. All the participants were dissatisfied with the information they received about the disease, the treatment and its effects, and the available services for breast cancer patients. The second theme was psychological challenges, in which almost all the participants expressed the importance of being psychologically comfortable, ranking the psychological aspect at the first degree because they believe that it can adversely impact the cure and recurrence of the

disease. The third theme was financial challenges, where all the participants expressed that they faced a lot of financial challenges due to the unavailability of treatment and the high cost of living in the stressful situations they lived in. The fourth theme was societal influences, in which all the participants talked about the negative social view and stigmatisation of breast cancer patients. The fifth theme was cancer invaded my whole life, where the majority of the participants expressed that their lives before breast cancer were better psychologically, socially, financially, and physically. The sixth theme was factors affecting the quality of life, in which the participants mentioned the factors that could worsen their lives, such as the recurrence or spreading of the disease, the deterioration of their financial status, and the distressing situational factors they face. In addition, the participants also mentioned the factors that could improve their quality of life, such as the cure of the disease and restoring their previous life before the disease. The seventh theme was environmental stressors, such as the stressful hospital environment, where the majority of the participants expressed that the hospital environment is distressing and not comfortable for cancer patients. The last theme was coping strategies, in which the participants talked about the strategies they used to cope with breast cancer, such as acceptance of the disease, social support, and spiritual practices.

4.3 Mixed-Methods Findings

4.3.1 Introduction

In this section, the quantitative and qualitative data have been integrated to answer the mixed-methods question of this study: In what way does the qualitative data help to explain the quantitative findings? In more specific words, in what way do the qualitative interviews help to provide a better understanding and in-depth explanation of the quality of life and psychosocial needs that have been reported by young Syrian breast cancer women in the first phase? To answer

the mixed-methods question of this study clearly and comprehensively, the quantitative findings were summarised first to highlight the most important findings that needed explanation, the integration of both quantitative and qualitative findings was conducted, and the emerging results were discussed comprehensively.

4.3.2 Significant Unmet Psychosocial Needs

4.3.2.1 Interaction with Health Professionals

The quantitative data findings revealed that the mean prevalence of dissatisfaction in the interaction with health professionals was 25.1%, indicating that the participants are partially dissatisfied with their interaction with the health professionals. The highest percentages of dissatisfaction were reported for the items ‘Health professionals have time to discuss issues with me’ and ‘Health professionals who listen to me’ (40.1% and 37.1%, respectively).

The mixed-methods analysis showed consistency and similarity between the quantitative and qualitative findings in relation to interaction with health professionals, as the qualitative analysis also showed significant dissatisfaction with the communication with the health professionals, mainly the oncologists, and clearly explained the reasons beyond this dissatisfaction from the participants’ perspectives. It was also clearly apparent in the reflection of the quantitative findings in the qualitative analysis that the health professionals have no time to listen to their patients and discuss their issues due to their workload and restricted time either at the hospital or at the clinic. Another explanation also provided by the qualitative analysis for the quantitative results is the inadequate number of oncologists at the hospital, which was attributed to the effects of the crisis that started in 2011 when many physicians left the country, and the majority of those who are getting their specialty abroad have not yet returned to the country. Additionally, the oncologist’s boredom and routine were also identified in the qualitative analysis as factors

affecting the interaction process between the participants and their oncologists, as shown in Table 4.13.

Table 4.13: Mixed Methods Findings of Dissatisfaction with Interaction with Health Professionals

Integration of Quantitative and Qualitative Findings of Dissatisfaction with the Health Professionals	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=167	Semi-Structured Interview N=11
Category (1): Dissatisfaction with Interaction with Health Professionals Mean prevalence (25.1%)	Subtheme: Inadequate Communication with the Health Professionals
Items with high percentages of dissatisfaction: • Health professionals have time to discuss issues with me (40.1%) • Easy and quick access to doctors (36%) • The health professional who listens to me (37.1%)	Dissatisfaction with the communication with the health professionals, mainly the oncologists (N = 11) Reasons Behind the Inadequate Communication with Health Professionals • The workload of the oncologists ○ <i>"If I want to ask him a question, I can't because he is very urgent. He gives you a feeling of hurry up". W</i> • The inadequate number of oncologists at the hospital, and the majority are hematology specialists. ○ <i>"There should be more doctors; there are only 4 or 5 specialists and 4 rooms, which means that all those 200 patients have to enter these 4 rooms". H</i> • High numbers of patients ○ <i>"A large number of patients, overcrowding, and many commitments at the hospital mean that at least the doctor has 40 files per day, so you can see the patients over each other (a lot of patients)." R</i> • Borden and routine of the doctors ○ <i>I mean, he sees thousands of patients; in my opinion, he considers it like the flu because it's normal to him". Ra</i> • The Inadequate number of nurses ○ <i>"The nurses have a big load, and their number is very little". W</i>

4.3.2.2 Information Needs

The quantitative data analysis revealed that information needs were the second highest unmet needs after the practical needs category, with a mean prevalence of 38.34%, indicating that there is a noticeable dissatisfaction with the information received about the disease, the treatment, treatment side effects, advice on what services are available, and access to other sources of information.

Similar to the previous section, the mixed-methods analysis also showed that the quantitative and qualitative findings were quite similar and consistent, and there was a significant reflection of the quantitative findings in the qualitative data, where the qualitative analysis also showed complete dissatisfaction of the participants with the information they had received about the disease, the treatment and its side effects, the available services, and the information related to food and diet. More importantly, the qualitative analysis gave a comprehensive explanation of the challenges to receiving adequate information from the participants' perspectives, which showed that inadequate communication with the health professionals was the first challenge to receiving adequate information from their health professionals and revealed the reasons behind that, as explained in the previous section. The other reasons that were also identified as challenges to receiving adequate information from the qualitative analysis of the participants' responses were the lack of educational programmes and awareness campaigns about breast cancer, the inadequate number of nurses and their workload, and the unavailability of the nutritionists in the hospital, which was considered a very big challenge by the participants to receive adequate information about the diet they should adhere to.

Table 4.14: Mixed Methods Findings of Dissatisfaction with Interaction with Information Received

Integration of Quantitative and Qualitative Findings of Dissatisfaction with Information Received	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=167	Semi-Structured Interview N=11
Category (2): Dissatisfaction with the information received Mean prevalence (38.34%)	Theme (1): Challenges of Adequate Information Needs
Items with high percentages of dissatisfaction • Information about what to expect (35.3%) • Information about medication and side effects (36.6%) • Advise on what services help are available (49.7%) • Access to other sources of information (43.7%) • Advise about the food and diet (61%)	Not enough information about the disease, treatment, treatment side effects, and available services for breast cancer patients (N = 11)
	Subtheme (1): Inadequate communication with health professionals
	Not enough information due to inadequate communication with the health professions
	Reasons Behind the Inadequate Communication with Health Professionals
	• Workload of the oncologists • Inadequate number of oncologists at the hospital, and the majority are hematology specialists. • Boredom and routine of the patients • Non-flexibility of some oncologists • Inadequate number of nurses
	Subtheme (2): Lack of Educational Programs and Awareness Campaigns
	There are no educational programs or awareness campaigns for breast cancer patients. Educational programs and awareness campaigns are very important; they can support the patients and boost their level of awareness about the disease and its treatment. ○ <i>"I feel that there is a great need for educational programs on television, advertising, campaigns in the streets, or coming to the houses. I feel that we are missing a lot. Awareness campaigns are important as well as treatment and support, as we really do not know how to take care of ourselves." R</i>

Table 4.14 continued

Integration of Quantitative and Qualitative Findings of Dissatisfaction with Information Received	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=167	Semi-Structured Interview N=11
Category (2): Dissatisfaction with the information received Mean prevalence (38.34%)	Theme (1): Challenges of Adequate Information Needs
	Subtheme (3): There is no nutritionist in the treatment plan.
	Dissatisfaction with the information received about the diet that breast cancer patients must adhere to. <i>"Regarding the matter of eating, the doctor did not tell us what we should eat or avoid eating. I feel there are many mistakes regarding that". W</i>
	Subtheme (4): Effects of unmet informational needs on the patients
	• Lack of patient confidence in the doctors and medicines ○ <i>"Now, when I go to a doctor and he tells me something, I feel that I have no confidence in his speech, and I want to go to the second, the third, and the fourth one, and this destroys the patient and affects him a lot. Now, I am taking the medicine, and I doubt whether it will affect me in this way or not". Ra</i> • Physical side effects ○ <i>"The last 4 doses affected me a lot; I needed to know what the side effects of the medicines were. Because I was constipated, I stayed for 4 or 5 days and could not enter the bathroom". W</i> • Psychological effects ○ <i>"It also affected me psychologically because you get emotionally upset when you can't enter the bathroom for some days because it affects everything". W</i> • Feeling of being lost ○ <i>"As for the educational needs, I felt that I was lost because everyone wanted to give his opinion. For example, you had to work like this, and you should eat this and not eat that". Ras</i>

Moreover, the qualitative analysis not only provided an explanation of the quantitative data findings but rather provided an elaboration of the effects of receiving inadequate information on the participants as shown in their responses, which revealed low confidence in the physicians and medicines, a sense of loss because of receiving inconsistent information, in addition to physical effects due to inadequate information on chemotherapy side effects, which in turn resulted in psychological effects as shown in Table 4.14.

4.3.2.3 Support Network

The quantitative data analysis revealed that the support network category was the lowest unmet needs category with a mean prevalence of 19.9%, with the highest percentage for support from care professionals (23.4%), indicating that the participants are dissatisfied with the support received from their health care professionals.

The mixed-methods analysis revealed that these quantitative findings were clearly reflected in the qualitative data, which showed similar results of dissatisfaction with the healthcare professionals' support and elaborated on the reasons for these quantitative findings from the participants' perspectives. The workload of the health professionals, mainly the oncologists and nurses, was also considered a challenge in providing adequate support to the patients. The reasons for that were explained in the previous sections. Additionally, the participants' responses revealed that health professionals only care to provide patients with medical care as part of their scope of practice without paying much attention to the psychological aspects of the patients. It was also apparent from the qualitative analysis that the unavailability of psychologists and sociologists at the hospital was also an important factor in receiving inadequate support at the hospital. Table 4.15 shows the integration of quantitative and qualitative findings of dissatisfaction with support from health professionals.

Table 4.15: Mixed Methods Findings of Dissatisfaction with the Support Network

Integration of Quantitative and Qualitative Findings of Dissatisfaction with the Support Network	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=167	Semi-Structured Interview N=11
Category (3): Dissatisfaction with the support network Mean prevalence (19.9%)	Subtheme: Inadequate psychosocial support from the health professionals
Items with high percentages of dissatisfaction Support from care professionals (23.4%)	Dissatisfaction with the psychosocial support from healthcare professionals. The psychologist could play an active role in supporting the patient psychologically and socially.
	Reasons behind the inadequate psychosocial support from health professionals
	• Workload of the health professionals ○ <i>“There are around 300 patients daily. I mean, what does the doctor want to do? If he just sits with each one for 10 minutes, this is impossible in the hospital”.</i> • The oncologists are more concerned with providing medical care than psychological care to the patients as part of their scope of practice. ○ <i>“In my opinion, our doctor has to support us, and he has to ask if we need anything. But our doctor does not have this thing; he is a very serious person”.</i> • Unavailability of psychologists and sociologists at the hospital ○ <i>“The psychiatrist should be treated in our country. This is a very important thing for cancer patients, and it is not followed at all here, and this is against us and does not serve us”.</i>
	Effects of Inadequate Psychosocial Support
	Inadequate social support has resulted in a lot of negative psychological effects, such as depression, fear, and anxiety. <i>“Of course, the lack of support put me in a state of depression, constant nervousness, getting angry about anything, being nervous, and crying. Inadequate support could make everything bad”. H</i>

4.3.2.4 Identity

The quantitative data analysis revealed that the mean prevalence of the identity category was 24.84%, with the highest percentages for support in dealing with any changes in the way others see me (29.4%), support in dealing with changes in my body (26.4%), and support in dealing with any changes in my sense of who I am (26.4%), indicating that the participants are dissatisfied with the support received in dealing with their identity as women.

The mixed methods analysis revealed that the quantitative and qualitative findings were consistent in relation to the issues related to their identity; however, these issues were more apparent in the qualitative data, which reflected a high level of dissatisfaction with the body image changes resulting from mastectomy and chemotherapy. Moreover, the qualitative analysis of the participants' responses gave an in-depth explanation of the effects of these body image changes on their femininity, self-confidence, and self-esteem. It was also apparent that the participants struggled with adjusting to their new body image and finding appropriate clothing post-mastectomy to hide the view of the missing breast in front of people.

Additionally, the qualitative analysis also clearly explained the participants' perspectives on the role of breast reconstruction in improving their appearance and their quality of life. It also clarified the challenges that affected their decision to have breast reconstruction, which was mainly financial due to the high cost of this surgery compared to their current financial status resulting from the ongoing crisis. Table 4.16 shows the integration of quantitative and qualitative findings of unmet identity needs.

Table 4.16: Mixed Methods Findings of Unmet Identity Needs

Integration of Quantitative and Qualitative Findings of Unmet Identity Needs	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=167	Semi-Structured Interview N=11
Category (4): unmet identity needs Mean prevalence (24.84%)	Subtheme (1): Treatment-related effects and the loss of a woman's identity
Items with high percentages of dissatisfaction • Support in dealing with changes in my body (26.4%) • Support in dealing with any changes in the way others see me (29.4%) • Support in dealing with any changes in my sense of who I am (26.4%)	Mastectomy and chemotherapy negatively affected women's identities because they altered their body image due to the loss of breasts and hair that represents a woman's identity, which in turn added an extra burden to those women.
	Effects of Altered Body Image and Losing a Woman's Identity
	• Loss of sense of femininity ○ <i>The lady misses a feminist part of her body, I think she feels something is missing. She loses self-confidence, specifically if she is married. RAS</i> • Loss of self-confidence ○ <i>"Sometimes, especially in the days when I was without eyebrows, I felt people on the street look at me strangely. I am not upset, but ashamed of this look, or feeling I have something wrong". Ri</i> • Altered self-esteem as a woman ○ <i>A woman loses her femininity when she does such an operation (mastectomy), she loses her beauty from her perspective, and when she loses her beauty from her perspective, she doubts her beauty in front of people". H</i> • Changing and adjusting the way of clothing ○ <i>"There are many T-shirts I can no longer wear because they are in open tops. I can no longer wear them if I don't wear something higher under them because they will look very bad". W</i>
	Body image and reconstruction
	Breast reconstruction can improve body image and restore self-confidence, but there is no ability to reconstruct the breast.

Table 4.16 continued

Integration of Quantitative and Qualitative Findings of Unmet Identity Needs	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=167	Semi-Structured Interview N=11
Category (4): unmet identity needs Mean prevalence (24.84%)	Subtheme (1): Treatment-related effects and the loss of a woman's identity
	Challenges of undergoing breast reconstruction and getting breast prosthetics • The high cost of reconstruction ○ <i>"The operation is very expensive, about 5 million, 5 million is impossible. It is a big financial burden". W</i> • Low incomes and high cost of living ○ <i>"It is unreasonable for a woman who needs 100,000 Syrian lira per month to buy the medicine to go and pay 50,000 to pigment her hair". H</i> • Lack of centers that provide breast prosthetics and support services ○ <i>"Do you know that I searched throughout Damascus to find a silicone breast, and when I finally found it, it was in a larger size and without a carrier?" H</i>

4.3.2.5 Emotional and Spiritual

The quantitative data analysis revealed that the mean prevalence of dissatisfaction with emotional and spiritual needs was 24.44%, with the highest percentages for the items related to psychological needs more than those related to spiritual needs, which indicates that the psychological needs of the participants were more unmet than their spiritual needs. The highest percentages were reported for help in dealing with the unpredictability of the future (35.4%), help in dealing with the feelings of others (32.4%), and consideration of my sexual needs (42, 7%).

Similar to the previous sections, the mixed-methods analysis showed some consistency between the quantitative and qualitative data related to the unpredictability of the future, sexual needs, and fear, and there was a clear reflection of the quantitative findings in the qualitative data. However, the qualitative analysis of the participants' responses showed that these issues were more apparent in the qualitative data than in the quantitative data, where all the participants showed uncertainty and fear of the future. Additionally, the qualitative analysis not only showed consistency with the quantitative data but rather elaborated on the reasons for this uncertainty of the future, which were reflected in the participants' fear of recurrence and spreading of the disease and re-experiencing the treatment side effects, in addition to their fear of death leaving their children motherless.

Table 4.17: Mixed-Methods Findings of Unmet Psychological Needs

Integration of Quantitative and Qualitative Findings of Unmet Psychological Needs	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=167	Semi-Structured Interview N=11
Category (5): Emotional and Spiritual Mean prevalence (24.44%)	Theme: Psychological Challenges
Items with high percentages • Help in dealing with the unpredictability of the future (35.4%) • Help in considering my sexual needs (42.7%) • Help in dealing with the feelings of others (32,4%)	The psychological aspect is at the first degree because it can adversely impact the cure and recurrence of the disease
	Subtheme (1): Uncertainty of the future
	The future is still vague and uncertain, and there is no prediction of what they are going to experience in the future.
	Reasons for the uncertainty of the future
	• Fear of recurrence and spreading of the disease ○ "I feel fear of recurrence of the disease, and everyone is feeling fear of recurrence. It is impossible to find one who is not afraid. I don't show that, and I don't talk about that in front of my family in order not to make them think I am scared". L • Fear of children having cancer ○ "Look to where I am scared. I was pregnant with my son, and I thought I might have had this lump many years ago, so I asked the doctor if this could affect my son because I was pregnant and fed him from the breast". RA • Fear of death and leaving the children motherless ○ "I started thinking, If I died, what would happen to them? For example, they would be orphaned, and the people would sympathize with them". Ri
	Subtheme (2): Treatment-related effects and the loss of a woman's identity
	Mastectomy is very distressing due to the loss of the breast and the identity Chemotherapy is a very distressing experience due to hair loss and premature menopause that affects the sexual life

Table 4.17 continued

Integration of Quantitative and Qualitative Findings of Unmet Psychological Needs	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=167	Semi-Structured Interview N=11
Category (5): Emotional and Spiritual Mean prevalence (24.44%)	Theme: Psychological Challenges
	<i>"I no longer want to have sexual intimacy, and I try to avoid it. I have always tried to hide the wound from him". Ras</i> Hair loss was a very difficult experience for the patients and for those who were around <i>"When my hair started falling, I was upset, so I tried to annoy the others unintentionally. I get angry and annoy them with my speech". W</i> Hormonal therapy is distressing due to its effects on weight, mood, and decreased sexual desire <i>"I'm 38, but I feel like I'm 68 due to the hormonal therapy. I feel each year of stopping the period is for 10 years. Before I was able to bring children". Rh</i>
	Subtheme (3): Inadequate psychosocial support from the health professionals <i>"There should be a psychologist to support the patients psychotically and socially." – L</i>

Moreover, the qualitative analysis was clearer than the quantitative analysis in presenting the psychological needs that resulted from the treatment and its side effects from the participants' perspectives. It was clear from the participants' responses that the journey of mastectomy, chemotherapy, and hormonal therapy was very distressing and required more psychosocial support, which was perceived as inadequate to meet their needs. It was also clearly apparent from the participants' responses that the treatment and its side effects affected their sexual needs and their relationships with their partners due to their sense of unattractiveness and loss of femininity with only one breast and hair loss, mode changes, premature menopause, and hot flashes that were very annoying. The qualitative analysis was also more comprehensive and presented the unmet needs resulting from the stressful situations they live in as a result of the ongoing crisis. It was apparent from the participants' responses that the unavailability of basic needs, specifically electricity, fuel, and water, added extra psychological pressure on those patients.

Furthermore, the mixed-methods analysis also showed some variance in the quantitative and qualitative data in relation to the spiritual needs that were presented as unmet to some extent in the quantitative findings while they were completely met in the qualitative data. Table 4.17 shows the integration of quantitative and qualitative findings of unmet psychosocial needs.

4.3.2.6 Practical Needs

The quantitative data analysis revealed that the practical category was the highest unmet needs category with a mean prevalence of 40.05%, suggesting that there is a noticeable dissatisfaction with practical needs. The highest percentages were reported for help with financial matters, advice about food and diet, and help with transport (67.7%, 61%, and 56.8%, respectively).

The mixed-methods analysis showed that the quantitative and qualitative findings were consistent and similar in relation to financial matters, advice about food and diet, and help with transport. There was a clear reflection of the quantitative findings in the qualitative findings; however, these issues were more apparent in the qualitative data, where all the participants reported financial matters and were dissatisfied with the advice about food and diet. In addition to that, the qualitative analysis clearly identified the factors contributing to these financial matters from the participants' perspectives. The unavailability of treatment at the hospital was considered the first contributor to the participants' financial matters, and they attributed it to the effects of the ongoing crisis in the country. The qualitative analysis of the participants' responses also clearly identified the challenges they faced to get their treatment, including selling their possessions and withdrawing loans, which added extra financial burden on them and on their families. Another factor that was also identified as a contributor to financial matters from the participants' responses was the imbalance between low income and the high cost of living, which was also attributed to the effects of the crisis. Additionally, the qualitative analysis also identified the other financial challenges the participants face, presented in the follow-up checks and the diagnostic procedures they have to do regularly, which are also expensive. Moreover, the qualitative analysis also elaborated on the transportation issue, which was perceived as a distressing issue that added extra financial pressure, specifically for those who were coming from other cities to receive their treatment at the hospital.

Table 4.18: Mixed-Methods Findings of Unmet Practical Needs

Integration of Quantitative and Qualitative Findings of Unmet Practical Needs	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=167	Semi-Structured Interview N=11
Category (5): Practical needs Mean prevalence (40.05%)	Theme: Financial challenges
Items with high percentages • Help with financial matters (67.7%) • Advise about food and diet (61%) • Help with transport (56.8%)	Subtheme (1): Treatment is not available and expensive The unavailability of treatment is attributed to the ongoing crisis in the country and it is very expensive outside.
	Challenges to getting the treatment
	• Selling the possessions ○ <i>I debt and sold a house, and I paid half of its price for my treatment and returning my debts. Otherwise, I was not able to get my doses, whilst the other patients were unable to get their doses. I got into debt until selling the house to buy my doses, but the others what can they do?" H</i> • Withdraw loans ○ <i>"Sometimes we get debt, sometimes a loan, and if there was a quick loan, my family withdraw a loan. but it was a debt most of the time and we return it later". W</i>
	Subtheme (2): Low income and high cost of living The crisis affected the daily cost of living, making it very high and imbalanced with the incomes that are getting lower and lower due to the sharp drop of the currency.
	Subtheme (3): Other financial challenges • The follow-up checks and diagnostic procedures ○ <i>I paid around 40 thousand with a discount, and I visited the surgeon twice, and I paid 15 thousand for each time, just for questions without any examination".</i> • The transportation issues ○ <i>"We used to drive the car to the hospital in Lattakia, and this also caused a great financial burden". W</i>

Table 4.18 continued

Integration of Quantitative and Qualitative Findings of Unmet Practical Needs	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=167	Semi-Structured Interview N=11
Category (5): Practical needs Mean prevalence (40.05%)	Theme: Financial challenges
	Effects of unmet financial needs
	• The inability to do breast reconstruction or restore the precancer shape ○ <i>"The operation is very expensive, about \$1000, it is impossible. It is a very big financial burden". W</i> • The inability to follow a healthy diet ○ <i>"I have not eaten fish for more than one month, and we should eat it continuously, specifically roasted, but we are unable to buy it". L.</i> • The inability to get the treatment • <i>"I got into debt until I sold the house to buy my doses, but for the others, what can they do?" H</i>

More importantly, the qualitative analysis not only identified the financial challenges that faced the participants but also gave an elaboration on the effects of these challenges as perceived by the participants. Their inability to do breast reconstruction to restore the shape of the breast was identified as a major consequence of these financial matters, in addition to their inability to follow a healthy diet that can help them cure. Table 4.18 shows the integration of quantitative and qualitative findings of unmet financial needs.

4.3.2.7 Child Care Needs

The quantitative data analysis revealed that the mean prevalence of the unmet child-care category was 36% among those who have children (82.8%), indicating that some participants are dissatisfied with the help with child care.

The mixed-methods analysis revealed some consistency between the quantitative and qualitative data, where meeting child-care needs was identified as an issue for those who have children, particularly those who were receiving their treatment. The qualitative analysis of the participants also gave a clear explanation of the factors related to this issue from the participants' perspectives. The inability to use the hand after the mastectomy as before has affected their role as mothers, and they were unable to meet their children's needs either physically, psychologically, or financially, despite receiving support from their families and husbands that was sometimes inadequate. It was also clear from the participants' responses that this issue affected them psychologically and made them feel guilty about their children. Table 4.19 shows the integration of quantitative and qualitative findings of unmet child care needs.

Table 4.19: Mixed-Methods Findings of Unmet Child Care Needs

Integration of Quantitative and Qualitative Findings of Unmet Child Care Needs	
Quantitative Findings	Qualitative Findings
Psychosocial Needs Inventory (PNI), N=138	Semi-Structured Interview N=11
Category (5): Child care Mean prevalence (36%)	Subtheme: Unmet family and childcare needs Change the roles of mothers and wives and the inability to meet the family and child care needs as before the disease due to treatment side effects, which have affected them psychologically
An item with a high percentage Help with child care (36%)	Factors affect unmet childcare needs • Treatment-related effects such as reduced hand mobility that resulted from mastectomy, and fatigue and tiredness that resulted from chemotherapy which make them unable to work and meet their children's needs ○ <i>"It was Ramadan. I couldn't cook the foods they liked while they were fasting. This affected me a lot psychologically". Ri</i> • Low financial status ○ <i>At the beginning of the treatment, the first three doses of chemotherapy were given while my children were at school. You know that sometimes there was no money at home to buy a pen.</i> • Inadequate support from the families and husbands ○ <i>"Even if someone comes to help me at my home for one or two days, finally, I will be alone and take care of my children, so this was like a burden on me". Ras</i>

4.3.3 Quality of Life

4.3.3.1 Psychological Well-being

The quantitative results revealed that the mean score of psychological well-being was (Mean 4.51, SD 1.607), indicating a very low level of psychological well-being in the participants. It was also clear that the questions related to distress from the illness and treatment reported the lowest responses: distress from initial diagnosis (Mean 1.16, SD 2.248), distress from surgery (Mean 1.62, SD 2.458), and distress from chemotherapy (Mean 1.68, SD 2.191). The second set of questions that reported the lowest responses were those related to the changes in appearance that were reported (Mean 2.93, SD 2.810) and to fear: fear of cancer recurrence (Mean 3.25, SD 3.055), fear of second cancer (Mean 3.38, SD 3.167), and fear of spreading cancer (Mean 3.39, SD 3.226).

The mixed-methods analysis revealed that the quantitative and qualitative findings are consistent in relation to distress from the illness, the treatment, and its side effects. The reflection of the quantitative data in the qualitative data was apparent; however, the qualitative analysis gave an in-depth explanation of the contributors to this distress from the participants' perspectives. The effects of mastectomy (altered body image and loss of a woman's identity); chemotherapy (physical effects, hair loss, and premature menopause); and hormonal therapy (weight changes and mood changes) were identified as significant contributors to this distress, as was discussed in previous sections. The qualitative analysis of the participants' responses also identified the insufficiency of psychological care, the unavailability of psychiatrists to support them psychologically, and the financial challenges they face as contributors to low psychological well-being. In addition to that, it was also clear that the stressful situations where their basic needs are not met contributed to their low psychological well-being.

Table 4.20: Mixed-Methods Findings of Psychological Well-being

Integration of Quantitative and Qualitative Findings of Psychological Well-being	
Quantitative Findings	Qualitative Findings
QOL Scale/Breast Cancer, N=167	Semi-Structured Interview N=11
Subscale (2): Psychological Well-being (Mean 4.51, SD 1.607)	Theme: Cancer invaded my whole life Life before breast cancer was better psychologically, socially, financially, and physically
Items with the lowest responses • Distress from the initial diagnosis (Mean 1.16, SD 2.248) • Distress from surgery (Mean 1.62, SD 2.458) • Distress from chemotherapy (Mean 1.68, SD 2.191) • Changes in appearance (Mean 2.93, SD 2.810) • Fear of cancer recurrence (Mean 3.25, SD 3.055) • Fear of second cancer (Mean 3.38, SD 3.167) • Fear of spreading cancer (Mean 3.39, SD 3.226) • Fear of future diagnostic procedures (Mean 3.71, SD 2.948) .	Contributors to the distress from the illness and treatment. Subtheme (1): Treatment-related effects • Altered body image and loss of a woman's identity resulting from mastectomy • Physical effects, hair loss, and premature menopause resulting from chemotherapy • Weight changes and mode changes result from hormonal therapy. Subtheme (2): Uncertainty of the future • Fear of recurrence and spreading of breast cancer • Fear of death and leaving the children motherless • Fear of experiencing the treatment and its side effects again ○ <i>"Believe me, I will be destroyed. I mean, psychologically. I will not say financially, but psychologically, I may reach a stage where I will not take the treatment. I will tell you that if the doctor says, for example, that you have cancer and you should take chemotherapy, I will not go. It is impossible to take the chemotherapy again". A</i> • Fear of disability ○ <i>I have thoughts that now I can take the medicine and sleep, but maybe tomorrow I won't be able to sleep. My hand is now 70%; I can't use it, and I wonder if I will be able to use it or not.</i> • Fear of worse financial status and inability to buy the treatment ○ <i>"If the financial situation gets worse and I do not have money to buy the medicine, I will be affected psychologically and physically. Honestly, the financial status affects all aspects of life?" D</i>

Table 4.20 continued

Integration of Quantitative and Qualitative Findings of Psychological Well-being	
Quantitative Findings	Qualitative Findings
QOL Scale/Breast Cancer, N=167	Semi-Structured Interview N=11
Subscale (2): Psychological Well-being (Mean 4.51, SD 1.607)	Theme: Cancer invaded my whole life Life before breast cancer was better psychologically, socially, financially, and physically
	Subtheme (3): The insufficiency of psychological care at the hospital • Situational factors resulting from the ongoing crisis in the country where there is no electricity, water, or fuel ○ <i>"For example, when you are sitting and waiting for electricity, or you do not have water, or you are unable to bring the food you want, does it cause you anxiety and psychological stress?". L</i>

In relation to the reported fear of recurrence and spreading of the disease, the mixed-methods analysis also showed consistency and similarity between the quantitative and qualitative findings; however, the qualitative analysis of the participants' perspectives provided a clear explanation beyond this fear. Leaving the children motherless was the most important thing they feared. In addition, the fear of experiencing the treatment and its side effects again was also identified as an important factor in the fear of recurrence or spreading of the disease. Table 4.20 shows the integration of quantitative and qualitative findings about psychological well-being.

4.3.3.2 Social Well-being

The quantitative results revealed that social well-being reported the lowest mean score (Mean 4.28, SD 1.469), indicating a very low level of social well-being among the participants. The lowest responses were reported for distress in the family due to the illness, the financial burden resulting from illness and treatment, and for breast cancer daughters or other close female relatives (Mean 49,.58, and 1.38, respectively).

The mixed-methods analysis revealed that the quantitative and qualitative findings were very consistent and similar in relation to the financial burden resulting from illness and treatment, distress in the family due to the illness, and concerns for daughters or other close female relatives from breast cancer. However, the qualitative analysis was more comprehensive and provided a clear explanation of the quantitative results from the participants' perspectives. As discussed previously, there are a lot of financial challenges faced by the participants in their illness and treatment. The qualitative analysis also described the participants' fear for their daughters and children from breast cancer or any other kind of cancer. In addition to that, the mixed-methods analysis revealed that the qualitative data was more successful than the quantitative data in presenting the wrong beliefs about breast cancer in society. For example, the

qualitative analysis of the participants' responses indicated that most people still consider cancer "a disease of death" despite the high percentages of cures, and it could also be a contagious disease for some people. It was evident that the qualitative analysis also succeeded in reflecting the negative societal views about breast cancer, mainly the stigma and pity that were evident in all the participants' responses. The analysis showed that the stigma and pity were very annoying and disturbing for all the participants and affected them negatively; however, it was more disturbing for those who were unmarried because their chances of getting married became very limited. The qualitative analysis also reflected the participants' views on being considered normal people in society, not people who deserved pity.

In relation to the positive changes made by the disease, the mixed-methods analysis showed the qualitative data was more successful in presenting these positive changes from the participants' perspectives, which were reflected in finding a new job and changing their way of eating and dealing with the surrounding people, as discussed previously. From another perspective, the mixed-methods analysis showed a low level of consistency between the quantitative and qualitative results in relation to the social isolation resulting from breast cancer, which was more present in the qualitative results. It was apparent from the participants' responses that breast cancer restricted their social lives. Table 4.21 shows the integration of quantitative and qualitative findings about social well-being.

Table 4.21: Mixed-Methods Findings of Social Well-being

Integration of Quantitative and Qualitative Findings of Social Well-being	
Quantitative Findings	Qualitative Findings
QOL Scale/Breast Cancer, N=167	Semi-Structured Interview N=11
Subscale (3): Social-well-being (Mean 4.28, SD 1.469)	Theme (1): Cancer invaded my whole life Life before breast cancer was better psychologically, socially, financially, and physically
Items with the lowest responses • Distress in the family due to the illness (Mean 0.49, SD 1.613). • The financial burden resulting from illness and treatment (Mean 0.58, SD 1.466) • Breast cancer daughters or other close female relatives (Mean 1.38, SD 2.748)	Factors beyond the low social well-being • Financial matters • Fear of children having cancer • Change roles as mothers and wives • Sexual issues • Social restriction and isolation ○ <i>"Life has changed a lot in terms of sitting at home, trips, going to the neighbours, and the way of dressing. Before, my life was better with everything". H</i>
	Theme (2) Societal influences
	Subtheme (1) Negative societal views and stigma The view of breast cancer is still negative and breast cancer patients are still stigmatized in society. • Breast cancer is a stigma ○ <i>"I sometimes get denounced by outsiders for having done the mastectomy. For example, I hear comments like, it is good that your husband is still willing to touch you. It is good that he is not disgusted by your appearance". A</i> • Cancer is a "disease of death" ○ <i>My older child's friends put in his mind that at any moment he may come to the house and not find me (death). The society is ill, ill". A</i> • Breast cancer is a contagious disease ○ <i>"You feel like it is a contagious disease, and they didn't want to be close to you; oh, cancer, may God heal you; oh, and they walk because they are scared of infection (laugh)". A</i>

Table 4.21 continued

Integration of Quantitative and Qualitative Findings of Social Well-being	
Quantitative Findings	Qualitative Findings
QOL Scale/Breast Cancer, N=167	Semi-Structured Interview N=11
Subscale (3): Social-well-being (Mean 4.28, SD 1.469)	Theme (1): Cancer invaded my whole life Life before breast cancer was better psychologically, socially, financially, and physically
	Subtheme (2) Lack of marriage choices • "It is possible that I or any other woman is thinking of getting married, but now she may not think of that anymore". H
	Positive points of having breast cancer
	• The disease gave the patients a chance to explore the people around them ○ "During my illness, I discovered who loved me for myself and who was loving me just for fakery". A • Finding a new job ○ "The best thing is that I took a step because of the disease, and I am fully successful in it, which is my work at the school". W ○ Increase practicing spiritual practices and getting closer to "God almighty" ○ "Yes, so much. I found it as a shelter. You sometimes can't tell everything to your family, your friends, or anyone else, so you want to find a bigger friend, a friend who helps you more". W

4.3.3.3 Physical Well-being

The quantitative results reported a low level of physical well-being (Mean 5.10, SD 1.883). The lowest responses were reported for fatigue and aches or pain (Mean 3.66, SD 2.938; Mean 3.82, SD 2.911, respectively).

The mixed-methods analysis revealed that the quantitative and qualitative findings were very consistent and similar in relation to physical symptoms such as fatigue, pain or aches, premature menopause, and hot flashes. There was a clear reflection of the quantitative findings in the qualitative findings, in which the physical effects were very common among the participants. The qualitative analysis attributed these physical effects to chemotherapy-related effects that could last years after the treatment. Another explanation of these effects was also given from the participants' perspectives: the low quality of some types of chemotherapy drugs, as the government was unable to import good types of drugs during this crisis. The mixed-methods analysis not only showed the consistency between the two sets of data but also showed that these physical symptoms affected participants' lives and relationships, changed their roles as mothers and wives, and decreased their ability to exercise and work as before, which affected them psychologically. In addition, the qualitative analysis of the participants' responses also indicated the other physical issues experienced by those patients as a result of chemotherapy and mastectomy, such as reduced hand mobility and low immunity, which in turn added extra physical, psychological, financial, and social burdens on those participants. Table 4.22 shows the integration of quantitative and qualitative findings about physical well-being.

Table 4.22: Mixed-Methods Findings of Physical Well-being

Integration of Quantitative and Qualitative Findings of Physical Well-being	
Quantitative Findings	Qualitative Findings
QOL Scale/Breast Cancer, N=167	Semi-Structured Interview N=11
Subscale (1): Physical-well-being (Mean 5.10, SD 1.883)	Theme (1): Cancer invaded my whole life Life before breast cancer was better psychologically, socially, financially, and physically
Items with the lowest responses • Fatigue (Mean 3.66, SD 2.938) • Aches or pain (Mean 3.82, SD 2.911).	Subtheme (1) physical effects There are some physical limitations, such as reduced hand mobility, making them unable to work like before and needing assistance in their daily activities which affects them psychologically Factors beyond the low physical well-being • Treatment-related effects specifically the chemotherapy ○ <i>“I was feeling completely breakdown, I was unable to move or to rise up from the bed, I was moving with difficulty, even to the bathroom”. R</i> • Low-quality of chemotherapy drugs • <i>“The quality of the medicine is never good, and its efficacy is low. Effective medicines are expensive, and the country is unable to import good types from countries that export good types”. H</i>
	Effects of low physical quality of life • Change roles as mothers and wives • Social restriction and isolation ○ <i>“Life has changed a lot in terms of sitting at home, trips, going to the neighbors, and the way of dressing. Before, my life was better with everything”. H</i> • Change sexual relationships

4.3.3.4 Spiritual Well-being

The quantitative results showed a high level of spiritual well-being (Mean = 7.07, SD 1.378). The highest response was for participation in spiritual and religious activities (Mean = 8.50, SD 1.997; Mean = 8.47, SD 2.257, respectively). The lowest response was for uncertainty about the future (Mean = 3.51, SD 2.790), followed by positive changes in life (Mean = 5.42, SD 2.894).

The mixed-methods analysis revealed that the quantitative and qualitative findings were consistent in relation to the uncertainty of the future and the positive changes in life after breast cancer. The qualitative findings reflected and expanded the quantitative findings from the participants' perspectives, which elaborated on the factors beyond the uncertainty of the future as discussed in previous sections. In addition, the mixed-methods analysis revealed that both sets of data were consistent in showing that there was a positive relationship between spirituality and the quality of life; however, the role of spiritual practices in improving the quality of life was more apparent in the qualitative data, as reflected in the participants' responses. The mixed-methods analysis also showed the qualitative findings were more comprehensive than the quantitative findings in presenting the positive points of having breast cancer for some patients as reflected in their responses, such as having a chance to explore the people around them to keep only those who were supportive and giving up those who were not, finding a new job, and increasing their religious and spiritual practices. Table 4.23 shows the integration of quantitative and qualitative findings about spiritual well-being.

Table 4.23: Mixed-Methods Findings of Spiritual Well-being

Integration of Quantitative and Qualitative Findings of Spiritual Well-being	
Quantitative Findings	Qualitative Findings
QOL Scale/Breast Cancer, N=167	Semi-Structured Interview N=11
Subscale (4): Spiritual Well-being (Mean = 7.07, SD = 1.378)	Subtheme (1): Religion and spiritual practices Spiritual practices such as Offering prayer and reading the Quran were very helpful and supportive and gave a sense of peace and reassurance.
Items with the highest responses • Participation in spiritual and religious activities (Mean = 8.50, SD= 1.997) • Items with the lowest responses • Uncertainty about the future (Mean = 3.51, SD 2.790) • Positive changes in life (Mean = 5.42, SD 2.894).	Factors beyond the commitment to spiritual practices • Faith in “God almighty” • Looking for rest and reassurance ○ <i>“It is mentioned in the Quran “In the remembrance of Allah will the hearts find peace” D</i>
	Subtheme (2) Positive points of having breast cancer • The disease gave them a chance to explore the people around ○ <i>“During my illness, I discovered who loved me for myself and who was loving me just for fakery”. A</i> • Finding a new job ○ <i>"The best thing is that I took a step because of the disease, and I am fully successful in it, which is my work at the school". W</i> • Increase practicing spiritual practices and getting closer to "God almighty" ○ <i>"Yes, so much. I found it as a shelter. You sometimes can't tell everything to your family, your friends, or anyone else, so you want to find a bigger friend, a friend who helps you more". W</i>
	Subtheme (3) Uncertainty of the future ○ <i>I have thoughts that now I can take the medicine and sleep, but maybe tomorrow I won't be able to sleep.</i>

4.3.4 Summary of Mixed-Methods Findings

This phase aimed to show how the qualitative findings provided further insight and explanation of the results of psychosocial needs and the quality of life obtained in the quantitative survey. Integrating the quantitative and qualitative findings made the quantitative results of psychosocial needs and quality of life more understandable. Regarding psychosocial needs, the mixed-methods analysis showed consistency and similarity between the quantitative and qualitative findings concerning the dissatisfaction with the communication and support from the health professionals, the received information about the disease, and the treatment, the issues related to women 's identity, unpredictability of the future, sexual needs, fear of recurrence the disease, financial matters, and the child care needs. On the other hand, the mixed methods analysis also showed some variance in the quantitative and qualitative data about the spiritual needs that were presented as unmet to some extent in the quantitative findings, however, they were completely met in the qualitative data.

The mixed-methods analysis showed that the qualitative data succeeded in explaining the reasons beyond this dissatisfaction with the communications with the health professionals, receiving inadequate information, and the psychological and financial challenges the participants faced with the disease.

Regarding the quality of life, the mixed-methods analysis showed consistency and similarity between the quantitative and qualitative findings concerning the effects of breast cancer on physical, psychological, and social well-being. The mixed-methods analysis also showed that the qualitative results provided more expansion on the societal influences the participants were experiencing and on the factors that could worsen and improve their quality of life.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Introduction

The present chapter discusses the key findings of the study in relation to the original research questions and examines the findings in relation to the existing literature. It also presents the limitations of the study and provides recommendations based on the key findings of this research, including general recommendations for meeting the psychosocial needs and improving the quality of life of young breast cancer women in Syria. It further provides recommendations for future research needed in the fields of psychosocial needs, coping strategies, and quality of life for breast cancer women in Syria.

5.2 Discussion of Key Findings

The overall aim of this study was to identify factors affecting the quality of life and the psychosocial needs of young Syrian breast cancer women. In order to achieve this aim, and based on the literature review conducted in Chapter 2, the specific objectives of the study and the research questions were listed in Chapter 1. These questions were classified into four main areas: the psychosocial needs, cognitive appraisal, coping strategies, and quality of life of young women with breast cancer. Accordingly, data were collected and analysed in Chapter 3, and the findings were presented in Chapter 4 into four main sections: psychosocial needs, cognitive appraisal, coping strategies, and quality of life of young women with breast cancer.

5.3 Significant Psychosocial Needs

The results from the quantitative part revealed that more than 50% of the participants reported 44 of the 48 items as important. This prevalence is almost similar to that reported

in a previous study by Fitri et al. (2017), who reported it to be 47, and higher than that reported by Yi et al. (2014), who reported it to be 37. This difference comes from the fact that the majority of the participants in this study were low-income people with low salaries of less than 50 dollars per month. Previous studies have found that cancer patients with low income can have more psychosocial issues and perceive a higher number of psychosocial needs as important (Fitri et al., 2017; Yi et al., 2014). Additionally, the psychosocial distress that cancer patients experience in Syria because of the ongoing crisis and its consequences affects all aspects of their lives, making them perceive a wide range of psychological needs as important. The results of this study also support those of a previous study that found that breast cancer patients in the first year after the surgery reported a significant level of unmet needs in domains of psychological, physical, and daily living, the health system, information, patient care, and support (Park & Hwang, 2012).

The highest prevalence in this study was reported for the information needs and health professionals' categories. These results stem from the characteristics of the sample, as roughly half of the participants in this study were between 3 and 12 months after their diagnosis with breast cancer, where the patients are experiencing high levels of fear, anxiety, and uncertainty about their situation, and they are more concerned about getting information about the disease, the treatment and its side effects, and their expectations of the future. Therefore, they trust and rely on their health professionals to get the information they need because physicians are still considered the most highly trusted source of information for patients (Hesse et al., 2005). These results are consistent with previous qualitative and quantitative studies showing that newly diagnosed young breast cancer women need more information about the diagnosis, the treatment, treatment side effects, and the support services available (Abi Nader et al., 2016; Yi et al., 2014).

5.4 Significant Unmet Psychosocial Needs

5.4.1 Information Needs

Although the information needs in this study were reported as the most significant psychosocial needs in the quantitative and qualitative results, the participants were dissatisfied with the received information about their disease, the treatment, and its side effects, as well as the information received about food and diet, neither in the quantitative nor the qualitative results. These results were consistent with previous studies showing that young breast cancer women were dissatisfied with the information they received from their healthcare providers about the diagnosis, treatment, relevant side effects, and supportive care services (Hubbeling et al., 2018; Miyashita et al., 2015; Rana et al., 2017; Villarreal-Garza et al., 2019). Miyashita et al. (2015) found that patients' satisfaction with the type and timing of received information was associated with stronger beliefs in personal control, lower concerns about the health condition, a better understanding of the disease, and fewer emotional effects of the illness.

In this study, the qualitative results gave an in-depth explanation of the quantitative results and elaborated on the factors affecting receiving adequate information. These factors were related to (1) the inadequate communication with the health professionals due to their workload, restricted time, and their inadequate number compared to the patients, which could all be related to the effects of the ongoing crisis in the country since 2011. These factors were also identified in a previous qualitative study by Villarreal-Garza et al. (2019). The unmet information needs of young breast cancer women in their study were also attributed to physicians' time limitations, in addition to the non-identification of special concerns and inadequate training in communication skills. Similarly, Miyashita et al. (2015) found that 30.7% of young breast cancer patients were dissatisfied with their communication

with medical professionals. As seen from this study and other studies (Villarreal-Garza et al., 2019), young breast cancer women need more time to address their information needs, and inadequate time during medical appointments restricts the information exchange between physicians and their patients and results in more unmet information needs. (2) The lack of educational programmes and awareness campaigns for breast cancer was also identified as a contributor to receiving inadequate information in this study. This result aligns with what has been mentioned previously in a review by Simaan and Al Jerf (2018) about the lack of educational programmes designed for cancer patients and oncology health professionals in Syria.

The qualitative results also revealed that many of the participants felt lost as a result of receiving insufficient information; therefore, they were trying to fill the information gaps they had from the internet or patients' experiences, and this made them feel more distressed, uncertain, and anxious about their situation. These results are similar to those reported in two separate qualitative studies from Mexico, showing that inadequate information could increase levels of uncertainty, distress, anxiety, and fear and could adversely influence the treatment decision-making process in young breast cancer women (Hubbeling et al., 2018; Villarreal-Garza et al., 2019).

Advice about food and diet was reported as the second highest unmet need in this study, qualitatively and quantitatively, with a percentage of 61%. This percentage is quite higher than that reported by Yi et al. (2014) and Fitri et al. (2017), who reported it to be 26.1% and 8.3%, respectively. The qualitative results of this study revealed that this result is related to the unavailability of the multidisciplinary team approach in oncological care in Syria, where there is no involvement of nutritionists or psychologists in the treatment care plan of cancer patients (Simaan & Jerf, 2018). On the contrary, in developed countries where

a multidisciplinary team approach is available for breast cancer women, there are comprehensive oncology teams, including oncological nursing, an expert surgical oncologist, an expert in plastic surgery and reconstruction, and genetic counselors. In addition to a strong supportive care program with social workers, dieticians, and a psychiatric clinical nurse specialist, as reported in a qualitative study from Canada (Rana et al., 2017). The results of this study were also consistent with those of previous studies by Miyashita et al. (2015) and Hubbeling et al. (2018), who also found that a high percentage of their participants were dissatisfied with the information they received about nutrition, exercise, and alternative medicine. This is because medical professionals are not experts or specialists in these topics because their scope of practice is to provide clinical and medical care to patients. The results from this study and other studies highlight the importance of involving a multidisciplinary team in the supportive care of young breast cancer women to provide them with comprehensive and interdisciplinary programmes that meet their needs.

Overall, the quantitative and qualitative results in this study emphasise that meeting patients' information needs is a key component in achieving good medical care with a patient-centred approach, which ultimately will result in a better quality of life, enhanced coping with the disease, and more adherence to the treatment (Joosten et al., 2008).

5.4.2 Support Network

In this study, support from family was ranked as a very significant need, both quantitatively and qualitatively. These results seem to be consistent with those of other studies in which family support was reported as the main source of support for young breast cancer women receiving oncological treatment (Almeida et al., 2015; Fitri et al., 2017; Iddrisu et al., 2019). This result stems from the fact that having such a disease at such a young age and receiving different types of treatment is very distressing for those women and

makes them experience a lot of physical and psychological effects throughout the journey of the disease (Avis et al., 2005; Avis et al., 2012). Therefore, they tend to depend on their families to support them during this long journey (Ganz et al., 2015). In fact, Syrian society is known for its strong familial ties and typically provides psychological, social, and financial support to family members facing challenges such as cancer. In this study, a high percentage of the participants were from outside Lattakia; therefore, they were heavily dependent on their families either to accompany them to the hospital to receive treatment, to stay with their children while they were receiving treatment, or to help them with the in-house activities. These results seem to be consistent with those of previous studies (Almeida et al., 2015; Iddrisu et al., 2019), which found that young breast cancer women were also supported physically by their family members in taking care of their children and performing household chores, as well as financially and emotionally. The available literature has suggested that increased contact with friends and family post-diagnosis could enhance the use of active coping strategies and support them emotionally (Almeida et al., 2015).

5.4.3 Practical Needs

The results also showed that the practical needs category was the most unmet psychosocial needs category in the quantitative part, with a percentage of 40.05%. This result is similar to that reported by Fitri et al. (2017) and a bit higher than that reported by Yi et al. (2014). Fitri et al. (2017) found it to be the highest unmet need (40%), and Yi et al. (2014) found it to be the second-highest unmet need (36.3%). These results arose from the fact that the diagnosis of breast cancer and its treatment at such a young age are disruptive life-limiting events for women's relationships, roles, and responsibilities at the workplace and home, as shown in previous studies (Almeida et al., 2015; Fitch et al., 2008; Nizamli et al., 2011; Ruddy et al., 2013). Therefore, breast cancer patients develop practical needs to meet

the demands of their lives resulting from their responses to cancer and the effects of the treatment (Beatty et al., 2008).

Help with financial matters was reported as the highest unmet practical need in the qualitative and quantitative results of this study, with a percentage of 67.7%. This result is higher than that reported in two previous quantitative studies (Fitri et al., 2017; Yi et al., 2014), which found 42.4% and 50%, respectively. In general, financial needs were addressed as one of the most significant unmet needs in most of the available literature on cancer patients (Ahmad et al., 2015; Fernandes-Taylor et al., 2015; Gálvez-Hernández et al., 2017; Gordon et al., 2007; Hubbeling et al., 2018). This is not unexpected because cancer is an expensive disease worldwide, costing 895 billion USD and representing 1.5% of the world's gross domestic product (Yi et al., 2014). Obviously, Syrian breast cancer patients in this study experienced more financial distress than their counterparts around the world because all of them were low-income people with low salaries of less than 100 USD, which is much less than the average income in the surrounding countries such as Jordan, Lebanon, and Iraq. In addition to that, Syrian women are experiencing financial consequences resulting from the ongoing crisis in Syria, which has affected the accessibility of oncological medications, increased living costs, and disturbed the equilibrium between income and expenses. Despite the fact that a quarter of the participants in this study have medical insurance, the coverage was limited to a very small part of the cost of treatment. Additionally, the qualitative and quantitative results also revealed that transportation was another emerging issue from the crisis due to a lack of fuel. This result was also higher than that reported by Fitri et al. (2017), in which 23.5% of the participants also reported the need for support in transportation fees, although the majority have medical insurance. A previous Indian study identified low

financial status and transportation affordability as significant factors preventing breast cancer patients from seeking early medical care (Ali et al., 2008).

Overall, the results from this study and other studies confirmed that cancer is a very costly disease worldwide, with more financial matters emerging in countries in crisis. Thus, financial problems need to be solved on a societal and national level, and breast cancer patients in these countries should be provided with more facilities and financial support that can assist them in managing their financial affairs.

5.4.4 Emotional and Spiritual

On the other hand, the ‘opportunities for personal prayer’ were the lowest unmet significant psychosocial needs in the quantitative and qualitative results. This is because the participants in this study hold a strong belief in God’s support to help them accept their disease and treatment, including finding solace and reassurance in reading the Quran and offering prayers. These results are similar to those reported in previous studies (Almeida et al., 2015; Cebeci et al., 2012; Nizamli et al., 2011), showing that breast cancer increased women’s faith in “God’s Almighty” and encouraged them to pay more attention to religion and spirituality. These results support what has been found in the literature: strong spiritual beliefs are associated with lower levels of anxiety and depression, better adjustment to cancer, and higher levels of quality of life (Almeida et al., 2015; Jafari et al., 2013).

5.4.5 Identity Needs

The identity needs category was also reported as a significant unmet psychosocial need in this study, both quantitatively and, more importantly, qualitatively. A quarter of the participants in the quantitative results were dissatisfied with their identity, and more than half in the qualitative results. These results are inconsistent with those reported in a previous

study by Fitri et al. (2017), who reported it at 5.8%. This difference in identity needs between these two studies comes from the differences in the samples. In the current study, all of the participants were young, as this study defined young as less than 50 years old. Young women are more concerned about their appearance and their femininity. The majority of the participants in this study (83.2%) underwent a mastectomy. As breasts represent a woman's identity and femininity in Syria and other cultures (Koçan & Gürsoy, 2016), mastectomy can negatively affect a woman's self-confidence. These findings are aligned with results from previous studies showing women often experienced negative emotions from mastectomy-related physical changes and felt incomplete without a breast (Koçan & Gürsoy, 2016; Olasehinde et al., 2019; Sukartini & Permata Sari, 2021).

The qualitative results of this study revealed that some participants expressed a strong desire for breast reconstruction to improve their appearance and self-confidence, particularly the younger women who are harbouring the prospect of future marriage. Breast reconstruction has been linked to improved quality of life for breast cancer patients (Pačarić et al., 2022). However, with their limited income and the high cost of the procedure, many Syrian women face financial barriers to reconstruction. Notably, war-related financial matters make Syrian young breast cancer women prioritise their treatment, family needs, and children's education over breast reconstruction.

5.4.6 Psychological Needs

Psychological needs were also reported as unmet in this study, both quantitatively and qualitatively. The relevant literature on the psychosocial needs of young breast cancer women revealed that younger women have more psychological concerns and needs than older women (Avis et al., 2012; Fitch et al., 2008; Hubbeling et al., 2018; Ruddy et al., 2013). As previously mentioned, younger women are still establishing their lives and have a

lot of goals to achieve, so having a diagnosis of breast cancer and receiving aggressive treatment such as mastectomy and chemotherapy can devastate those women's lives physically, psychologically, and socially (Avis et al., 2012; Fitch et al., 2008). Additionally, treatment-related side effects such as altered body image, sexual dysfunction, premature menopause, infertility, and weight changes were reported as very distressing for younger women and can result in more psychological needs (Almeida et al., 2015; Hubbeling et al., 2018). A previous systematic review revealed that poorer body image was related to physical and psychological distress, sex and intimacy, and partnered relationships among younger women (Paterson et al., 2016). Unfortunately, all these negative effects can be exacerbated by the stressful living situation lacking the basic life needs (electricity, water, and fuel) for Syrian breast cancer women, along with being burdened with financial matters without adequate professional psychological care.

The qualitative results of this study revealed that uncertainty about the future and fear of recurrence were the most commonly reported unmet psychological needs. These results are congruent with the results of previous studies showing that chronic uncertainty about the health condition after completion of treatment and fear of recurrence were significant psychological burdens among young women with breast cancer (Edib et al., 2016; Rana et al., 2017; Thewes et al., 2016). The results from this study are in line with those of previous studies showing that young breast cancer women fear recurrence because they fear death mostly and fear going through the treatment again and re-experiencing the psychological and financial burdens (Thewes et al., 2016). Previous studies have found that fear of recurrence could affect women's mood and their ability to set their future goals, and the use of coping strategies could be more effective in women with low levels of fear of cancer recurrence (Thewes et al., 2012; Thewes et al., 2016). The results from this study and

other studies by Farouk et al. (2016) and Sinnadurai et al. (2019) demonstrated that fear of recurrence was a very significant factor in choosing mastectomy over breast-conserving surgery, despite the more favourable outcomes of conserving surgery compared to mastectomy, as demonstrated in a recent meta-analysis by Christiansen et al. (2022). These results suggest that young women should be fully informed about the mastectomy-related side effects physically, psychologically, and socially when considering the risk-reduction surgery.

5.4.7 Social Needs

The quantitative results and, more importantly, the qualitative results showed that the participants in this study also have some unmet social needs. This indicates that the participants in this study were not completely satisfied with their social roles and responsibilities as mothers or wives. Some participants were dissatisfied with their sexual relationships with their partners, and they mentioned that their sexual relationships are not like before the disease because of the treatment-related side effects (loss of breasts, hair loss, vaginal dryness, and premature menopause) and feelings of unattractiveness and shyness from their partners. These results align with previous studies by Nizamli et al. (2011) and Fitch et al. (2008), who found sexual problems and reported social isolation among their participants. The qualitative results of this study also revealed that young women are dissatisfied with the societal view of breast cancer. In fact, Syrians still perceive cancer as a stigmatised, fatal, incurable, and sometimes contagious disease within their society, causing more negative emotions and social isolation for breast cancer women in Syria. Similar findings were reported among Arabic women with breast cancer (Al-Azri et al., 2014; Al-Shannaq, 2017; Doumit et al., 2010; Nizamli et al., 2011). The qualitative results also revealed that the participants reported that people were looking at them with “pity eyes” or

sympathetically, which, in turn, made them think they were going to die shortly, and that others saw them as “weak women” with little hope left to live for. All participants expressed the need to change the way people look at them in their society. They wanted to be treated by others as normal and healthy women in order to live their current lives as normal as possible. These findings were consistent with previous Arabic qualitative studies (Al-Azri et al., 2014; Al-Shannaq, 2017; Nizamli et al., 2011).

In summary, this study’s quantitative and qualitative results revealed that young breast cancer women living in countries with crises experience high levels of unmet needs across a wide range of psychosocial areas. These results highlight a great need for considering a multidisciplinary team approach in the oncological care of cancer patients living in countries with crises to properly meet the full range of psychosocial needs of young breast cancer women.

5.5 Cognitive Appraisal of Breast Cancer

The challenge appraisal scale was the most prevalent among the participants in this study. Studies that examine young women’s appraisal of breast cancer are scarce in the current literature; however, this finding is congruent with the existing studies on the appraisal of breast cancer women in general (Bigatti et al., 2012; Mazanec et al., 2011; Wonghongkul et al., 2006). These studies also found that the challenge appraisal was the most common appraisal among their participants. The challenge appraisal used by most of the participants in this study could be explained by the stress and coping theory of Lazarus and Folkman (1984), which proposes that the appraisal of the challenge focuses on the possibility of benefiting from or growing from the environment and understanding that difficulties may be overcome. Syrian women are similar to women from other communities (Al-Shannaq, 2017; Fitch et al., 2008; Fitri et al., 2017), and family is at the top of their

priorities. They live for their children, and the children are the first thing they are concerned about when they are diagnosed with breast cancer. Thus, they put themselves in a challenge with this disease with a full willingness to do whatever helps them to overcome this disease and ensure their survival to enjoy with their children and families. These results are aligned with the results of previous studies showing that despite the difficulty of having a breast cancer diagnosis at a young age, some younger women faced the disease strongly and wanted to act quickly to ensure their lives; otherwise, their future might not exist. The thought that they might not have a future created feelings of anxiety, fear, and panic, giving them a strong drive to take quick actions to ensure their survival. Accordingly, they adopted active coping strategies such as faith and hope and set new goals for their lives, supported by new expectations (Almeida et al., 2015; Fitch et al., 2008).

Notably, the challenge appraisal in this study has resulted in more use of problem-focused coping strategies (positive reconstruction, spirituality, making changes, and seeking social support) that reported the highest mean scores. These results support the results of a previous study that found a positive correlation between challenge appraisals and planful problem-solving, seeking social support, positive reappraisal, and confronting coping (Bigatti et al., 2012). This finding was also consistent with what has been stated by Lazarus and Folkman (1984), that an appraisal of the situation as a challenge will result in a positive feeling about this situation and, thus, experience well-being. Moreover, challenge appraisal influences people to seek resources to help themselves (Lazarus & Folkman, 1984).

The harm and threat appraisals were also perceived by some participants in this study, but less frequently than the challenge appraisal. According to Lazarus and Folkman (1984), the harm/loss appraisal indicates the harm or loss that has already happened, while the threat appraisal indicates the harm or loss that might or is likely to result because of the

situation. These results are consistent with those of a previous study by Bigatti et al. (2012), in which harm/loss appraisals were endorsed by breast cancer patients less often than challenge and threat appraisals and were related to depressive symptoms. Similarly, Wonghongkul et al. (2006) found that the participants had a moderate level of threat and a low level of harm. These results were also consistent with those of a Jordanian study in which men with prostate cancer identified threat appraisals with less frequency than harm/loss or challenge appraisals (Ahmad, 2005).

The results from this study could be explained by what has been shown in the qualitative results: young breast cancer patients have a sense of harm or loss to their femininity, self-confidence, sexual functioning, and role responsibilities. In addition, fear of death or the recurrence or spreading of the disease are threats to their future and lives. Moreover, there is also a threat to non-married women from not getting a chance to get married or have children after having breast cancer. The qualitative results showed that the participants in this study mentioned that they were avoiding looking at themselves during the shower, and some of them covered all the mirrors in the house to avoid looking at their hair as a way of coping with these situations. These results are consistent with those of a meta-analysis, indicating that individuals who appraised their cancer as a harm and/or loss were likely to use avoidance coping. They concluded that they were not surprised by this finding because it supports the idea that when people feel like an event has caused an intractable loss, they are likely to use coping strategies that allow them to distract their thinking and energy away from the source of the threat (Franks & Roesch, 2006).

The results of this study revealed that, in general, young women appraise their breast cancer as a challenge rather than a harm or threat to their future, which in turn triggers them to use more active coping strategies that can help them cope with this disease and its

treatment. Thus, breast cancer patients should be fully informed about the association between the positive appraisal of breast cancer and quality of life.

5.6 Coping Strategies with Breast Cancer

The quantitative and qualitative results of this study showed that young breast cancer women used more problem-focused coping strategies (positive reconstruction, spirituality, making changes, and seeking social support) than emotion-coping strategies (wishful thinking, keeping feelings to themselves, and detachment). In fact, it is difficult to compare the results of using coping strategies by young breast cancer women and their association with quality of life in the existing literature due to the diversity of cultures and the variety of scales and timing used in the studies. However, the results of this study were similar to those reported in previous studies using the same scale by Danhauer et al. (2009) and Manuel et al. (2007), in which young women also used more active coping strategies. Avis et al. (2012) also found that younger women employed more active coping strategies than older women. However, they also used more passive coping strategies (although this was not statistically significant), indicating that younger women can employ more coping strategies in general. On the contrary, Compas et al. (1999) found that younger breast cancer women tend to use less active coping strategies than older women. In general, these results align with Lazarus and Folkman's (1984) model of stress and coping, which proposes that when an individual faces a stressful situation, he will conduct primary and secondary appraisals based on his perception of the effects of this stressful situation on his well-being.

The positive cognitive reconstructing strategy has been reported as the most commonly used coping strategy along with spirituality, seeking social support, and making changes in this study and in previous studies on young women using the same instrument (Danhauer et al., 2009; Manuel et al., 2007), although it has been indicated in earlier research

that positive cognitive reconstructing is less likely to be used by younger people (Lazarus & Folkman, 1984). Danhauer et al. (2009) and Sajadian et al. (2017) found that positive cognitive reconstruction, spirituality, and seeking social support were the most commonly used coping strategies after diagnosis. Six months later, positive cognitive reconstruction, spirituality, seeking social support, and making changes were also the most commonly used strategies, while wishful thinking and keeping feelings to self were the least commonly used strategies (Sajadian et al., 2017). However, Danhauer et al. (2009) found that only positive cognitive reconstruction remained consistently high over time, while seeking social support, spirituality, and wishful thinking declined over time, and detachment increased. These results support what has been reported in the literature: that an adaptive strategy for coping with physical discomfort might be problem-focused, whereas the best strategy for dealing with ambiguity in the future might be emotion-regulating (Dunkel-Schetter et al., 1992; Manuel et al., 2007). These results could be explained by the long-lasting journey of breast cancer, in which women have to go through many phases; they have to initially accept their diagnosis and then receive many modalities of treatment that could result in a lot of physical and psychological side effects before the transitional phase to survivorship. Indeed, each phase has a lot of physical and psychological effects and challenges that require women to fight strongly to win the battle they are enrolled in to ensure their survival. Therefore, young women may adopt effective strategies such as cognitive reconstruction strategies, spirituality, and social support to cope with these challenges, specifically in the first year of the diagnosis when they are experiencing a lot of physical and psychological treatment-related side effects.

Similarly to positive reconstruction, spirituality was also reported as the most frequently used strategy by young women in this study. This result is consistent with many

previous studies in which spirituality and religious approaches were the most frequently used strategies by young and old women who “trusted God” to cope with their cancer (Almeida et al., 2015; Iddrisu et al., 2019; Manuel et al., 2007; Sajadian et al., 2017). Once again, reading the Quran and offering prayers were the most commonly used spiritual practices in this study. The participants have a strong faith in "God Almighty," and they trust in his ability to change their situations in minutes. In the Syrian culture, there is no objection to God's judgment; people are welcoming to everything that comes from "God Almighty" (Nizamli et al., 2011). Additionally, the qualitative results of this study revealed that some of the participants have a strong belief that God chose them to test them with this disease; therefore, they have to be on the level of this test. Some of them also feel that their sins could be erased by this disease; therefore, they have to be patient and satisfied that things will eventually work out for the best.

The results from this study and other studies demonstrated the positive role that spirituality plays in improving the quality of life among breast cancer patients. However, spirituality is still overlooked and underestimated by healthcare providers in Arabic culture and some other cultures, although some studies have been conducted in that field. Thus, more attention should be paid to spiritual well-being in a similar way as to physical and psychological well-being.

The qualitative results of this study and previous qualitative studies by Iddrisu et al. (2019) and Manuel et al. (2007) showed that young women used more coping strategies than those included in the modified WOC-CA scale and in other scales, such as physical exercise, acceptance of the disease, positive comparisons with those who are in worse situations, going out for outdoor activities, keeping busy with the family, covering all the house mirrors, wearing the hijab to cope with hair loss, and a bodily checkup. In fact, these

findings are consistent with the coping' definition stated in Lazarus and Folkman's (1984) transactional model of stress and coping, in which coping is defined as a changing process to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources. These findings indicate that the participants adapted their coping strategies according to the problems they were facing, and some coping strategies may be more effective than others in stressful situations. These results are also consistent with those reported by Danhauer et al. (2009) and Manuel et al. (2007), where the participants changed and adapted their coping strategies according to the situations they faced. Further, these results also support the suggestion of Manuel et al. (2007) that researchers and healthcare providers should be aware that the existing coping scales might not include all of the significant strategies used by younger women in dealing with the stressors resulting from the diagnosis of breast cancer. Therefore, existential coping scales may need to be modified or relevant strategies developed when studying younger women, especially if the research is focused on particular stressors.

5.7 Quality of Life

The results of this study showed that young breast cancer women reported a low overall quality of life, a low level of physical well-being, and a very low level of psychological well-being. Interestingly and unexpectedly, the lowest level was reported for social well-being. However, the highest level was for spiritual well-being. Research has consistently shown that younger women have a lower quality of life than older women (Avis et al., 2005). These results could be explained by the fact that treatment can affect all aspects of young women's lives, including physically, psychologically, socially, and spiritually.

In terms of physical well-being, the highest concerns in this study were fatigue and pain or aches. This was likely due to the chemotherapy side effects because all the

participants in this study received chemotherapy (Al-Shannaq, 2017; Nizamli et al., 2011). These results were consistent with those of previous studies by Aveis et al. (2005), Wonghongkul et al. (2006), Park et al. (2018), Bloom et al. (2011), Nizamli et al. (2011), and Al-Shannaq. Aveis et al. (2005) found that more than 70% of young breast cancer women who were 4 to 42 months after breast cancer diagnosis (similar to this study participants) reported general aches and pains and unhappiness with appearance as the most common symptoms. Similarly, Wonghongkul et al. (2006) reported fatigue as the highest concern in women with breast cancer survivors, although the result of the current study was quite worse than that reported in their study. This variance could be due to the difference in the length of survival time between these two studies, where the negative effects of chemotherapy are lessened with time. In addition to the bad quality of some types of oncological medicines that the participants received in this study and their possibility to induce more side effects, according to the participants' descriptions in the qualitative interviews, the effects of breast cancer treatment could last for several years after the treatment (Bloom et al., 2011; Park et al., 2018). Park et al. (2018) found that fatigue was the most significant physical and psychological symptom among breast cancer patients, regardless of survival length. Similarly, Bloom et al. (2011) found that ten years after diagnosis, the patients reported poorer general health and physical well-being, less sexual activity, and more chronic conditions than at 5 years. However, they concluded that they were not sure whether these changes could be attributed to the late effects of treatment or to the normal effects of aging.

The qualitative results of this study revealed that these physical symptoms have affected the participants' roles as mothers and wives. These results were consistent with those of previous qualitative studies from Arab countries by Nizamli et al. (2011) and Al-Shannaq

(2017), in which the participants also expressed that the physical symptoms they experienced interfered with their ability to perform daily activities and carry out their roles and responsibilities.

In terms of psychological well-being, the highest concerns were reported for distress from initial diagnosis, distress from surgery, distress from cancer chemotherapy, changes in appearance, distress from radiotherapy, fear of recurrence, fear of second cancer, fear of spreading, and fear of future diagnostic procedures. These results were consistent with those of a previous study from Thailand, in which items related to distress from the disease and the treatment also reported the highest concerns in breast cancer women (Wonghongkul et al., 2006). Although their participants were older than the current study participants, these results demonstrate that breast cancer is a very distressing disease for older and younger women, and fear of recurrence is the most common concern among breast cancer women (Edib et al., 2016; Rana et al., 2017; Thewes et al., 2016).

Regarding social well-being, the lowest responses were shown for distress in the family due to the illness, the financial burden resulting from illness and treatment, and for breast cancer daughters or other close female relatives. These results could be explained by the fact that Syrian society is known for its strong familial ties; it is natural for the family to be affected and grieve when one of its members is diagnosed with cancer. These results are consistent with those reported in previous studies by Wonghongkul et al. (2006) and Park et al. (2018). Wonghongkul et al. (2006) found that the highest concerns were distress for breast cancer daughters or other close female relatives and distress in the family due to the illness, although the concerns in the current study were higher than those reported in their study. Similarly, Park et al. (2018) found that most breast cancer patients were worried that their children would inherit breast cancer. The financial burden reported by the participants in this

study is due to the high cost of treatment in addition to the high cost of living under the low income as a result of the ongoing war in the country, as discussed previously.

Similarly, the qualitative findings revealed that mothers' fear of their children having cancer was also reported as one of their most pressing concerns.

The spiritual well-being in this study has been reported at the highest level. This result supports the results obtained from the psychosocial needs and the coping strategies in which spirituality has also reported the highest level of satisfaction. This result was higher than that reported in a previous study by Wonghongkul et al. (2006). The explanation for these results as previously discussed is the strong faith of the participants in religion and spirituality.

The results from this study demonstrate that younger breast cancer women are at high risk for impaired quality of life up to several years after diagnosis. Younger women, especially those at high risk for lower QOL, may need interventions that specifically target their needs related to menopausal symptoms and problems with relationships, sexual functioning, and body image (Avis et al., 2005). Younger women should also be well informed and prepared for the short- and long-term effects of breast cancer treatment.

5.8 Predictors of Quality of Life

Six variables together predicted the quality of life in this study. These included level of education, challenge appraisal, harm appraisal, spirituality, detachment, and wishful thinking. These results also support the theory of Folkman and Lazarus (1984), who found a relationship between situational factors and stress appraisal (challenge and harm in this study) that ultimately affect adaptation outcomes (quality of life in this study). Education has been identified as one of the most important factors in promoting quality of life (Pandey

et al., 2005). A previous review also found that a level of education was also reported as a very important predictor that helps breast cancer patients cope with the situation (Jhajharia et al., 2017). Similarly, another review from the Arab world has also concluded that increasing the education status of breast cancer patients is significantly associated with better QOL (Haddou Rahou et al., 2016).

Harm appraisal was also identified as a predictor of quality of life in this study. This result was consistent with a previous study by Wonghongkul et al. (2006), in which harm appraisal was also identified as a predictor of the quality of life of breast cancer women. This result could be explained by the fact that some of the young breast cancer women in this study and other studies perceived the loss of their breasts as harmful or a loss to their femininity, self-confidence, and self-esteem, as shown in the qualitative results, which all ultimately affected their quality of life (Al-Shannaq, 2017; Cebeci et al., 2012; Koçan & Gürsoy, 2016). Mazanec et al. (2010) found that high scores of threat and harm/loss appraisals were significantly associated with poor adjustment in patients with breast, lung, and prostate cancer who had completed their primary treatment for their cancer. This result was also consistent with a previous study that found that harm/loss appraisal predicted mental health functioning in Jordanian men with prostate cancer (Ahmad, 2005).

Challenge appraisal was also identified as a significant predictor of quality of life in this study; however, it was not in a previous study by Wonghongkul et al. (2006). This result was consistent with a previous study from China that found a significant relationship between a positive appraisal of breast cancer and quality of life (Zou et al., 2014). It was also consistent with another study that higher scores of challenge appraisal and benign/irrelevant appraisal were significantly associated with better psychosocial adjustment (Mazanec et al., 2011). According to the Lazarus and Folkman model (1984), a challenge

appraisal is made when the patients perceive their cancer as an obstacle to overcome. As mentioned previously, young women are still establishing their lives and have young children who want to live for them, so they consider themselves in a battle and have to win (Al-Shannaq, 2017; Almeida et al., 2015). As shown in the qualitative results of this study, many participants expressed their desire to live for their children, who are their first source of strength.

Regarding the coping strategies, the results of this study were surprising, as they were contrary to what was expected based on what past research has shown. In this study, only spirituality, wishful thinking, and detachment strategies were identified as predictors of quality of life, although the variance caused by these three variables was very small. Social support, positive reconstruction, and making changes are not predictors of quality of life. This could be explained by entering many variables into the hierarchical regression analysis, which might affect the results of this test. Similarly, coping strategies were not found to be predictors of quality of life in the study by Wonghongkul et al. (2006), in which they used similar variables in the hierarchical regression analysis. Danhauer et al. (2009) have not found an association between positive cognitive restructuring, detachment, and making changes and changes in QOL.

In general, the relationship between quality of life and coping strategies is complicated and inconsistent in the literature. Some studies suggested that using more active coping strategies results in better adjustment and a better quality of life compared to the use of passive coping strategies (Avis et al., 2005; Danhauer et al., 2009; Lazarus & Folkman, 1984). The qualitative results in this study supported what has been found in the literature and revealed that the social support the participants received from their families and partners contributed to a better quality of life.

In this study, spirituality was a predictor of quality of life both quantitatively and, qualitatively. All the participants mentioned that spirituality was a source of emotional comfort, hope, peace, and reassurance, and their diagnosis of breast cancer contributed to an increase in their spirituality. This result was consistent with those of a Jordanian study that found that spiritual interventions could contribute to increased functional, social, and physical well-being and enhance the total health and QoL of women diagnosed with breast cancer (Al-Natour et al., 2017). Another study also found that higher self-reported spirituality was associated with more hope and higher levels of quality of life (Sharif et al., 2021).

Detachment in this study was also reported as a predictor of quality of life. In fact, this result is inconsistent with other studies (Danhauer et al., 2009). The results about the effects of emotion-focused coping on quality of life are inconsistent in the literature. Some studies concluded that emotion-focused coping can negatively affect the quality of life, while others argued that it can enhance it. Lazarus and Folkman (1984) indicated that emotion-focused forms of coping can impair health by impeding adaptive health or illness-related behavior. For example, denial or avoidance strategies can successfully lower emotional distress; however, at the same time, they prevent the person from realistically addressing a problem that is responsive to suitable action. Khalili et al. (2013) found in their study that using more emotion-focused strategies was associated with more physical health symptoms and pain that adversely affected many aspects of their lives, such as relationships with others, enjoyment of life, and mood, so a higher level of these strategies was associated with a decreased functional status and quality of life. However, they also did not find a significant correlation between problem-focused strategies, quality of life, and different aspects of pain. They attributed this result to a small, convenient sampling (62 patients), so there was the

threat of selection bias and limited generalizability (Khalili et al., 2013). On the contrary, opposite results have been obtained in another study that found those who coped through expressing emotions surrounding cancer had fewer medical appointments for cancer-related morbidities, enhanced physical health and vigor, and decreased distress during the next 3 months compared with those low in emotional expression (Stanton et al., 2000).

5.9 Unmet Psychosocial Needs and Quality of Life

The quantitative results of this study showed a significant positive relationship between overall quality of life and support networks, emotional and spiritual needs, practical needs, identity needs, and health professions. However, no reported relationship between overall quality of life and child care and information needs. Similarly, the qualitative results showed a significant relationship between quality of life and unmet needs. The results of this study demonstrated that unmet needs can affect the quality of life of breast cancer patients. The results of this study were consistent with those of previous studies that found that breast cancer patients who reported more unmet needs were more likely to have poorer quality of life (Y.-H. Chou et al., 2020; Miyashita et al., 2015; Park & Hwang, 2012; So et al., 2014). Miyashita et al. (2015) found that more satisfaction with overall communication with medical professionals was significantly associated with higher scores on all QOL subscales. The results of this study were also in line with previous studies that found that breast cancer women who had more unmet physical and psychological needs were more likely to have a poorer quality of life (Edib et al., 2016; So et al., 2014).

Although the quantitative findings revealed no significant relationship between unmet information needs and quality of life in this study, the qualitative results found that unmet information needs affected the physical and psychological aspects of the participant's quality of life. These findings are consistent with those reported by Park and Hwang (2012)

and Miyashita et al. (2015), found that higher psychological and information needs were significantly associated with depression and QOL.

The quantitative and, more importantly, qualitative results revealed that impaired body image affected the quality of life of the study's participants, their self-confidence, and their sexual relationships with their partners. These results were also congruent with previous studies that found that mastectomy affects the psychological, social, and sexual well-being of breast cancer women (An et al., 2022; Avis et al., 2005; Jassim & Whitford, 2013; Olasehinde et al., 2019; Pačarić et al., 2024). Research has confirmed that breast reconstruction is important for improving the quality of life of breast cancer patients (Pačarić et al., 2022; Teo et al., 2016). However, as discussed previously, most Syrian breast cancer women are unable to undergo breast reconstruction due to the high cost of this procedure compared to their current financial status, making them more vulnerable to experiencing the psychosocial effects of mastectomy.

Once again, the quantitative and, more importantly, qualitative results revealed that the practical needs, in general, and financial needs, in particular, were the highest unmet needs and significantly contributed to the low quality of life in the present study. Previous studies have found that the financial status of breast cancer women can affect their quality of life (Jhajharia et al., 2017; Pandey et al., 2005; Yusoff et al., 2022). The qualitative results explained in depth the financial issues faced by the participants in this study, including selling their possessions to get treatment and struggling to ensure food and medicine within the difficult circumstances they were living in, which all contributed to a low quality of life.

The qualitative results of this study also revealed that the participants had unmet psychological needs regarding the psychological support they received from the hospital, which in turn affected their quality of life. As discussed, this is due to the unavailability of

the multidisciplinary team approach in oncological care in Syria, where no psychologists or sociologists support the patients psychologically (Simaan & Jerf, 2018), and because of the oncologists' restricted time and load of patients, the priority is given to the clinical aspects over the psychological. These results align with those reported in a previous study from India, indicating that due to inadequate cancer hospitals and the high load of patients, these centers prioritize increasing the patients' survival rate over their psychological and social needs (Pandey et al., 2005).

Overall, the unmet needs reported in this study have contributed to poor quality of life among young Syrian breast cancer women. Identifying and satisfying those participants' unmet psychosocial needs is very important to improve their quality of life.

5.10 Study Limitations

Despite the significant findings obtained in this study, some limitations should be acknowledged. The first limitation was selecting the sample from only one center in Syria, the Tishreen University Hospital. Although Tishreen University Hospital is a central oncological hospital and receives oncological patients from many cities around Latakia, it was difficult to involve Al-Baironi University Hospital in the study due to the safety of the researcher and the dilemma of transportation in Syria. The second limitation was selecting the sample conveniently, not randomly. This was because there was no access to the sample frame at the hospital as the data was not computerized, which may limit the generalizability of the findings. The third limitation was that not all of those who were willing to participate in the interviews were able to be reached because some of them changed their phone numbers, and some did not like to participate due to their tiredness or other reasons. The fourth limitation was that the questionnaire set took around 30 minutes to fill out, which was sometimes a reason for some patients not to participate in the study. The fifth limitation of

this study was associated with the representativeness of the qualitative data. The data were collected from 11 young breast cancer women. It is unclear how representative this sample is of the young breast cancer women in Syria. The sixth limitation was that the data were collected from young women only, which makes it difficult to generalize the findings to older breast cancer women in Syria. The seventh limitation was the sample size of the pilot study only 20 subjects which could be inadequate to test the internal reliability of the instruments. Lastly, this study was an explanatory study focusing on young Syrian breast cancer women, the triangulation with health professionals was not done, so these results only reflected the participants' points of view.

5.11 Recommendations

5.11.1 Recommendations for Meeting the Psychosocial Needs of Young Breast Cancer Patients

Based on the findings from the quantitative and qualitative phases, the participants have a wide range of psychosocial needs. There is a need for several recommendations to meet the psychosocial needs of young breast cancer women in Syria as much as possible:

1. Involving a multidisciplinary team in the supportive care of cancer patients in Syria to provide them with comprehensive and interdisciplinary programs that meet their needs in a similar way to Western countries. There should be oncologists, oncological nurses, an expert surgical oncologist, an expert in plastic surgery and reconstruction, and genetic counselors. In addition to a strong supportive care program with social workers, dieticians, and a psychiatric clinical nurse specialist or psychologists, as reported in a qualitative study from Canada (Miyashita et al., 2015; Rana et al., 2017).
2. Develop educational programs that meet the information needs of young breast cancer patients based on the findings obtained from this study. Nurses and healthcare providers

should understand those patients' information needs and provide them with the appropriate information at the appropriate time.

3. Establishing regular campaigns aiming to raise people's awareness about breast cancer to encourage early detection and request immediate medical care that avoids the consequences of a late diagnosis and aggressive treatment.
4. There is a need for shifting from a disease-centered model where physicians make all the decisions about the overall aspects of medical services to a patient-centered model where patients actively participate in decisions about diagnosis and treatment and where patients' preferences and needs are considered and reflected in medical services. Health care providers, in particular, should understand all the negative ramifications of mastectomy on young breast cancer patients and their families to provide their patients with an adequate explanation of the benefits and consequences of this procedure that helps them make the right surgical decision.
5. Raising people's awareness of breast cancer as a curable and non-fatal disease is necessary to change society's view of breast cancer patients and accept them as normal people in society.
6. As breast cancer incidence increases continuously, there is a need to establish new centers for oncological patients and provide them with advanced services that meet the patient's medical needs and improve the quality of care provided to those patients.
7. Increase the number of oncologists and oncology-trained nurses to fit the increased number of oncological patients.
8. Establishing comprehensive centers to provide breast cancer patients and other oncology patients with breast prosthetics and support services that help them enhance their appearance, which in turn improves their quality of life.

9. Due to the positive role of spirituality in coping and improving the quality of life of breast cancer patients. Healthcare providers should encourage women diagnosed with breast cancer to explore their spirituality as an effective resource for dealing with the physical and psychological responses to cancer.
10. Enhance the patient-health professionals communication process that can contribute to improving the quality of life for those patients.
11. Due to the effectiveness of social support in improving the quality of life of breast cancer women, breast cancer women's families should also be provided with the information they need to support and help their patients.

5.11.2 Recommendations for Future Research

1. Future research including young and old women to identify the differences between these two sets of patients is recommended.
2. Further research involving the patients, their health professionals (oncologists, nurses), and their partners is needed to get more than one perspective regarding the study phenomenon.
3. Replicate this study with a larger number of patients selected randomly from more than one oncological center to be able to generate the findings.
4. Further exploration of some important themes that emerged from this study, such as the roles of spirituality and social support in promoting the quality of life of young and old breast cancer women in Syria.

5.12 Implications

5.12.1 Nursing Education

The findings of this study could be beneficial for developing nursing education at the undergraduate and graduate levels by providing evidence-based information to develop the theoretical and practical curricula in oncology nursing education. For example, the psychosocial needs and concerns of young breast cancer women should be presented in these curricula to allow nursing students to understand these needs clearly. This may contribute to providing and enhancing future holistic cancer care in hospitals and outside communities. The relationship between cognitive appraisal and coping strategies and the quality of life should also be clear for those students. This will contribute to providing the community with well-educated nurses in the future, as Syria lacks oncology-specialized nurses. The treatment-related effects on young breast cancer women should also be presented in the context of undergraduate and graduate curricula. This would help those students prepare their patients in the future properly for these effects. This in turn could help those patients cope with the physical, psychological, and social challenges associated with mastectomy and chemotherapy and get a better quality of life.

5.12.2 Clinical Practice

This study has many implications for clinical practice by providing a clear understanding of the unmet psychosocial needs and the quality of life experienced by young Syrian breast cancer women. The results of this study showed that young Syrian breast cancer women have unmet information needs about the disease, the treatment, and treatment-related effects. Oncology nurses and healthcare providers should develop educational materials and brochures about breast cancer, treatment, and the effects of the treatment and make them available in all clinical settings.

The results of this study found that young Syrian breast cancer women experienced physical, psychological, and social effects from mastectomy and chemotherapy in the short and long term. Oncology nurses and healthcare providers should use these results to develop pre-habilitation programmes to prepare those women to cope with these effects and improve their quality of life. There is also a need for breast cancer survivorship care planning for young women's post-treatment care to help mitigate preventable conditions that may result from cancer treatments. There is also a need to improve the communication process between health professionals and young breast cancer women and provide them with the emotional support they need. The results of this study also showed the need to involve a multidisciplinary team in the supportive care of breast cancer patients in Syria to provide them with comprehensive and interdisciplinary programmes that meet their needs and concerns.

5.12.3 Policy-Making

The findings obtained in this study may benefit nursing leaders, policy-makers, and healthcare institutions. The findings can guide healthcare policies by specifying and designing appropriate programmes and cost-effective services within the Syrian culture. For example, this study found a total absence of psychosocial oncology services, social workers, psychologists, nutritionists, and mental health nurses at Tishreen University Hospital, where the data was collected. Actions should be taken to provide the hospital with such services to improve the quality of cancer care provided to young breast cancer women. Strategies to raise people's awareness of breast cancer as a curable and non-fatal disease are necessary to change society's view of breast cancer patients and accept them as normal people in society. Lastly, there is a need for strategies to raise people's awareness about breast cancer

symptoms to encourage early detection and request immediate medical care that avoids those women the consequences of a late diagnosis and aggressive treatment

5.13 Conclusion

As breast cancer incidence rises among younger women, there is a growing interest in improving the quality of life of those women. This study aimed to identify the factors affecting the quality of life and psychosocial needs of young Syrian breast cancer women.

With regards to research question number 1, the quantitative findings of this study showed that young Syrian breast cancer women have high levels of unmet psychosocial needs across a wide range of psychosocial needs, especially, practical and informational needs. It has also indicated the effects of unmet needs on quality of life. Regarding research question number 2, the findings showed that the challenge appraisal was the most predominant scale among the participants in this study and was a significant predictor of their quality of life. Regarding research question number 3, the findings have indicated that the participants used more problem-focused coping strategies (including positive cognitive reconstruction, spirituality, social support, and making changes) than emotion-focused coping strategies (keeping feelings to myself, wishful thinking, detachment).

With regards to research question number 4, the findings showed that young Syrian breast cancer women have a low overall quality of life, low physical well-being, very low psychological and social well-being, and high spiritual well-being.

With regards to research question number 5, the findings revealed that level of education, challenge appraisal, harm appraisal, spirituality, wishful thinking, and detachment were significant predictors of quality of life among young Syrian breast cancer women.

About research question number 6, the qualitative findings of this study revealed the participants' perspectives on the challenges that prevent young Syrian breast cancer women from receiving adequate information about the disease and the relevant treatment. It has also indicated the psychological and social issues they experienced as a result of having this disease at such a young age, in addition to the heavy financial burdens they are facing because of this disease.

With regards to research question number 7, the qualitative findings have also revealed the effects of breast cancer on the quality of life of young Syrian breast cancer women and the strategies they used to cope with stressful situations during their breast cancer journey. In addition to that, the qualitative findings have indicated the factors that can improve the quality of life, including the cure of the disease and restoring the life before the disease, having a better financial situation, restoring their shape, doing breast reconstruction, having a partner, and having a new baby. The findings have also indicated the factors that worsen the quality of life, including the recurrence or spreading of the disease, being in a worse financial situation, and stressful living situations. The findings also revealed the effects of the Syrian crisis on breast cancer patients and how it has contributed to their low quality of life.

REFERENCES

- Abdollahzadeh, F., Moradi, N., Pakpour, V., Rahmani, A., Zamanzadeh, V., Mohammadpoorasl, A., & Howard, F. (2014). Unmet supportive care needs of Iranian breast cancer patients. *Asian Pacific Journal of Cancer Prevention*, 15(9), 3933-3938. <https://doi.org/10.7314/apjcp.2014.15.9.3933>
- Abi Nader, E., Kourie, H. R., Ghosn, M., El Karak, F., Kattan, J., Chahine, G., & Nasr, F. (2016). Informational Needs of Women with Breast Cancer Treated with Chemotherapy. *Asian Pacific Journal of Cancer Prevention*, 17(4), 1797-1800. <https://doi.org/10.7314/apjcp.2016.17.4.1797>
- Adams, W. C. (2015). Conducting semi-structured interviews. In *Handbook of Practical Program Evaluation* (Kathryn .E. N, Harry. P. H & Joseph. S.W., 4th ed.), pp.492-505. USA: John Wiley & Sons.
- Ahmad, M. M. (2005). Psychometric evaluation of the Cognitive Appraisal of Health Scale with patients with prostate cancer. *Journal of Advanced Nursing*, 49(1), 78-86.
- Ahmad, S., Fergus, K., & McCarthy, M. (2015). Psychosocial issues experienced by young women with breast cancer: the minority group with the majority of need. *Current Opinion in Supportive and Palliative Care*, 9(3), 271-278.
- Al-Azri, M., Al-Awisi, H., Al-Rasbi, S., El-Shafie, K., Al-Hinai, M., Al-Habsi, H., & Al-Moundhri, M. (2014). Psychosocial impact of breast cancer diagnosis among Omani women. *Oman Medical Journal*, 29(6), 437-444. <https://doi.org/10.5001/omj.2014.115>
- Al-Natour, A., Al Momani, S. M., & Qandil, A. M. (2017). The relationship between spirituality and quality of life of Jordanian women diagnosed with breast cancer. *Journal of Religion and Health*, 56(6), 2096-2108.

- Al-Shannaq, Y. M. (2017). *Psychosocial and Quality of Life Experiences of Jordanian Women with Breast Cancer* [Washington State University].
- Al Zahrani, A. M., Alalawi, Y., Yagoub, U., Saud, N., & Siddig, K. (2019). Quality of life of women with breast cancer undergoing treatment and follow-up at King Salman Armed Forces Hospital in Tabuk, Saudi Arabia. *Breast Cancer: Targets and Therapy*, 199-208.
- Alhusban, R. Y. (2019). Changed body image as perceived by Jordanian women undergoing breast cancer treatment. *Asian Pacific Journal of Cancer Prevention: APJCP*, 20(3), 767-773.
- Ali, R., Mathew, A., & Rajan, B. (2008). Effects of socio-economic and demographic factors in delayed reporting and late-stage presentation among patients with breast cancer in a major cancer hospital in South India. *Asian Pacific Journal of Cancer Prevention*, 9(4), 703-707.
- Almeida, T. G. d., Comassetto, I., Alves, K. d. M. C., Santos, A. A. P. d., Silva, J. M. d. O. e., & Trezza, M. C. S. F. (2015). Experience of young women with breast cancer and mastectomized. *Escola Anna Nery - Revista de Enfermagem*, 19(3). <https://doi.org/10.5935/1414-8145.20150057>
- An, J., Zhou, K., Li, M., & Li, X. (2022). Assessing the relationship between body image and quality of life among rural and urban breast cancer survivors in China. *BMC Women Health*, 22(1), 61.
- Assi, H. A., Khoury, K. E., Dbouk, H., Khalil, L. E., Mouhieddine, T. H., & El Saghir, N. S. (2013). Epidemiology and prognosis of breast cancer in young women. *Journal of Thoracic Disease*, 5(Suppl 1), S2.

- Assi, H. I., Kakati, R. T., Attieh, R. M., Khoury, J., Sukhon, F., Berro, J., . . . Alameh, I. A. (2020). Fertility in breast cancer survivors in the Middle East: a retrospective study. *The Breast*, 52, 58-63.
- Avis, N. E., Crawford, S., & Manuel, J. (2005). Quality of life among younger women with breast cancer. *Journal of Clinical Oncology*, 23(15), 3322-3330.
- Avis, N. E., Levine, B., Naughton, M. J., Case, D. L., Naftalis, E., & Van Zee, K. J. (2012). Explaining age-related differences in depression following breast cancer diagnosis and treatment. *Breast Cancer Research and Treatment*, 136(2), 581-591. <https://doi.org/10.1007/s10549-012-2277-0>
- Azim, H. A., Santoro, L., Pavlidis, N., Gelber, S., Kroman, N., & Peccatori, F. A. (2011). Safety of pregnancy following breast cancer diagnosis: A meta-analysis of 14 studies. *European Journal of Cancer*, 47(1), 74-83.
- Azim Jr, H. A., Kroman, N., Paesmans, M., Gelber, S., Rotmensch, N., Ameye, L., . . . Jensen, M.-B. (2013). Prognostic impact of pregnancy after breast cancer according to estrogen receptor status: a multicenter retrospective study. *Journal of Clinical Oncology*, 31(1), 73.
- Bagheri, M., & Mazaheri, M. (2015). Body image and quality of life in female patients with breast cancer and healthy women. *Journal of Midwifery and Reproductive Health*, 3(1), 285-292.
- Ban, Y., Li, M., Yu, M., & Wu, H. (2021). The effect of fear of progression on quality of life among breast cancer patients: the mediating role of social support. *Health and Quality of Life Outcomes*, 19(1), 1-9.
- Barranger, E., Antomarchi, J., Chamorey, E., Cavrot, C., Flipo, B., Follana, P., . . . Ihrari, T. (2015). Effect of neoadjuvant chemotherapy on the surgical treatment of patients

- with locally advanced breast cancer requiring initial mastectomy. *Clinical Breast Cancer*, 15(5), e231-e235.
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, 25(24), 3186-3191.
- Beatty, L., Oxlad, M., Koczwara, B., & Wade, T. D. (2008). The psychosocial concerns and needs of women recently diagnosed with breast cancer: a qualitative study of patient, nurse and volunteer perspectives. *Health Expectations*, 11(4), 331-342. <https://doi.org/10.1111/j.1369-7625.2008.00512.x>
- Bigatti, S. M., Steiner, J. L., & Miller, K. D. (2012). Cognitive appraisals, coping and depressive symptoms in breast cancer patients. *Stress and Health*, 28(5), 355-361.
- Bloom, J. R., Stewart, S. L., Chang, S., & Banks, P. J. (2004). Then and now: quality of life of young breast cancer survivors. *Psycho-Oncology*, 13(3), 147-160.
- Bloom, J. R., Stewart, S. L., Oakley-Girvan, I., Banks, P. J., & Shema, S. (2011). Quality of life of younger breast cancer survivors: persistence of problems and sense of well-being. *Psycho-Oncology*, 21(6), 655-665.
- Bohsas, H., Alibrahim, H., Swed, S., Khan, U., Al Ibrahim, M., Nashwan, A. J., . . . Sawaf, B. (2023). Assessing Syrian women's knowledge of breast cancer risk factors, warning signs, and barriers to preventive measures: A cross-sectional study. *Cancer Treatment and Research Communications*, 36, 100717.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2012). *Thematic analysis*. American Psychological Association.

- Bryman, A. (2006). Integrating quantitative and qualitative research: how is it done? *Qualitative Research*, 6(1), 97-113.
- Cebeci, F., Yangin, H. B., & Tekeli, A. (2012). Life experiences of women with breast cancer in southwestern Turkey: a qualitative study. *European Journal of Oncology Nursing*, 16(4), 406- 412. <https://doi.org/10.1016/j.ejon.2011.09.003>
- Cheng, H., Sit, J. W., Chan, C. W., So, W. K., Choi, K. C., & Cheng, K. K. (2013). Social support and quality of life among Chinese breast cancer survivors: Findings from a mixed methods study. *European Journal of Oncology Nursing*, 17(6), 788-796.
- Chou, Y. H., Chia-Rong Hsieh, V., Chen, X., Huang, T. Y., & Shieh, S. H. (2020). Unmet supportive care needs of survival patients with breast cancer in different cancer stages and treatment phases. *Taiwanese Journal of Obstetrics and Gynecology*, 59(2), 231-236. <https://doi.org/10.1016/j.tjog.2020.01.010>
- Christiansen, P., Mele, M., Bodilsen, A., Rocco, N., & Zachariae, R. (2022). Breast-Conserving Surgery or Mastectomy? *Annals of Surgery Open*, 3(4), e205. <https://doi.org/10.1097/as9.0000000000000205>
- Chuang, S. C., Lin, C. H., Lu, Y. S., & Hsiung, C. A. (2020). Mortality of pregnancy following breast cancer diagnoses in Taiwanese women. *The Oncologist*, 25(2), e252-e258.
- Clarke, V., & Braun, V. (2013). *Successful qualitative research: A practical guide for beginners*. SAGE.
- Cleary, J., Ddungu, H., Distelhorst, S. R., Ripamonti, C., Rodin, G. M., Bushnaq, M. A., . . . Eniu, A. (2013). Supportive and palliative care for metastatic breast cancer: resource allocations in low-and middle-income countries. A Breast Health Global Initiative 2013 consensus statement. *The Breast*, 22(5), 616-627.

- Cluze, C., Rey, D., Huiart, L., BenDiane, M., Bouhnik, A., Berenger, C., . . . Giorgi, R. (2012). Adjuvant endocrine therapy with tamoxifen in young women with breast cancer: determinants of interruptions vary over time. *Annals of Oncology*, 23(4), 882-890.
- Compas, B. E., Stoll, M. F., Thomsen, A. H., Oppedisano, G., Epping-Jordan, J. E., & Krag, D. N. (1999). Adjustment to breast cancer: age-related differences in coping and emotional distress. *Breast Cancer Research and Treatment*, 54(3), 195-203.
<https://doi.org/10.1023/a:1006164928474>
- Connell, S., Patterson, C., & Newman, B. (2006). Issues and concerns of young Australian women with breast cancer. *Support Care Cancer*, 14(5), 419-426.
<https://doi.org/10.1007/s00520-005-0003-8>
- Coyne, E., & Borbasi, S. (2009). Living the experience of breast cancer treatment: The younger women's perspective. *Australian Journal of Advanced Nursing, The*, 26(4), 6-13.
- Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed methods approaches*, 3rd ed., SAGE
- Creswell, J. W. (2014). *Research design: qualitative, quantitative, and mixed methods approaches*, 4th ed., SAGE
- Creswell, J. W., & Clark, V. L. P. (2007). *Designing and conducting mixed methods research*. SAGE
- Creswell, J. W., & Clark, V. L. P. (2011). *Designing and Conducting Mixed Methods Research*, 2nd ed., SAGE.
- Creswell, J. W., & Clark, V. L. P. (2018). *Designing and conducting mixed methods research*, 3rd ed., SAGE

- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*, 5th ed., SAGE
- Danhauer, S. C., Crawford, S. L., Farmer, D. F., & Avis, N. E. (2009). A longitudinal investigation of coping strategies and quality of life among younger women with breast cancer. *Journal of Behavioral Medicine*, 32, 371-379.
- Deshpande, V. P., Shinde, R. K., Deo, D., Hippargekar, P., Venurkar, S. V., & Deshpande, V. (2022). Assessment of Quality of Life in Patients of Mastectomy With Chemotherapy. *Cureus*, 14(8).
- Doumit, M. A., El Saghir, N., Huijjer, H. A.-S., Kelley, J. H., & Nassar, N. (2010). Living with breast cancer, a Lebanese experience. *European Journal of Oncology Nursing*, 14(1), 42-48.
- Dunkel-Schetter, C., Feinstein, L. G., Taylor, S. E., & Falke, R. L. (1992). Patterns of coping with cancer. *Health Psychology*, 11 (2), 79-87.
- Edib, Z., Kumarasamy, V., Binti Abdullah, N., Rizal, A. M., & Al-Dubai, S. A. (2016). Most prevalent unmet supportive care needs and quality of life of breast cancer patients in a tertiary hospital in Malaysia. *Health and Quality of Life Outcomes*, 14, 26. <https://doi.org/10.1186/s12955-016-0428-4>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4.
- Farouk, O., Ebrahim, M. A., Senbel, A., Emarah, Z., Abozeed, W., Seisa, M. O., . . . Abdelhady, S. (2016). Breast cancer characteristics in very young Egyptian women <=35 years. *Breast Cancer (Dove Med Press)*, 8, 53-58. <https://doi.org/10.2147/BCTT.S99350>

- Fernandes-Taylor, S., Adesoye, T., & Bloom, J. R. (2015). Managing psychosocial issues faced by young women with breast cancer at the time of diagnosis and during active treatment. *Current Opinion in Supportive and Palliative Care*, 9(3), 279-284. <https://doi.org/10.1097/SPC.0000000000000161>
- Ferrell, B., Dow, K., & Grant, M. (1995). Quality of Life Instrument-Breast Cancer Patient Version (QOL-BC). *Measurement Instrument Database for the Social Sciences*.
- Ferrell, B. R., Grant, M. M., Funk, B., Otis-Green, S., & Garcia, N. (1997). Quality of life in breast cancer survivors as identified by focus groups. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, 6(1), 13-23.
- Fiorini, L., Griffiths, A., & Houdmont, J. (2016). Mixed methods research in the health sciences: A review. *Malta Journal of Health Sciences*, 3(2), 37-45. <https://doi.org/10.14614/MIXMETHRES/7/16>
- Fitch, M. I., Gray, R. E., Godel, R., & Labrecque, M. (2008). Young women's experiences with breast cancer: an imperative for tailored information and support. *Canadian Oncology Nursing Journal*, 18(2), 74-86. <https://doi.org/10.5737/1181912x1827479>
- Fitri, S., Maneewat, K., & Sangchan, H. (2017). Psychosocial needs among Indonesian women diagnosed with breast cancer. *Journal of Nursing and Health Care*, 4(2), 67-72.
- Fobair, P., Stewart, S. L., Chang, S., D'Onofrio, C., Banks, P. J., & Bloom, J. R. (2006). Body image and sexual problems in young women with breast cancer. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, 15(7), 579-594.
- Franks, H. M., & Roesch, S. C. (2006). Appraisals and coping in people living with cancer: a meta-analysis. *Psycho-Oncology*, 15(12), 1027-1037.

- Freedman, R. A., & Partridge, A. H. (2013). Management of breast cancer in very young women. *The Breast*, 22, S176-S179.
- Gabriel, C. A., & Domchek, S. M. (2010). Breast cancer in young women. *Breast Cancer Research*, 12, 1-10.
- Gallagher, J., Parle, M., & Cairns, D. (2002). Appraisal and psychological distress six months after diagnosis of breast cancer. *British Journal of Health Psychology*, 7(3), 365-376.
- Gálvez-Hernández, C. L., González-Robledo, M. C., Barragán-Carrillo, R., & Villarreal-Garza, C. (2017). Special needs of young women with breast cancer in limited resource settings. *Revista de Investigación Clínica*, 69(4), 210-222.
- Ganz, P. A., Bower, J. E., & Stanton, A. L. (2015). Special issues in younger women with breast cancer. *Improving Outcomes for Breast Cancer Survivors: Perspectives on Research Challenges and Opportunities*, 9-21.
- Garicochea, B., Morelle, A., Andrighetti, A. E., Cancelli, A., Bós, Â., & Werutsky, G. (2009). Age as a prognostic factor in early breast cancer. *Revista de Saúde Pública*, 43, 311-317.
- Gerstl, B., Sullivan, E., Ives, A., Saunders, C., Wand, H., & Anazodo, A. (2018). Pregnancy outcomes after a breast cancer diagnosis: a systematic review and meta-analysis. *Clinical Breast Cancer*, 18(1), e79-e88.
- Gordon, L., Scuffham, P., Hayes, S., & Newman, B. (2007). Exploring the economic impact of breast cancers during the 18 months following diagnosis. *Psycho-Oncology*, 16(12), 1130-1139.

- Gould, J., Grassau, P., Manthorne, J., Gray, R. E., & Fitch, M. I. (2006). 'Nothing fits me': nationwide consultations with young women with breast cancer. *Health Expectations*, 9(2), 158-173.
- Grantzau, T., & Overgaard, J. (2015). Risk of second non-breast cancer after radiotherapy for breast cancer: a systematic review and meta-analysis of 762,468 patients. *Radiotherapy and Oncology*, 114(1), 56-65.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 11(3), 255-274.
- Haddou Rahou, B., El Rhazi, K., Ouasmani, F., Nejjar, C., Bakkali, R., Montazeri, A., & Mesfioui, A. (2016). Quality of life in Arab women with breast cancer: a review of the literature. *Health and Quality of Life Outcomes*, 14(1), 1-13.
- Halcomb, E. J., & Hickman, L. (2015). Mixed methods research. *Nursing Standard: Promoting Excellence in Nursing Care*, 29(32), 41-47.
- Han, J., Grothuesmann, D., Neises, M., Hille, U., & Hillemanns, P. (2010). Quality of life and satisfaction after breast cancer operation. *Archives of Gynecology and Obstetrics*, 282, 75-82.
- Hanafi, I., Alsalkini, M., Husein, S., & Salamoona, M. (2023). The delay of breast cancer diagnosis and management during the Syrian war. *Cancer Epidemiology*, 82, 102290.
- Hasan, S., Chew, K. S., Balang, R. V., & Wong, S. S. L. (2023). Beyond the scars: a qualitative study on the experiences of mastectomy among young women with breast cancer in a country with crisis. *BMC Women Health*, 23(1), 596.

- Hesse, B. W., Nelson, D. E., Kreps, G. L., Croyle, R. T., Arora, N. K., Rimer, B. K., & Viswanath, K. (2005). Trust and sources of health information: the impact of the Internet and its implications for health care providers: findings from the first Health Information National Trends Survey. *Archives of Internal Medicine*, 165(22), 2618-2624.
- Howard-Anderson, J., Ganz, P. A., Bower, J. E., & Stanton, A. L. (2012). Quality of life, fertility concerns, and behavioral health outcomes in younger breast cancer survivors: a systematic review. *Journal of the National Cancer Institute*, 104(5), 386-405.
- Hubbeling, H. G., Rosenberg, S. M., Gonzalez-Robledo, M. C., Cohn, J. G., Villarreal-Garza, C., Partridge, A. H., & Knaul, F. M. (2018). Psychosocial needs of young breast cancer survivors in Mexico City, Mexico. *PLoS One*, 13(5), e0197931. <https://doi.org/10.1371/journal.pone.0197931>
- Husein, S., Hanafi, I., Balouli, M., Baradi, Z., Alsheikhah, Y., Samra, D. A., & Salamoona, M. (2021). Breast cancer screening during the Syrian crisis: A cross-sectional study. *Journal of Preventive Medicine and Hygiene*, 62(2), E520.
- Iddrisu, M., Aziato, L., & Dedey, F. (2019). A qualitative study on coping strategies of young women living with breast cancer in Ghana. *International Journal of Africa Nursing Sciences*, 11, 100173.
- Iskandarsyah, A., de Klerk, C., Suardi, D. R., Soemitro, M. P., Sadarjoen, S. S., & Passchier, J. (2013). Satisfaction with information and its association with illness perception and quality of life in Indonesian breast cancer patients. *Support Care Cancer*, 21(11), 2999-3007. <https://doi.org/10.1007/s00520-013-1877-5>

- Ismail, H., Shibani, M., Zahrawi, H. W., Slitin, A. F., Alzabibi, M. A., Mohsen, F., . . . Sawaf, B. (2021). Knowledge of breast cancer among medical students in Syrian Private University, Syria: a cross-sectional study. *BMC Medical Education*, 21(1), 251.
- Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods*, 18(1), 3-20.
- Jafari, N., Farajzadegan, Z., Zamani, A., Bahrami, F., Emami, H., & Loghmani, A. (2013). Spiritual well-being and quality of life in Iranian women with breast cancer undergoing radiation therapy. *Supportive Care in Cancer*, 21, 1219-1225.
- Jassim, G. A., & Whitford, D. L. (2013). Quality of life of Bahraini women with breast cancer: a cross-sectional study. *BMC Cancer*, 13(1), 1-14.
- Jhajharia, S., Verma, S., & Kumar, R. (2017). Quality of life in breast cancer survivors in India: factors and importance. *International Journal of Cancer Research*, 13, 36-40.
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112-133.
- Joosten, E. A., DeFuentes-Merillas, L., De Weert, G., Sensky, T., Van Der Staak, C., & de Jong, C. A. (2008). A systematic review of the effects of shared decision-making on patient satisfaction, treatment adherence, and health status. *Psychotherapy and Psychosomatics*, 77(4), 219-226.
- Kadakia, K. C., & Henry, N. L. (2015). Adjuvant endocrine therapy in premenopausal women with breast cancer. *Clinical Advances in Hematology & Oncology: H&O*, 13(10), 663.
- Karaoz, B., Aksu, H., & Kucuk, M. (2010). A qualitative study of the information needs of premenopausal women with breast cancer in terms of contraception, sexuality, early

- menopause, and fertility. *International Journal of Gynecology and Obstetrics*, 109(2), 118-120. <https://doi.org/10.1016/j.ijgo.2009.11.027>
- Kedde, H., Van de Wiel, H., Weijmar Schultz, W., & Wijsen, C. (2013). Sexual dysfunction in young women with breast cancer. *Supportive Care in Cancer*, 21, 271-280.
- Kessler, T. A. (1998). The cognitive appraisal of health scale: Development and psychometric evaluation. *Research in Nursing & Health*, 21(1), 73-82.
- Khalili, N., Farajzadegan, Z., Mokarian, F., & Bahrami, F. (2013). Coping strategies, quality of life and pain in women with breast cancer. *Iranian Journal of Nursing and Midwifery Research*, 18(2), 105.
- Kim, I.-R., Cho, J.-H., Choi, E.-K., Kwon, I.-G., Sung, Y.-H., Lee, J.-E., . . . Yang, J.-H. (2012). Perception, attitudes, preparedness, and experience of chemotherapy-induced alopecia among breast cancer patients: a qualitative study. *Asian Pacific Journal of Cancer Prevention*, 13(4), 1383-1388.
- Koçan, S., & Gürsoy, A. (2016). Body image of women with breast cancer after mastectomy: a qualitative research. *The Journal of Breast Health*, 12(4), 145.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing Company.
- Lee, H.-B., & Han, W. (2014). Unique features of young age breast cancer and its management. *Journal of Breast Cancer*, 17(4), 301-307.
- Lee, M. H., Kim, Y. A., Hong, J. H., Jung, S.-Y., Lee, S., Kong, S.-Y., . . . Lee, E. S. (2020). Outcomes of pregnancy after breast cancer in Korean women: a large cohort study. *Cancer Research and Treatment: Official Journal of Korean Cancer Association*, 52(2), 426-437.

- Lee, R. J., Wakefield, A., Foy, S., Howell, S. J., Wardley, A. M., & Armstrong, A. C. (2011). Facilitating reproductive choices: the impact of health services on the experiences of young women with breast cancer. *Psycho-Oncology*, 20(10), 1044-1052.
- Lee, S. J., Schover, L. R., Partridge, A. H., Patrizio, P., Wallace, W. H., Hagerty, K., . . . Oktay, K. (2006). American Society of Clinical Oncology recommendations on fertility preservation in cancer patients. *Journal of Clinical Oncology*, 24(18), 2917- 2931.
- Leon, A. C., Davis, L. L., & Kraemer, H. C. (2011). The role and interpretation of pilot studies in clinical research. *Journal of Psychiatric Research*, 45(5), 626-629.
- Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P., . . . Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *Annals of Internal Medicine*, 151(4), W-65-W-94.
- Ljungman, L., Ahlgren, J., Petersson, L. M., Flynn, K. E., Weinfurt, K., Gorman, J. R., . . . Lampic, C. (2018). Sexual dysfunction and reproductive concerns in young women with breast cancer: type, prevalence, and predictors of problems. *Psycho-Oncology*, 27(12), 2770-2777.
- Llarena, N. C., Estevez, S. L., Tucker, S. L., & Jeruss, J. S. (2015). Impact of fertility concerns on tamoxifen initiation and persistence. *Journal of the National Cancer Institute*, 107(10), djv202.
- Manachi, M., Chatty, E., Sulaiman, S., & Fahed, Z. (2022). General oncology care in Syria. In *Cancer in the Arab World* (pp. 265-284). Springer Singapore.

- Manuel, J. C., Burwell, S. R., Crawford, S. L., Lawrence, R. H., Farmer, D. F., Hege, A., . . . Avis, N. E. (2007). Younger women's perceptions of coping with breast cancer. *Cancer Nursing, 30*(2), 85-94.
- Martei, Y. M., Pace, L. E., Brock, J. E., & Shulman, L. N. (2018). Breast cancer in low-and middle-income countries: why we need pathology capability to solve this challenge. *Clinics in Laboratory Medicine, 38*(1), 161-173.
- Mazanec, S. R., Daly, B. J., Douglas, S., & Musil, C. (2011). Predictors of psychosocial adjustment during the post-radiation treatment transition. *Western Journal of Nursing Research, 33*(4), 540-559.
- McCray, D. K., Simpson, A. B., Flyckt, R., Liu, Y., O'Rourke, C., Crowe, J. P., . . . Valente, S. A. (2016). Fertility in women of reproductive age after breast cancer treatment: practice patterns and outcomes. *Annals of Surgical Oncology, 23*, 3175-3181.
- McIlmurray, M., Francis, B., Harman, J., Morris, S., Soothill, K., & Thomas, C. (2003). Psychosocial needs in cancer patients related to religious belief. *Palliative Medicine, 17*(1), 49-54.
- Miaja, M., Platas, A., & Martinez-Cannon, B. A. (2017). Psychological impact of alterations in sexuality, fertility, and body image in young breast cancer patients and their partners. *Revista de Investigación Clínica, 69*(4), 204-209.
- Miyashita, M., Ohno, S., Kataoka, A., Tokunaga, E., Masuda, N., Shien, T., . . . Takahashi, M. (2015). Unmet Information Needs and Quality of Life in Young Breast Cancer Survivors in Japan. *Cancer Nursing, 38*(6), E1-11.
<https://doi.org/10.1097/NCC.0000000000000201>

- Mukwato, K. P., Mweemba, P., Makukula, M., & Makoleka, M. (2010). Stress and coping mechanisms among breast cancer patients and family caregivers: A review of literature. *Medical Journal of Zambia*, 37(1), 40-45.
- Naseri, N., & Taleghani, F. (2018). Social support and depression in Iranian cancer patients: the role of demographic variables. *Journal of Caring Sciences*, 7(3), 143.
- Nizamli, F., Anoosheh, M., & Mohammadi, E. (2011). Experiences of Syrian women with breast cancer regarding chemotherapy: a qualitative study. *Nursing & Health Sciences*, 13(4), 481-487. <https://doi.org/10.1111/j.1442-2018.2011.00644.x>
- Olasehinde, O., Arije, O., Wuraola, F. O., Samson, M., Olajide, O., Alabi, T., . . . Kingham, T. P. (2019). Life without a breast: Exploring the experiences of young Nigerian women after mastectomy for breast cancer. *Journal of Global Oncology*, 5, 1-6.
- Omar, A., Bakr, A., & Ibrahim, N. (2020). Female medical students' awareness, attitudes, and knowledge about early detection of breast cancer in Syrian Private University, Syria. *Heliyon*, 6(4).
- Onwuegbuzie, A. J., & Johnson, R. B. (2006). The validity issue in mixed research. *Research in the Schools*, 13(1), 48-63.
- Pačarić, S., Orkić, Ž., Babić, M., Farčić, N., Milostić-Srb, A., Lovrić, R., . . . Turk, T. (2022). Impact of Immediate and Delayed Breast Reconstruction on Quality of Life of Breast Cancer Patients. *International Journal of Environmental Research and Public Health*, 19(14), 8546.
- Pačarić, S., Orkić, Ž., Erić, I., Turk, T., Kondža, G., Farčić, N., . . . Barać, I. (2024). Assessment of emotional functioning and self-perception in post-mastectomy women. *Psychiatria Danubina*, 36 (2), 243-250. <https://doi.org/10.24869/psyd.2024.235>

- Pagani, O., Partridge, A., Korde, L., Badve, S., Bartlett, J., Albain, K., . . . Goldhirsch, A. (2011). Pregnancy after breast cancer: if you wish, ma'am. *Breast Cancer Research and Treatment*, 129, 309-317.
- Pan, I.-W., Smith, B. D., & Shih, Y.-C. T. (2014). Factors contributing to underuse of radiation among younger women with breast cancer. *Journal of the National Cancer Institute*, 106(1), djt340.
- Pandey, M., Thomas, B. C., SreeRekha, P., Ramdas, K., Ratheesan, K., Parameswaran, S., . . . Rajan, B. (2005). Quality of life determinants in women with breast cancer undergoing treatment with curative intent. *World Journal of Surgical Oncology*, 3(1), 1-7.
- Park, B. W., & Hwang, S. Y. (2012). Unmet needs of breast cancer patients relative to survival duration. *Yonsei Medical Journal*, 53(1), 118-125.
- Park, E., Yoon, J., Choi, E. K., Kim, I. R., Kang, D., Lee, S. K., . . . Cho, J. (2018). A train the trainer program for healthcare professionals tasked with providing psychosocial support to breast cancer survivors. *BMC Cancer*, 18(1), 45. <https://doi.org/10.1186/s12885-017-3965-2>
- Partridge, A. H., Hughes, M. E., Ottesen, R. A., Wong, Y.-N., Edge, S. B., Theriault, R. L., . . . Weeks, J. C. (2012). The effect of age on delay in diagnosis and stage of breast cancer. *The Oncologist*, 17(6), 775-782.
- Paterson, C., Lengacher, C. A., Donovan, K. A., Kip, K. E., & Tofthagen, C. S. (2016). Body image in younger breast cancer survivors: a systematic review. *Cancer Nursing*, 39(1), E39.

- Pelusi, J. (2006). Sexuality and Body Image: Research on breast cancer survivors documents altered body image and sexuality. *AJN The American Journal of Nursing*, 106, 32-38.
- Perez-Fortis, A., Fleer, J., Sanchez-Sosa, J. J., Veloz-Martinez, M. G., Alanis-Lopez, P., Schroevers, M. J., & Ranchor, A. V. (2017). Prevalence and factors associated with supportive care needs among newly diagnosed Mexican breast cancer patients. *Support Care Cancer*, 25(10), 3273-3280. <https://doi.org/10.1007/s00520-017-3741-5>
- Perz, J., Ussher, J., & Gilbert, E. (2014). Loss, uncertainty, or acceptance: subjective experience of changes to fertility after breast cancer. *European Journal of Cancer Care*, 23(4), 514-522.
- Prates, A. C. L., Freitas-Junior, R., Prates, M. F. O., Veloso, M. d. F., & Barros, N. d. M. (2017). Influence of body image in women undergoing treatment for breast cancer. *Revista Brasileira de Ginecologia e Obstetrícia*, 39, 175-183.
- Radecka, B., & Litwiniuk, M. (2016). Breast cancer in young women. *Ginekologia Polska*, 87(9), 659-663.
- Rana, P., Ratcliffe, J., Sussman, J., Forbes, M., Levine, M., Hodgson, N., & Schumacher, U. (2017). Young women with breast cancer: Needs and experiences. *Cogent Medicine*, 4(1), 1278836. <https://doi.org/10.1080/2331205x.2017.1278836>
- Ribnikar, D., Ratoša, I., Perhavec, A., & Amir, E. (2017). General overview and treatment recommendations for young women with breast cancer. *Revista de Investigación Clínica*, 69(2), 77-93.

- Rosenberg, S. M., Tamimi, R. M., Gelber, S., Ruddy, K. J., Kereakoglow, S., Borges, V. F., . . . Partridge, A. H. (2013). Body image in recently diagnosed young women with early breast cancer. *Psycho-Oncology*, 22(8), 1849-1855.
- Ruddy, K. J., Gelber, S. I., Tamimi, R. M., Ginsburg, E. S., Schapira, L., Come, S. E., . . . Partridge, A. H. (2014). Prospective study of fertility concerns and preservation strategies in young women with breast cancer. *Journal of Clinical Oncology*, 32(11), 1151.
- Ruddy, K. J., Greaney, M. L., Sprunck-Harrild, K., Meyer, M. E., Emmons, K. M., & Partridge, A. H. (2013). Young women with breast cancer: a focus group study of unmet needs. *Journal of Adolescent and Young Adult Oncology*, 2(4), 153-160.
- Ruslin, R., Mashuri, S., Rasak, M. S. A., Alhabsyi, F., & Syam, H. (2022). Semi-structured Interview: A methodological reflection on the development of a qualitative research instrument in educational studies. *IOSR Journal of Research & Method in Education*, 12(1), 22-29.
- Sahloul, E., Salem, R., Alrez, W., Alkarim, T., Sukari, A., Maziak, W., & Atassi, M. B. (2017). Cancer care at times of crisis and war: The Syrian example. *Journal of Global Oncology*, 3(4), 338-345.
- Sajadian, A., RajiLahiji, M., Motaharinasab, A., Kazemnejad, A., & Haghighat, S. (2017). Breast cancer coping strategies after diagnosis: A six-month follow-up. *Multidisciplinary Cancer Investigation*, 1(4), 12-16. doi: 10.21859/mci-01042.
- Faris, G., Mouhamed, M., Al Jerf, F., Khder, N., Alnakry, E., Salamon, M., et al (2016). *Rapid Assessment of Cancer Management Care in Syria*. [online] available at: <https://reliefweb.int/report/syrian-arab-republic/rapid-assessment-cancer-management-care-syria-december-2016-enar> [Accessed on April 8, 2023].

- Senkus, E., Gomez, H., Dirix, L., Jerusalem, G., Murray, E., Van Tienhoven, G., . . . Bogaerts, J. (2014). Attitudes of young patients with breast cancer toward fertility loss related to adjuvant systemic therapies. EORTC study 10002 BIG 3-98. *Psycho-Oncology*, 23(2), 173-182.
- Sharif, S. P., Lehto, R. H., Amiri, M., Ahadzadeh, A. S., Nia, H. S., Haghdooost, A. A., . . . Goudarzian, A. H. (2021). Spirituality and quality of life in women with breast cancer: The role of hope and educational attainment. *Palliative & Supportive Care*, 19(1), 55-61.
- Shin, S., Kim, J., Kim, D., Kim, H., Lee, S., Kim, S. H., . . . Chae, E. Y. (2019). The importance of education regarding the effects of anticancer treatment on fertility and ovarian function in female patients with breast cancer. *Journal of Menopausal Medicine*, 25(3), 142-148.
- Simaan, S. (2017). Clinical and Pathological Characteristics of Breast Cancer in Syria. *International Journal of Cancer Research & Therapy*, 2, 1-4.
- Simaan, S., & Jerf, F. (2018). Cancer in Syria (magnitude of the problem). *International Journal of Cancer and Treatment*, 1(1), 10-15.
- Sinnadurai, S., Kwong, A., Hartman, M., Tan, E. Y., Bhoo-Pathy, N. T., Dahlui, M., . . . Bhoo-Pathy, N. (2019). Breast-conserving surgery versus mastectomy in young women with breast cancer in Asian settings. *BJS Open*, 3(1), 48-55. <https://doi.org/10.1002/bjs5.50111>
- So, W. K., Chow, K. M., Chan, H. Y., Choi, K. C., Wan, R. W., Mak, S. S., . . . Chan, C. W. (2014). Quality of life and most prevalent unmet needs of Chinese breast cancer survivors at one year after cancer treatment. *European Journal of Oncology Nursing*, 18(3), 323-328.

- Soqia, J., Al-Shafie, M., Agha, L. Y., Alameer, M. B., Alhoms, D., Saadoun, R., & Saifo, M. (2022). Depression, anxiety and related factors among Syrian breast cancer patients: a cross-sectional study. *BMC Psychiatry*, 22(1), 796.
- Stanton, A. L., Danoff-Burg, S., Cameron, C. L., Bishop, M., Collins, C. A., Kirk, S. B., . . . Twillman, R. (2000). Emotionally expressive coping predicts psychological and physical adjustment to breast cancer. *Journal of Consulting and Clinical Psychology*, 68(5), 875.
- Sukartini, T., & Permata Sari, Y. I. (2021). Women with breast cancer living with one breast after a mastectomy. *Central European Journal of Nursing and Midwifery*, 12(2), 366-375. <https://doi.org/10.15452/cejnm.2021.12.0012>
- Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians*, 71(3), 209- 249.
- Tashakkori, A., & Newman, I. (2010). Quantitative and Qualitative Approaches to Research-Integration: Mixed Methods. *International Encyclopedia of Education*, 514-520.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches* (Vol. 46). sage.
- Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Sage.
- Teo, I., Reece, G. P., Christie, I. C., Guindani, M., Markey, M. K., Heinberg, L. J., . . . Fingeret, M. C. (2016). Body image and quality of life of breast cancer patients: influence of timing and stage of breast reconstruction. *Psycho-Oncology*, 25(9), 1106-1112.

- Thewes, B., Butow, P., Bell, M. L., Beith, J., Stuart-Harris, R., Grossi, M., . . . Committee, F. C. R. S. A. (2012). Fear of cancer recurrence in young women with a history of early-stage breast cancer: a cross-sectional study of prevalence and association with health behaviours. *Support Care Cancer*, 20(11), 2651-2659. <https://doi.org/10.1007/s00520-011-1371-x>
- Thewes, B., Butow, P., Girgis, A., & Pendlebury, S. (2004). The psychosocial needs of breast cancer survivors; a qualitative study of the shared and unique needs of younger versus older survivors. *Psycho-Oncology*, 13(3), 177-189. <https://doi.org/10.1002/pon.710>
- Thewes, B., Lebel, S., Seguin Leclair, C., & Butow, P. (2016). A qualitative exploration of fear of cancer recurrence (FCR) amongst Australian and Canadian breast cancer survivors. *Support Care Cancer*, 24(5), 2269-2276. <https://doi.org/10.1007/s00520-015-3025-x>
- Thomas, C., Morris, S., McIlmurray, M. B., Soothill, K. L., Francis, B. J., & Harman, J. C. (2001). What are the psychosocial needs of cancer patients and their main carers? The Institute for Health Research, Lancaster University, Lancaster. Available at: https://eprints.lancs.ac.uk/id/eprint/13787/1/Psychosocial_Needs_Report.pdf
- Türk, K. E., & Yılmaz, M. (2018). The effect on quality of life and body image of mastectomy among breast cancer survivors. *European Journal of Breast Health*, 14(4), 205.
- Villarreal-Garza, C., Lopez-Martinez, E. A., Martinez-Cannon, B. A., Platas, A., Castro-Sanchez, A., Miaja, M., . . . Galvez-Hernandez, C. L. (2019). Medical and information needs among young women with breast cancer in Mexico. *European Journal of Cancer Care*, 28(4), e13040. <https://doi.org/10.1111/ecc.13040>

- Villarreal-Garza, C., Martinez-Cannon, B. A., Platas, A., Mohar, A., Partridge, A. H., Gil-Moran, A., . . . Cardona-Huerta, S. (2017). Fertility concerns among breast cancer patients in Mexico. *The Breast*, 33, 71-75.
- Wenzel, L. B., Fairclough, D. L., Brady, M. J., Cella, D., Garrett, K. M., Kluhsman, B. C., . . . Marcus, A. C. (1999). Age-related differences in the quality of life of breast carcinoma patients after treatment. *Cancer: Interdisciplinary International Journal of the American Cancer Society*, 86(9), 1768-1774.
- Wonghongkul, T., Dechaprom, N., Phumivichuvate, L., & Losawatkul, S. (2006). Uncertainty appraisal coping and quality of life in breast cancer survivors. *Cancer Nursing*, 29(3), 250-257.
- Yazdani-Charati, R., Hajian-Tilaki, K., & Sharbatdaran, M. (2019). Comparison of pathologic characteristics of breast cancer in younger and older women. *Caspian Journal of Internal Medicine*, 10(1), 42.
- Yi, M., Park, K., & Park, E. Y. (2014). Psychosocial needs of low-income people with cancer in Korea. *European Journal of Oncology Nursing*, 18(6), 549-556.
- Yusoff, J., Ismail, A., Abd Manaf, M. R., Ismail, F., Abdullah, N., Muhammad, R., . . . Mat Zin, R. R. (2022). Quality of life of women with breast cancer in a tertiary referral university hospital. *Health and Quality of Life Outcomes*, 20(1), 1-13.
- Zou, Z., Hu, J., & McCoy, T. P. (2014). Quality of life among women with breast cancer living in Wuhan, China. *International Journal of Nursing Sciences*, 1(1), 79-88.

APPENDICES

Appendix A: Ethical Approval for Study

Pejabat Timbalan Naib Canselor
Penyelidikan dan Inovasi
Jawatankuasa Etika Penyelidikan Perubatan
Tel: 082-581222/1223
Fax: 082-665115

**UNIVERSITI MALAYSIA
SARAWAK**
94300 Kota Samarahan

MEMORANDUM

Rujukan : UNIMAS/TNC(PI)/09-65/01(50)
Kepada : Shaza Hasan
Daripada : Pengerusi
Jawatankuasa Etika Penyelidikan Perubatan
Tarikh : 14 April 2022
Perkara : Kelulusan Etika Penyelidikan Perubatan:
- *Psycho-Social Needs of Young Women with Breast Cancer in Syria*
RUJUKAN ETIKA: FME/22/42

Dengan segala hormatnya perkara di atas dirujuk.
The above matter is referred.

Sukacita dimaklumkan bahawa etika untuk penyelidikan seperti di atas telah **DILULUSKAN** secara pentadbiran. Penyelidik-penyelidik yang terlibat adalah seperti dibawah:
Faculty Medical Ethics Committee, University Malaysia Sarawak (UNIMAS) has provided ethical APPROVAL for this study by administrative. The investigators involved in this study are:

1. Shaza Hasan (Penyelidik Utama)
Universiti Malaysia Sarawak
2. Prof. Dr. Chew Keng Sheng (Penyelidik Utama)
Universiti Malaysia Sarawak

Segala rekod dan data subjek adalah SULIT dan hanya digunakan untuk tujuan penyelidikan dan semua isu serta prosedur mengenai kerahsiaan data mesti dipatuhi. Kebenaran daripada Ketua Pusat Tanggungjawab di mana kawasan kajian yang terlibat mesti diperolehi terlebih dahulu sebelum penyelidikan dimulakan.

Appendix A (continued)

*All records and data are to be kept strictly **CONFIDENTIAL** and can only be used for the purpose of this study. All precautions are to be taken to maintain data confidentiality. Permission from the all relevant heads of departments/ units where the study will be carried out must be obtained prior to the study.*

Untuk makluman, kelulusan ini adalah sah untuk tempoh bermula dari April 2022 sehingga April 2023 sahaja. Sebarang urusan surat-menyurat berkaitan dengan penyelidikan ini haruslah dinyatakan nombor rujukan kelulusan etika bagi melancarkan proses yang berkaitan.

Please note that the approval is valid from April 2022 until April 2023. The reference number for this letter must be stated in all correspondence related to this study to facilitate the process.

Sekian, terima kasih.

Thank you with regards and well wishes.



Prof Dr Lela Hj. Su'ut

sk: Timbalan Naib Canselor (Penyelidikan & Inovasi)
UNIMAS Publisher

Appendix B: Letter of Recommendation from Supervisor for Data Collection



Shaza hasan <shazahasan141@gmail.com>

Data Collection for PhD study for Shaza Hassan

1 message

Chew Keng Sheng <kschew@unimas.my>

Fri, Dec 24, 2021 at 11:23 PM

To: "inter-rel@tishreen.edu.sy" <inter-rel@tishreen.edu.sy>

Cc: "shazahasan141@gmail.com" <shazahasan141@gmail.com>

To:

International Relations Department
Tishreen University

Dear sir/madam,

Greetings to you from Malaysia!

I am Dr. Chew, from the Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak (UNIMAS).

I testify that Ms Shaza Hassan is a PhD candidate in our university and i am the main supervisor for her study.

Ms Shaza will be conducting a study on the topic of "Psycho-Social Needs of Young Women with Breast Cancer in Syria" and she will be collecting her data in different centers in Syria. Besides getting an ethical approval from our center here in UNIMAS, she would likely need to get ethical clearance from your center as well.

Kindly render the needed assistance for her to complete the data collection.

Thank you very much.



Prof Dr. Chew Keng Sheng

MD (USM). MMED (Emerg Med, USM), PgDip (HETL, UNIMAS),
PhD (Med Educ, Maastricht)

Deputy Dean (Graduate, Research & Commercialization),
Consultant Emergency Physician

Faculty of Medicine and Health Sciences
Universiti Malaysia Sarawak (UNIMAS)
94300 Kota Samarahan
Sarawak, Malaysia.



+6+6082587704 +6+6082665152 kschew@unimas.my

<http://www.unimas.my>

Appendix C: Approval from Head of Oncology Department at Tishreen University Hospital

SYRIAN ARAB REPUBLIC Tishreen university Faculty of Medicine SYRIA - LATTAKIA		الجمهورية العربية السورية جامعة تشرين كلية الطب سوريا - اللاذقية
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التاريخ :	الرقم :
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To: Prof Chew Keng Cheng,
Deputy Dean (Graduate, Research)
Faculty of Medicine and Health Sciences
University Malaysia Sarawak.
Dear Sir,
Greetings to you

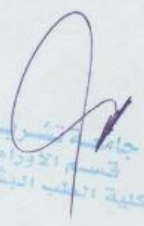
I am Prof Michael, head of oncology department at Tishreen University Hospital.

In response to a received letter from Faculty of Medicine at Tishreen University regarding allowing your PhD candidate from Syria Ms. Shaza Hasan to collect the data for her study from oncology department at Tishreen University Hospital.

We are blessed to inform you that the ethics committee at the oncology department reviewed and discussed the objectives and methodology of the study and it has been found that Ms. Shaza is taking the ethical considerations into account, therefore, she was given the approval to collect the data from the department.

Best Regards

Michael Georgeos, MD, CES
Professor, Hematology/oncology
Head, Oncology Department
Tishreen University, college of Medicine


جامعة تشرين
قسم الأورام
كلية الطب البشري

Appendix D: Participants Information Sheet for Quantitative Study

Participants Information Sheet

Title of the study:

Factors Affecting Quality of Life Among Young Syrian Breast Cancer Patients: A Mixed-Methods Study

Dear participant:

You are being invited to participate in this study because you are a young Syrian breast cancer patient. Before deciding to participate in this study, it is necessary to read the information on this page. This study is conducted to achieve a doctorate in Nursing from the University of Malaysia Sarawak (UNIMAS). Please take your time to read the information on this page and ask the researcher if you have any questions.

Aims of the study:

This study aims to determine the factors affecting the quality of life of young women with breast cancer in Syria through two phases (quantitative Phase 1 followed by qualitative Phase 2). It is hoped that the findings from this study can be utilized to improve the quality of life for young Syrian breast cancer patients. It also aims to identify the psychosocial needs, cognitive appraisal, and coping strategies of young breast cancer women in Syria.

Do I have to take part in this study?

Your participation in this study is completely voluntary. You are free to agree to participate or refuse if you do not want to do so for any reason, and we will not ask for any explanation. We would like you to know that your acceptance or refusal to participate in this stage will never affect the method of your treatment or the quality of care you receive from the hospital, and there will be no consequences.

Will my information in this study be kept confidential?

All information you provide will be treated strictly confidentially and will not be displayed in any way that would identify individuals. All filled-out questionnaires will be stored in locked cabinets and on a password-locked computer. The collected data will only be accessed by the researcher. The information obtained in this study will be used only for the purposes of scientific research, and you have the right to view the results after the end of the study.

If you agree to participate in this study, please sign.

Signature.....

Thank you for reading this information and for participating in this study.

Appendix E: Participants Information Sheet for Qualitative Study

Participants Information Sheet

Title of the study:

Factors Affecting Quality of Life Among Young Syrian Breast Cancer Patients: A Mixed-Methods Study

Dear participant:

You are invited to participate in this phase of the study because you took part in the first phase of the study. Before making a decision about participating in this phase, please take your time to read the information on this page and ask the researcher if you have any questions. This study is conducted for the purpose of achieving a doctorate degree in Nursing from the University of Malaysia Sarawak (UNIMAS).

Aims of this phase of the study:

At this phase, you will be interviewed with the aim of obtaining a more detailed explanation and a deeper understanding of the factors affecting the quality of life and the psychosocial needs of young women with breast cancer in Syria in order to improve the quality of life of young Syrian women with breast cancer. The interview will be audio-recorded and last between 45 and 60 minutes. The interview will be transcribed and translated into English, as English is the required language for writing the Ph.D. thesis at the University of Malaysia Sarawak.

Do I have to take part in this study?

Your participation in this phase is completely voluntary. You are free to agree to participate or refuse if you do not want to do so for any reason, and we will not ask for any explanation. We would like you to know that your acceptance or refusal to participate in this stage will never affect the method of your treatment or the quality of care you receive from the hospital, and there will be no consequences.

Will my information in this study be kept confidential?

All information you provide will be treated strictly confidentially and will not be displayed in any way that would identify individuals. All recordings and transcripts will be stored on a password-locked computer accessed only by the researcher. Anonymity will be achieved by using false names during the analysis. Your name or any personal data will not be revealed in reporting the study findings. The information obtained in this study will be used only for the purposes of scientific research, and you have the right to view the results after the end of the study.

If you agree to participate in this phase, please sign.

Signature.....

Thank you for reading this information and for participating in this study.

Appendix F: Questionnaire Set

البيانات الديمغرافية والطبية Demographic and medical data

					البيانات الديمغرافية Demographic data
		50-41	40-31	أقل من 30 Less than 30	العمر بالسنوات Age (years)
	أرملة widowed	مطلقة divorced	متزوجة married	عازبة / single	الحالة الاجتماعية Marital status
3+	3	2	1	0	عدد الاولاد Number of children
	>12	7-12	3-6	أقل من 3 Less than 3	عمر آخر طفل (بالسنوات) Age of the last child (years)
			مسيحي Christian	مسلم Muslim	الديانة Religion
جامعة university	معهد institute	ثانوي secondary	إعدادي preparatory	ابتدائي elementary	مستوى التعليم Level of education
	عمل حر Private work	متقاعدة Retired	موظفة Employee	ربة منزل House wife	العمل work
>250000	201000-250000	150000-200000	101000 – 150000	أقل من 100000 ليرة سورية Less than \$35	دخل الاسرة (شهريا) Family income (monthly)
>\$100	\$76-100	\$51-75	\$36-50		
			لا No	نعم yes	التأمين الصحي Health insurance
			لا No	نعم yes	تاريخ عائلي للاصابة بسرطان الثدي Family history of breast cancer

			خارج اللاذقية/حدي من فضلك Outside Latakia	داخل مدينة اللاذقية Inside Latakia	مكان الإقامة Place of residence
					الوقت اللازم للوصول من مكان الإقامة إلى المستشفى من اجل تلقي العلاج أو المتابعة الدورية Time to arrive hospital for treatment or follow up
					المعلومات الطبية Medical data
					العمر عند التشخيص Age at diagnosis
+48	37-48	25-36	13-24	3-12	الوقت منذ بداية التشخيص (بالشهور) Time since diagnosis (months)
			استئصال كلي Mastectomy	جراحة محافظة Conserving surgery	نوع العمل الجراحي Type of surgery
		الانتهاء من العلاج Completion of treatment	المريضة تخضع حالياً للعلاج Undergoing treatment	لم تبدأ بعد Has not started yet	المعالجة الكيماوية chemotherapy
		الانتهاء من العلاج Completion of treatment	المريضة تخضع للعلاج حالياً Undergoing treatment	لم تبدأ بعد Has not started yet	المعالجة الشعاعية Radiation therapy
			المريضة تخضع للعلاج حالياً Undergoing treatment	لم تبدأ بعد Has not started yet	المعالجة الهرمونية Hormonal therapy

Cognitive Appraisal of Health Scale

مقياس التقييم الإدراكي للصحة

Below are several statements that describe ways people think about their health condition. Please read each item and circle one number that best describes how much you agree or disagree with the statement according to what is happening to you right now.

فيمايلي العديد من العبارات التي تصف الطرق التي يفكر بها الناس حول حالتهم الصحية. يرجى قراءة كل عنصر ووضع دائرة على رقم واحد يصف على أفضل وجه مدى موافقتك او عدم موافقتك على العبارة وفقا لما يحدث لك الآن.

The answers range from strongly agree (5) to strongly disagree (1). Please be sure to answer all statements. There are no right or wrong answers.

تتراوح الإجابات من أوافق بشدة (5) إلى أعارض (لا أوافق) بشدة (1). يرجى التأكد من الإجابة على جميع العبارات. لا توجد إجابات صحيحة أو خاطئة.

أوافق بشدة (5)	أوافق (4)	غير محدد (3)	لا أوافق (2)	لا أوافق بشدة (1)	
strongly agree	agree	undecided	disagree	strongly disagree	
					1. يمكنني التحكم فيما سيحدث لي 1. I can control what will happen to me.
					2. هذه الحالة الصحية لن تسبب لي الإحباط 2. This health condition won't get me down.
					3. لم أعد قادرة على فعل ما أريده بسبب هذه الحالة الصحية 3. I have not been able to do what I want to do because of this health condition.
					4. هذه الحالة الصحية مخيفة بالنسبة لي 4. This health condition is frightening to me.
					5. هذه الحالة الصحية ليست مرهقة نفسيا بالنسبة لي 5. This health condition isn't stressful to me.
					6. ستزداد الأمور سوءا بسبب هذه الحالة الصحية 6. Things will only get worse because of this health condition.
					7. هذه الحالة الصحية لن تسير على مايرام 7. This health condition will not go well.
					8. قد أضرت هذه الحالة الصحية بحياتي 8. This health condition has damaged my life.

					9. لقد فقدت الاهتمام بالأشياء من حولي 9. I have lost interest in the things around me.
					10. لقد اضطررت للتخلي عن الكثير بسبب هذه الحالة الصحية 10. I have had to give up a great deal because of this health condition.
					11. يمكنني التغلب على هذه الحالة الصحية بالرغم من الصعوبات 11. I can beat this health condition despite the difficulties.
					12. يمكنني تغيير هذه الحالة الصحية أو القيام بشيء حيالها 12. This health condition is one that I can change or do something about.
					13. لدي شعور بالخسارة بسبب الأشياء التي لم أعد أستطيع فعلها 13. I have a sense of loss over the things I can no longer do.
					14. أشعر أنني أستطيع التعامل مع هذه الحالة الصحية 14. I feel I can handle this health condition.
					15. ليس لدي ما أخسره بسبب هذه الحالة الصحية 15. I have nothing to lose because of this health condition.
					16. أصبح علي أن أمنع نفسي من القيام بما أريده خلال هذه الحالة الصحية 16. During this health condition, I have to hold myself back from doing what I want to do.
					17. يمكنني أن أخسر الكثير بسبب هذه الحالة الصحية 17. I have a lot to lose because of this health condition.
					18. أنا قلق بشأن ما سيحدث لي 18. I worry about what will happen to me.
					19. تأثرت العلاقات مع عائلتي أو أصدقائي 19. Relationships with my family and friends have suffered.

					20. لا أحتاج إلى القيام بشيء بالنسبة لهذه الحالة الصحية 20. There is nothing I need to do for this health condition.
					21. لقد تضررت بطريقة ما من هذه الحالة الصحية (المعاناة والخسارة) 21. I have been harmed in some way by this health condition.
					22. أحتاج أن أعرف أكثر قبل قيامي بعمل أي شيء بخصوص هذه الحالة الصحية 22. I need to know more before I can do anything about this health condition.
					23. لا أفكر كثيرا في هذه الحالة الصحية 23. I don't think much about this health condition.
					24. دفعتني هذه الحالة الصحية لأعرف أكثر عن نفسي 24. This health condition has caused be to learn more about myself.
					25. لقد تأذيت من هذه الحالة الصحية (جسديا, عاطفيا) 25. I have been hurt by this health condition.
					26. يمكنني القيام بالكثير للتغلب على هذه الحالة الصحية 26. There is a lot I can do to overcome this health condition.
					27. يجب علي أن أتقبل هذه الحالة الصحية 27. I have to accept this health condition.
					28. لا تؤثر هذه الحالة الصحية على حياتي 28. This health condition doesn't affect my life.

Psychosocial Needs Inventory (PNI)

الاحتياجات النفسية والاجتماعية

Below you will find a list of needs which people sometimes have when facing illness.

We would like you to go through the list in two ways:

♦ First, ask yourself “how important has this need been to me, over the past six weeks?”, and circle the appropriate number on a scale from 1 to 5:

1= not at all important 2= not very important 3= neither important nor unimportant

4= important 5= very important

♦ Second, ask yourself “how this need has been satisfied for me, over the past six weeks?”, and tick the appropriate box on a scale from 1 to 5:

1= not at all satisfied 2= not very satisfied 3= neither satisfied nor unsatisfied 4= satisfied

5= very satisfied

If the statement does not apply to you, tick the box under “Does not Apply to me”

ستجد أدناه قائمة بالاحتياجات التي يحتاجها الناس أحيانا عندما يواجهون المرض نرجو منك أن تذهب

عبر القائمة بطريقتين:

أولا, اسأل نفسك "ما مدى أهمية هذه الحاجة لي, خلال الستة الأسابيع الماضية؟", وضع دائرة حول الرقم المناسب على مقياس من 1 إلى 5:

1= غير مهمة على الإطلاق 2= ليست مهمة كثيرا 3= متعادلة- لا هي مهمة أو غير مهمة 4= مهمة 5= مهمة جدا ثانيا:

اسأل نفسك "ما درجة رضائي فيما يخص تلبية هذه الحاجة خلال الستة أسابيع الماضية؟", قم بوضع علامة على الصندوق الصغير المقابل لدرجة

رضائك بعلامات من 1 إلى 5:

1= غير راض على الإطلاق 2= غير راض 3= متعادل- لست راض أو غير راض 4= راض 5= راض جدا إذا لم تنطبق

عليك العبارة, ضع علامة في المربع لانتطبق علي

Getting or having the Following وجود مايلي أو الحصول عليه	Does not apply to me لا تنطبق علي	How important? مدى الاهمية؟					How satisfied? درجة الرضى؟				
		←→					←→				
		Not at all important غير مهمة على الإطلاق 1	2	3	4	very important مهمة جدا 5	Not at all satisfied غير راض على الإطلاق 1	2	3	4	very satisfied راض 5
Health professional needs الاحتياجات المهنية الصحية											
Confidence in the health professionals I meet الثقة في المهنيين الصحيين الذين أقابلهم		1	2	3	4	5	1	2	3	4	5
Health professionals who have time to discuss issues with me المهنيين الصحيين الذين يملكون الوقت لمناقشة القضايا معي		1	2	3	4	5	1	2	3	4	5

Easy and quick access to doctors وصول سهل و سريع للأطباء		1	2	3	4	5	1	2	3	4	5
Honest information معلومات أمينة		1	2	3	4	5	1	2	3	4	5
Health professionals who treat me with respect المعاملة باحترام من قبل المهنيين الصحيين		1	2	3	4	5	1	2	3	4	5
Information given sensitively إعطاء المعلومات برهافة حس		1	2	3	4	5	1	2	3	4	5
Health professionals who listen to me المهنيين الصحيين الذين يستمعون إلي		1	2	3	4	5	1	2	3	4	5
Easy and quick access to health professionals other than doctors وصول سهل و سريع للمهنيين الصحيين من غير الاطباء		1	2	3	4	5	1	2	3	4	5
Opportunities to participate in choices around treatment فرص المشاركة في خيارات العلاج		1	2	3	4	5	1	2	3	4	5
Types of Information needs احتياجات المعلومات											
Information about treatment plans معلومات حول خطط العلاج		1	2	3	4	5	1	2	3	4	5
Information about what to expect معلومات حول مايمكن توقعه		1	2	3	4	5	1	2	3	4	5
Information about medication and side effects معلومات حول الدواء وتأثيراته الجانبية		1	2	3	4	5	1	2	3	4	5

Advice on what services and help are available المشورة بشأن الخدمات والمساعدة المتوفرة		1	2	3	4	5	1	2	3	4	5
Access to other sources of information إمكانية الوصول لمصادر أخرى للمعلومات		1	2	3	4	5	1	2	3	4	5
Support network needs احتياجات شبكة الدعم											
Support from family الدعم من العائلة		1	2	3	4	5	1	2	3	4	5
Support from friends الدعم من الاصدقاء		1	2	3	4	5	1	2	3	4	5
Support from care professionals الدعم من مقدمي الرعاية الصحية		1	2	3	4	5	1	2	3	4	5
Someone to talk to وجود شخص لأتحدث إليه		1	2	3	4	5	1	2	3	4	5
Support from neighbors الدعم من الجيران		1	2	3	4	5	1	2	3	4	5
Identity needs احتياجات الهوية											
Help in maintaining independence in the face of illness المساعدة في الحفاظ على الاستقلالية في مواجهة المرض		1	2	3	4	5	1	2	3	4	5
Help in maintaining a sense of control in my life المساعدة في الحفاظ على شعور التحكم في حياتي		1	2	3	4	5	1	2	3	4	5
Support in dealing with changes in my body or the way I look الدعم في التعامل مع التغيرات في جسدي أو الطريقة التي أبدو بها		1	2	3	4	5	1	2	3	4	5
Support in dealing with any changes in the way others see me		1	2	3	4	5	1	2	3	4	5

الدعم في التعامل مع أي تغيرات في الطريقة التي يراني بها الآخرين											
Support in dealing with any changes in my sense of who I am الدعم في التعامل مع أي تغيرات في إحساسي بذاتي (من أكون)		1	2	3	4	5	1	2	3	4	5
Emotional and Spiritual needs الاحتياجات العاطفية والروحانية											
Hope for the future الامل بالمستقبل		1	2	3	4	5	1	2	3	4	5
Help with any fears المساعدة في أي مخاوف		1	2	3	4	5	1	2	3	4	5
Help in dealing with the unpredictability of the future المساعدة في التعامل مع عدم القدرة على التنبؤ بالمستقبل		1	2	3	4	5	1	2	3	4	5
Time for myself اعطاء الوقت لنفسي		1	2	3	4	5	1	2	3	4	5
Help with finding a sense of purpose and meaning المساعدة في إيجاد الإحساس بالهدف والمعنى في الحياة		1	2	3	4	5	1	2	3	4	5
Help with any sad feelings المساعدة في أي مشاعر حزن		1	2	3	4	5	1	2	3	4	5
Help in dealing with the feelings of others المساعدة في التعامل مع مشاعر الآخرين		1	2	3	4	5	1	2	3	4	5
Opportunities for personal prayer فرص للصلاة الشخصية		1	2	3	4	5	1	2	3	4	5
Opportunities for meeting others who are in a similar situation فرص لمقابلة الآخرين الذين عاشوا مواقف مشابهة		1	2	3	4	5	1	2	3	4	5

Help with any loneliness المساعدة في أي شعور بالوحدة		1	2	3	4	5	1	2	3	4	5
Support from people of my faith الدعم من أهل إيماني		1	2	3	4	5	1	2	3	4	5
Help with any anger المساعدة للتعامل مع أي غضب		1	2	3	4	5	1	2	3	4	5
Support from a spiritual advisor الدعم من المرشد الروحي		1	2	3	4	5	1	2	3	4	5
Help with any feelings of guilt المساعدة بخصوص أي مشاعر بالذنب		1	2	3	4	5	1	2	3	4	5
Help in considering my sexual needs المساعدة في أخذ احتياجاتي الجنسية في عين الاعتبار		1	2	3	4	5	1	2	3	4	5
Practical needs الاحتياجات العملية											
Help with any distressing symptoms المساعدة في أي أعراض محزنة		1	2	3	4	5	1	2	3	4	5
Help with transport المساعدة في وسائل التنقل		1	2	3	4	5	1	2	3	4	5
Help in dealing with any tiredness المساعدة في التعامل مع أي تعب		1	2	3	4	5	1	2	3	4	5
Advice about food and diet تقديم المشورة حول الطعام والحمية الغذائية		1	2	3	4	5	1	2	3	4	5
Help with housework المساعدة في الاعمال المنزلية		1	2	3	4	5	1	2	3	4	5
Help with getting out and about socially المساعدة في أن أكون اجتماعي		1	2	3	4	5	1	2	3	4	5
Help with financial matters المساعدة في الامور المالية		1	2	3	4	5	1	2	3	4	5

Help in filling out forms المساعدة في ملء الاستمارات		1	2	3	4	5	1	2	3	4	5
Practical-child care needs احتياجات رعاية الطفل العملية											
Help with child care المساعدة في رعاية الطفل		1	2	3	4	5	1	2	3	4	5

Modified ways of coping cancer questionnaire

استبيان طرق التكيف مع السرطان

Please indicate which coping strategy you used in the past 6 months to cope with your breast cancer.

من فضلك، ما هي آلية (استراتيجية) التأقلم التي استخدمتها للتكيف مع سرطان الثدي خلال السنة أشهر الماضية.

غالباً كثيراً	غالباً	أحياناً	نادراً	لا أبداً على الاطلاق	
Very often	often	sometimes	rarely	not at all	
					العامل رقم 1: السعي و الاستفادة من الدعم الاجتماعي Factor 1: Seek and Use Social Support
5	4	3	2	1	1. تركت مشاعري تخرج بطريقة ما أو أخرى Let my feelings out somehow
5	4	3	2	1	2. تحدثت إلى شخص ما عما كنت أشعر به Talked to someone about how I was feeling
5	4	3	2	1	3. تحدثت إلى شخص ما لأتعرّف أكثر على الوضع Talked to someone to find out more about the situation
5	4	3	2	1	4. طلبت النصيحة من قريب/ صديق أحترمه Asked a relative or friend I respected for advice
5	4	3	2	1	5. تحدثت إلى شخص يمكنه فعل شيء ملموس بشأن المشكلة Talked to someone who could do something concrete about the problem

5	4	3	2	1	6. حاولت الحصول على المساعدة من شخص متخصص Tried to get professional help
					العامل رقم 2: الاحتفاظ بالمشاعر لنفسي Factor 2: Keep Feelings to Self
5	4	3	2	1	7. حاولت الاحتفاظ بمشاعري لنفسي Tried to keep my feelings to myself
5	4	3	2	1	8. تجنبت أن يعرف الآخرون كم كانت الأمور سيئة. Kept others from knowing how bad things were
					العامل رقم 3: إعادة تركيب البناء المعرفي الإيجابي Factor 3: Positive Cognitive Restructuring
5	4	3	2	1	9. بحثت عن بصيص من الأمل , إذا جاز التعبير, حاولت أن أنظر إلى الجانب المشرق للأشياء Looked for the silver lining, so to speak; tried to look at the bright side of things
5	4	3	2	1	10. تعاملت مع المرض على أنه تحد أو معركة لا بد من الفوز فيها Treated the illness as a challenge or battle to be won
5	4	3	2	1	11. خرجت من التجربة أفضل مما كنت عليه عندما دخلت بها Came out of the experience better than when I went in
					العامل رقم 4: الروحية Factor 4: Spirituality
5	4	3	2	1	12. صليت Prayed
5	4	3	2	1	13. وجدت إيمانا جديدا Found new faith
					العامل رقم 5: التفكير الحكيم Factor 5: Wishful Thinking

5	4	3	2	1	14. تمنيت أن يختفي الوضع أو ينتهي بطريقة أو بأخرى Wished that the situation would go away or somehow be over with
5	4	3	2	1	15. كان لدي تخیلات أو أمنيات حول كيف يمكن أن تتبدل الأمور Had fantasies or wishes about how things might turn out
					عامل رقم 6: الانفصال عن الواقع Factor 6: Detachment
5	4	3	2	1	16. مضيت في طريقي وكأن شيئاً لم يحدث Went on as if nothing were happening
5	4	3	2	1	17. لم أدعها تؤثر في ورفضت أن أفكر كثيراً في الأمر Didn't let it get to me; refused to think about it too much
5	4	3	2	1	18. أخذت الأمر باستخفاف ورفضت أخذه بجدية Made light of the situation; refused to get too serious about it
5	4	3	2	1	19. حاولت أن أنسى الأمر بمرته Tried to forget the whole thing
					العامل رقم 7: إحداث تغييرات Factor 7: Made Changes
5	4	3	2	1	20. اكتشفت ما هو مهم في الحياة Rediscovered what is important in life
5	4	3	2	1	21. قمت بتغيير شيء ما في نفسي Changed something about myself

استبيان مقياس جودة الحياة/ مريضة سرطان الثدي

Quality of Life Scale / Breast Cancer Patient

التوجيهات: نحن مهتمين في معرفة كيف أثرت تجربتك بالسرطان على نوعية حياتك. جاب من فضلك على كل الاسئلة التالية بناء على حياتك في هذا الوقت.

يرجى وضع دائرة على الرقم الذي يصف تجربتك بشكل أفضل من 0- 10

Directions: We are interested in knowing how your experience of having cancer affects your Quality of Life. Please answer all of the following questions based on your life at this time. Please circle the number from 0 - 10 that best describes your experiences:

إلى أي مدى تعتبرين مايلي مشكلة بالنسبة لك:

To what extent are the following a problem for you:

1. الأرهاق (Fatigue)

لا يوجد مشكلة 0 1 2 3 4 5 6 7 8 9 10 مشكلة حادة
no problem
severe problem

2. تغييرات الشهية (Appetite changes)

لا يوجد مشكلة 0 1 2 3 4 5 6 7 8 9 10 مشكلة حادة
no problem
severe problem

3. الأوجاع أو الألم (Aches or pain)

لا يوجد مشكلة 0 1 2 3 4 5 6 7 8 9 10 مشكلة حادة
no problem
severe problem

4. تغييرات النوم (Sleep changes)

لا يوجد مشكلة 0 1 2 3 4 5 6 7 8 9 10 مشكلة حادة
no problem
severe problem

5. زيادة في الوزن (Weight gain)

لا يوجد مشكلة 0 1 2 3 4 5 6 7 8 9 10 مشكلة حادة
no problem
severe problem

6. جفاف مهبلي/ أعراض انقطاع الطمث (vaginal dryness/menopausal symptoms)

لا يوجد مشكلة 0 1 2 3 4 5 6 7 8 9 10 مشكلة حادة
no problem
severe problem

7. تغييرات الطمث أو الخصوبة (menstrual changes)

لا يوجد مشكلة 0 1 2 3 4 5 6 7 8 9 10 مشكلة حادة

severe problem

no problem

8. قيم صحتك الجسدية بشكل عام (Rate your **overall physical health**)

ضعيف جدا 0 1 2 3 4 5 6 7 8 9 10 ممتاز

excellent

very poor

بنود الرفاهية النفسية

Psychological Well-Being Items

9. ما مدى صعوبة التأقلم عليك اليوم نتيجة لمرضك؟

9. How difficult is it for you to **cope** today as a result of your disease?

ليس صعب على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 صعب جدا

very difficult

not at all difficult

10. ما مدى صعوبة التأقلم عليك اليوم نتيجة لعلاجك؟

ليس صعب على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 صعب جدا

10. How difficult is it for you to **cope** today as a result of your treatment?

Very difficult

Not at all difficult

11. ما مدى جودة حياتك؟

11. How good is your **quality of life**?

فقره بشدة 0 1 2 3 4 5 6 7 8 9 10 ممتاز

Excellent

Extremely poor

12. ما هو كم السعادة التي تشعرين بها؟

12. How much **happiness** do you feel?

لا يوجد على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 إلى حد كبير

A great deal

None at all

13. هل تشعرين كأنك تسيطرين على المواقف في حياتك؟

13. Do you feel like you are in **control** of situations in your life?

لا على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 تماما

completely

not at all

14. كم هي حياتك مرضية؟

14. How **satisfying** is your life?

أبدا على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 بشكل كامل

completely

not at all

15. كم هي قدرتك الحالية على التركيز وتذكر الأشياء؟

15. How is your present ability to **concentrate or to remember things**?

ممتاز 10 9 8 7 6 5 4 3 2 1 0 ضعيف جدا
excellent extremely poor

16. كم تشعرين بأنك مفيدة؟

16. How **useful** do you feel?

لا على الإطلاق 10 9 8 7 6 5 4 3 2 1 0
extremely not at all

17. هل سبب مرضك أو علاجك تغييرات في مظهرك؟

17. Has your illness or treatment caused changes in your **appearance**?

لا على الإطلاق 10 9 8 7 6 5 4 3 2 1 0
extremely not at all

18. هل سبب مرضك أو علاجك تغييرات في تقديرك لذاتك (الطريقة التي ترين نفسك بها)؟

18. Has your illness or treatment caused changes in your **self-concept** (the way you see yourself)?

لا على الإطلاق 10 9 8 7 6 5 4 3 2 1 0
extremely not at all

كم كانت الجوانب الآتية لمرضك وعلاجك محزنة؟

How **distressing** were the following aspects of your illness and treatment?

19. التشخيص الأولي

19. **Initial diagnosis**

غير محزنة على الإطلاق 10 9 8 7 6 5 4 3 2 1 0
very distressing not at all distressing

20. المعالجة الكيماوية

20. **Cancer chemotherapy**

غير محزنة على الإطلاق 10 9 8 7 6 5 4 3 2 1 0
very distressing not at all distressing

21. المعالجة الشعاعية

21. Cancer radiation

غير محزنة على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 محزنة كثيرا
not at all
all distressing
very distressing

22. جراحة الورم

22. Cancer surgery

غير محزنة على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 محزنة كثيرا
not at all
all distressing
very distressing

23. إتمام العلاج

23. Completion of treatment

غير محزنة على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 محزنة كثيرا
not at all
all distressing
very distressing

24. كم لديك من القلق ؟

24. How much anxiety do you have?

لا يوجد على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 كثيرا
not at all
a great deal

25. كم لديك من الاكتئاب ؟

25. How much depression do you have?

لا يوجد على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 كثيرا
not at all
a great deal

إلى أي حد عندك خوف من:

To what extent are you fearful of:

26. الاختبارات التشخيصية في المستقبل

26. Future diagnostic tests

لا يوجد خوف 0 1 2 3 4 5 6 7 8 9 10 خوف شديد
no fear
extream fear

27. سرطان ثاني

27. A second cancer

لا يوجد خوف 0 1 2 3 4 5 6 7 8 9 10 خوف شديد

extream fear

no fear

28. عودة الورم

28. Recurrence of cancer

لا يوجد خوف 0 1 2 3 4 5 6 7 8 9 10 خوف شديد

extream fear

no fear

29. انتشار الورم

29. Spreading (metastasis) of your cancer

لا يوجد خوف 0 1 2 3 4 5 6 7 8 9 10 خوف شديد

extreme fear

no fear

30. إلى أي درجة تشعرين أن حياتك عادت إلى طبيعتها؟

30. To what degree do you feel your life is back to normal?

أبدا على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 إلى حد كبير

a graet deal

non at all

المخاوف الاجتماعية

Social Concerns

31. كم كان مرضك محزنا لعائلتك؟

31. How distressing has your illness been for your family?

لا على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 إلى حد كبير

a graet deal

not at all

32. هل كمية الدعم التي تتلقيها من الآخرين كافية لتلبية احتياجاتك؟

32. Is the amount of support you receive from others sufficient to meet your needs?

لا على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 إلى حد كبير

a graet deal

not at all

33. هل تتعارض استمراريته في الرعاية الصحية مع علاقاتك الشخصية؟

33. Is your continuing health care interfering with your personal relationships?

لا على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 إلى حد كبير

a graet deal

not at all

34. هل الجنسية (حياتك الجنسية) متأثرة عندك بسبب مرضك؟

34. Is your **sexuality** impacted by your illness?

لا على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 إلى حد كبير
not at all a graet deal

35. إلى أي درجة تعارض مرضك وعلاجك مع **وظيفتك**؟

35. To what degree has your illness and treatment interfered with your **employment**?
لا يوجد مشكلة 0 1 2 3 4 5 6 7 8 9 10 مشكلة خطيرة
)No problem)Severe(

36. إلى أي درجة يتعارض مرضك وعلاجك مع **نشاطاتك داخل المنزل**؟

36. To what degree has your illness and treatment interfered with **your activities at home**?
لا يوجد مشكلة 0 1 2 3 4 5 6 7 8 9 10 مشكلة خطيرة
)No problem()Severe(

37. ما كم **العزلة** التي تشعرين بها بسبب مرضك؟

37. How much **isolation** do you feel is caused by your illness?

أبدا 0 1 2 3 4 5 6 7 8 9 10 إلى حد كبير
none A graet deal

38. مامدى **قلقك** تجاه ابنتك أو غيرها من الأقارب الإناث فيما يتعلق بسرطان الثدي؟

38. How much **concern** do you have for your daughter(s) or other close female relatives regarding breast cancer?

لا يوجد على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 إلى حد كبير
none at all a graet deal

39. ما مقدار **العبء المادي** الذي تكبذته نتيجة لمرضك وعلاجك؟

39. How much **financial burden** have you incurred as a result of your illness and treatment?

أبدا 0 1 2 3 4 5 6 7 8 9 10 كبير جدا
none a graet deal

الرفاه الروحي

Spiritual Well Being

40. ما مدى أهمية مشاركتك في **النشطة الدينية** مثل ممارسة الصلوات, الذهاب إلى الكنيسة ؟

40. How important to you is your participation in **religious activities** such as praying, going to church or temple?

ليست مهمة أبدا 0 1 2 3 4 5 6 7 8 9 10 مهمة جدا

very important

not at all
important

41. ما مدى أهمية الأنشطة الروحية الأخرى مثل التأمل أو الصلاة بالنسبة لك؟

41. How important to you are other **spiritual activities** such as meditation or praying?

ليست مهمة أبدا 0 1 2 3 4 5 6 7 8 9 10 مهمة جدا

very important

not at all
important

42. إلى أي مدى تغيرت حياتك الروحية نتيجة تشخيص السرطان؟

42. How much has your **spiritual life changed** as a result of cancer diagnosis?

أقل أهمية 0 1 2 3 4 5 6 7 8 9 10 أكثر أهمية

very important

less
important

43. ما كم اللايقين الذي تشعرين به حول مستقبلك؟

43. How much **uncertainty** do you feel about your future?

اللايقين ليس لدي 0 1 2 3 4 5 6 7 8 9 10 اللايقين عالي جدا

very uncertain

not at
all uncertain

44. إلى أي مدى أحدث مرضك تغييرات إيجابية في حياتك؟

44. To what extent has your illness made **positive changes** in your life?

لا يوجد على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 إلى حد كبير

a great deal

none at all

45. هل لديك حس بوجود هدف/مهمة لحياتك أو سبب لبقائك على قيد الحياة؟

45. Do you sense a **purpose/mission** for your life or a reason for being alive?

أبدا على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 إلى حد كبير

a great deal

none at all

46. ما مدى الأمل الذي تشعرين به؟

46. How **hopeful** do you feel?

أبدا على الإطلاق 0 1 2 3 4 5 6 7 8 9 10 متفائلة جدا

a great deal

none at all

Appendix G: Characteristics of the included studies.

Author (Country)	Objective	Details	Time since diagnosis	Main results
1. Most prevalent unmet supportive care needs and quality of life of breast cancer patients in a tertiary hospital in Malaysia				
Edib et al. (2016) (Malaysia)	To assess the most prevalent unmet supportive care needs of Malaysian breast cancer patients and the association between QOL and patients' characteristics, and their unmet supportive care needs.	Design: A cross-sectional study Age: All ages Instrument: Supportive Care Needs Survey-Short Form (SCNS-SF34)	At least 1 year	The highest unmet supportive care needs were observed in the psychological domain, followed by physical domain. Greater physical and psychological needs were significantly ($p < 0.05$) associated with poorer QOL
2. Young Women with Breast Cancer: A Focus Group Study of Unmet Needs				
Ruddy et al. (2013) (USA)	To elucidate which issues are most disturbing to young women and which might be amenable to intervention.	Design: A focus group study Age: 18-42 Instrument: Semi-structured interview	During the 4-year period prior to study recruitment	Three major themes emerged from the analyses of these focus groups' data: (1) participants felt different from older breast cancer patients with regard to relationships, fertility, menopausal symptoms, treatment side effects, and work/finances; (2) participants faced unique

Author (Country)	Objective	Details	Time since diagnosis	Main results
				challenges transitioning into the survivorship phase of care; and (3) participants desired assistance, including connections with other young patients, help navigating the healthcare system, educational materials, and lists of appropriate counsellors.
3.Unmet Information Needs and Quality of Life in Young Breast Cancer Survivors in Japan				
Miyashita et al. (2015) (Japan)	To identify the unmet information needs and examine the relationships between unmet information needs and QOL in young breast cancer survivors in Japan.	Design: A cross-sectional descriptive research design Age: 18-45 Instrument: Information needs questionnaire	Regardless of time since diagnosis	More than 30% of the participants were dissatisfied with overall communication with medical professionals. Women expressed dissatisfaction with the information about follow-up tests, possible symptoms after discharge from the hospital, lymphedema, treatment of cancer recurrence, communication strategies with medical team, and consulting service, in addition to the information about the nutrition, exercise, genetics, complementary and

Author (Country)	Objective	Details	Time since diagnosis	Main results
				alternative medicine, menopause and fertility induced by hormonal and chemotherapy. There was a significant relationship between overall communication with medical professionals and QOL.
4.Young women with breast cancer: Needs and experiences				
Rana et al. (2017) (Canada)	To explore the physical, psychosocial, and informational needs of Canadian young women with breast cancer	Design: A qualitative research design Age: 40 years or less Instrument: Semi-structured interview	Within the last 12 months	Themes: (1) Need for information about social and community services; (2) appropriate referral to fertility services; (3) counseling by qualified social workers.
5.Medical and information needs among young women with breast cancer in Mexico				
Villarreal-Garza et al. (2019) (Mexico)	To describe clinical and information needs, identify unmet support services, and guide interventions for young breast cancer (BC) patients in Mexico	Design: An exploratory, cross-sectional, qualitative study Age: ≤40 years Instrument: Focus group	within 6–12 months before enrolment	Women expressed their need to receive more information about the diagnosis and treatment of breast cancer; treatment side effects; and time, source, and communication means because they felt that they did not receive adequate

Author (Country)	Objective	Details	Time since diagnosis	Main results
				information regarding the diagnosis and the treatment from their physicians.
6.Psychosocial Needs among Indonesian Women Diagnosed with Breast Cancer				
Fitri et al. (2017) (Indonesia)	examine the psychosocial needs and to identify the extent to which they are unmet among Indonesian women with breast cancer.	Design: descriptive cross-sectional design Age: 18 years of age or older Instrument: The Psychosocial Needs Inventory (PNI)	2 to 48 months	Practical needs were the most unmet psychosocial needs category, followed by childcare needs, emotional and spiritual needs, interaction with health professional needs, identity needs, support network needs, and information needs, respectively. The most unmet need item was ‘help with financial matters’ (42.4%). The high level of unmet needs across a wide range of psychosocial needs among cancer patients was related to low income in particular of the practical need.
7.Psychosocial needs of young breast cancer survivors in Mexico City, Mexico				
Hubbeling et al. (2018)	To describe the psychosocial needs of young breast cancer survivors in Mexico at 5 or more	Design: Qualitative Age: 40 or younger	5 years or more since diagnosis	Need to receive education about fertility loss, navigating the hospital’s

Author (Country)	Objective	Details	Time since diagnosis	Main results
(Mexico)	years of survivorship, identifying areas of focus for early interventions.	Instrument: One on one interview		administrative process, breast reconstruction, diet and lifestyle, where to ask for non-oncological and gynecologically care, side effects, and hormonal changes Some women reported high levels of anxiety during the transition to survivorship due to receiving less frequent visits and scans Fear from cancer recurrence undetectably.
8.Young women's experiences with breast cancer: An imperative for tailored information and support				
Fitch et al. (2008) (Canada)	To provide a basis for understanding what services ought to be designed for young women	Design: Qualitative Age: 45 years or less Range (28-42) Instrument: In-depth interview	Between three and four years since their original diagnosis	Many found services did not match their requirements and they urged the creation of services tailored to their unique needs. Many women said the most valuable learning for them had been to put themselves on their own priority list and learn how to be skillful in negotiating ways to meet

Author (Country)	Objective	Details	Time since diagnosis	Main results
				their own needs. They learned about prioritizing the self as being of value and finding balance
9. Informational Needs of Women with Breast Cancer Treated with Chemotherapy				
Abi Nader et al. (2016) (Lebanon)	To evaluate satisfaction regarding informational needs in women with breast cancer	Design: a cross-sectional survey Age: (30-74) years Instrument: Questionnaire		Women aged less than 45 years were less satisfied with the quality and quantity of information given by the oncologist
10. Un-met Supportive Care Needs of Iranian Breast Cancer Patients				
Abdollahzadeh et al. (2014) (Iran)	To describe the prevalence and predictors of supportive care needs among breast cancer patients residing in Iran	Design: A descriptive correlational study Age: ≤ 40 Instrument: The Supportive Care Needs Survey		younger participants have more un-met needs in all domains
11. A qualitative study of the information needs of premenopausal women with breast cancer in terms of contraception, sexuality, early menopause, and fertility				
Karaoz et al. (2010) (Turkey)	To evaluate the information needed and received by premenopausal Turkish women with breast cancer regarding contraception, early menopause,	Design: Qualitative exploratory Age: younger than 50 years of age	mean time since diagnosis was 5.7 ± 3.3 months	Premenopausal women with breast cancer received insufficient counseling on contraception, early menopause, infertility, fertility preservation, and

Author (Country)	Objective	Details	Time since diagnosis	Main results
	infertility, fertility preservation, and sexuality	Instrument: Face-to-face, in-depth semi-structured interview		sexuality, despite their willingness to receive information
12.Issues and concerns of young Australian women with breast cancer				
Connell et al. (2006) (Australia)	to identify and explore the issues and concerns of 2 Australian women diagnosed with breast cancer before age 41 years	Design: Qualitative Age: Before 41 years. Instrument: In-depth, semi-structured interviews	The median time since diagnosis was 21 months (range 4–39 months)	Fear of recurrence and future uncertainty, children and family were the most commonly reported major personal concern The greatest unmet need of participants was support.
13.Nothing fit me’: nationwide consultations with young women with breast cancer				
Gould et al. (2006) (Canada)	To explore the information and support experiences, needs and recommendations of geographically diverse Canadian young women with breast cancer	Design: exploratory and descriptive Qualitative study Age: ≤40 45 years Instrument: Focus group	Between 1 and 5 years post-diagnosis.	The accessed information, support and programs /services did not fit or match the women’s age or life stage. The psychosocial issues identified by the consultation participants including early menopause and fertility, financial barriers, increased emotional distress, the effect of the diagnosis on children

Author (Country)	Objective	Details	Time since diagnosis	Main results
				and partners, coping with parenting and the lack of instrumental support were also identified in the existing literature reported in the Introduction.
14.Experiences of Syrian women with breast cancer regarding chemotherapy: A qualitative study				
Nizamli et al. (2011) (Syria)	To explore the experiences of Syrian women with breast cancer regarding chemotherapy	Design: A qualitative design Age: > 30 years Instrument: Semi structured interviews	The number of courses of chemotherapy after mastectomy was a minimum of four and maximum of nine	Four major themes: (1) Psychological discomfort (negative emotion, body image, and depressive symptoms); (2) physical problems (acute consequences of chemotherapy and general aspects of chemotherapy); (3) Social dysfunction (social isolation and lack of marriage opportunities); and (4) Failure in the family role (mother role and sexual relationship). Women expressed a desire to change the negative society view toward women with breast cancer, they wished to be supported and accepted in the society as normal women

Author (Country)	Objective	Details	Time since diagnosis	Main results
				not as diseased women who have to be avoided.
15.The psychosocial needs of breast Cancer survivors; a qualitative study of the shared and unique needs of Younger versus older survivors				
Thewes et al. (2004) (Australia)	Gather preliminary qualitative data on the needs of breast cancer survivors Identify the shared and unique psychosocial needs of ‘younger’ and ‘older’ breast cancer survivors.	Design: Qualitative study Age: 29–78 years Instrument: semi-structured telephone interviews	6–24 months post completion of their hospital-based adjuvant treatment	Young women have more age specific needs than older women
16.Prevalence and factors associated with supportive care needs among newly diagnosed Mexican breast cancer patients				
Pérez-Fortis et al. (2017) (Mexico)	To evaluate the levels of supportive care needs in newly diagnosed Mexican breast cancer patients	Design: Descriptive, correlational Age: (18-75) years Instrument: Supportive Care Needs Survey (SCNS-SF34)	1.9 months	Younger patients showed higher physical/daily living needs as well as more sexual care needs than older patients
17.Satisfaction with information and its association with illness perception and quality of life in Indonesian breast cancer patients				
Iskandarsyah et al. (2013) (Indonesia)	to assess breast cancer patients’ level of satisfaction with information on illness and treatment, to explore its associations with patients’ illness perceptions and quality	Design: Age: ≥18 Instruments: Satisfaction with Cancer	Mean (22.6) months range (1–84) months	(41–86 %) were dissatisfied with the amount and content of the information they received the satisfied patients had a more positive perception of their general

Author (Country)	Objective	Details	Time since diagnosis	Main results
	of life, and to provide recommendations for improvement of the information provision	Information Profile, the Brief Illness Perception Questionnaire, and the World Health Organization Quality of Life.		health ($\beta=0.31$, $p<0.05$) and better psychological health condition ($\beta=0.33$, $p<0.05$).
18. Psychosocial Impact of Breast Cancer Diagnosis Among Omani Women				
Al-Azri et al. (2014) (Oman)	To explore different psychosocial impacts on Omani women diagnosed with breast cancer.	Design: Qualitative Age: 24 to 54 years mean age (40) Instrument: Semi-structured individual interviews	(2-36) months	The patients limited their interaction with people in the community and withdrawal from society because they believed that the society pitied them. The participants also expressed a degree of reluctance towards sharing news of their diagnosis with friends out of fear that they would appear weak
19. Living the experience of breast cancer treatment: The younger women's perspective				
Coyne and Borbasi (2009) (Australia)	To explore the experience of breast cancer for young women under fifty years of age and describe their personal experience of coping with breast cancer treatment	Design: An interpretive qualitative design Age: 28 and 45 Instrument: in-depth interviews.	Last 12 months	The women spoke of the needs of their children having to be considered at each step of the process. Need for clarity of information, the women

Author (Country)	Objective	Details	Time since diagnosis	Main results
				explained they had trouble ‘focusing’ after receiving information and of different interpretations about what they had heard
20. A qualitative exploration of fear of cancer recurrence (FCR) amongst Australian and Canadian breast cancer survivors				
Thewes et al. (2016) (Australia)	To qualitatively explore the strategies used by younger breast cancer survivors to cope with FCR and whether women with low, medium and high levels of FCR employ different coping strategies.	Design: Qualitative exploratory design Age: ≤45 years Instrument: Telephone interviews	Between 2- and 11-years post-diagnosis (mean = 5.5 years)	Fear of recurrence affected on the coping strategies that women use where higher level of fear of recurrence was associated with using more avoidance-based coping skills compared to those who report lower levels of fear of cancer recurrence. Women with low levels of FCR selected more effective coping strategies that helped them to cope with FCR. Women with moderate to high levels of FCR described their coping strategies as effortful, ineffective, or time-consuming.
21. Fear of cancer recurrence in young women with a history of early-stage breast cancer: a cross-sectional study of prevalence and association with health behaviours				

Author (Country)	Objective	Details	Time since diagnosis	Main results
Thewes et al. (2012) (Australia)	To explore the prevalence and correlates of FCR amongst younger survivors of early breast cancer	Design: a web-based survey Age: 18-45 Instrument: Fear of Cancer Recurrence	At least 1 year earlier	70% of participants report clinical levels of fear of cancer recurrence. Fear of cancer recurrence affected significantly on their mood and on their ability to plan and set goals for the future. FCR was associated with higher health costs and lower surveillance rates which may affect negatively on health outcomes.
22. Experience of young women with breast cancer and mastectomized				
Almeida et al. (2015) (Brazil)	To understand the experience of young women diagnosed with breast cancer and mastectomy	Design: a qualitative study with a phenomenological approach Age: between 18 and 35 years Instrument: open interviews		Three categories were identified: The experience of being diagnosed with cancer; the experience of undergoing treatment in search of a cure for cancer; and the experience of overcoming cancer. Women got closer to God after being diagnosed with breast cancer and depended on religion and spirituality as

Author (Country)	Objective	Details	Time since diagnosis	Main results
				main resources to cope with their disease. Moreover,
23. Unmet supportive care needs of survival patients with breast cancer in different cancer stages and treatment phases				
Chou et al. (2020) (Tiwan)	To examine the differences between patients with breast cancer (BC) at different cancer stages and treatment phases in terms of unmet supportive care needs as well as to predict the critical factors that influence the unmet needs of such patients.	Design: A retrospective study Age: ≤45 Instrument: case consultation and service records		In terms of patient needs, 134 (11.9%), 235 (20.8%), 40 (3.5%), 321 (28.4%), 456 (40.4%), and 2 (0.2%) of participants were reported to have health information, patient care, treatment, nutritional needs, psychosocial, and economical needs, respectively