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REVIEW

Resilience-related Breast Cancer: A Concept Analysis

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Abstract

Background: Breast cancer-related adversity can result in severe psychological issues. However, some patients were able to demonstrate resilience, while others were not. Therefore, the concept of resilience in breast cancer patients requires further clarification.
Purpose: This study aimed to systematically analyze resilience in patients with breast cancer, its attributes, antecedents, consequences, and empirical referents.
Methods: This concept analysis used the Walker and Avant method. CINAHL, Embase, Scopus, Web of Science, PubMed, Cochrane, and Medline-OVID databases were explored using the keywords 'resilience*' and 'breast cancer'. Papers discussing resilience among breast cancer patients were used as criteria for inclusion. The analysis focused on the redefinition of resilience-related breast cancer by identifying attributes, antecedents, and consequences.
Results: A total of 53 studies were analyzed to construct resilience among breast cancer patients. The analysis identified that resilience in breast cancer patients has three defining attributes: coping, optimism, and social support. The antecedents were body image after mastectomy, symptom distress, cancer-related stigma, and fear of cancer recurrence, while the consequences included recorded as the quality of life and post-traumatic growth.
Conclusion: Critical characteristics of resilience in breast cancer patients were coping, optimism, and social support. Thus, improving those characteristics might improve the quality of life and post-traumatic growth.

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1. Introduction

Breast cancer is the most frequent malignancy among women and the second most significant cause of cancer-related death. A breast cancer diagnosis potentially leads to a traumatic event, with both physical and psychological consequences, that occurs in late response after the end of medical treatment (Martino et al., 2019). The fifth edition of the diagnostic and statistical manual of mental disorders (APA, 2013) classifies a cancer diagnosis as a sort of trauma that brings a slew of issues (Romeo et al., 2019). Because of the difficulty in recognizing a unique stressful event, breast cancer has a distinct and special nature of the disease. The risk of life crisis and bodily integrity are frequently high, and the agony, damage, and loss of social and occupational roles could cause overwhelming emotion in a significant minority of patients. Lack of control, impairment, and the diagnosis' swiftness will cause acute fear, hopelessness, terror, anxiety, and melancholy (Quattropani et al., 2016).

Some people who have been traumatized may have serious issues, whereas others (who may have been subjected to the same traumatic event) may only have little or no trouble recovering. This condition is known as resilience. In general, "resilience" refers to regaining normal function following hardship, sustaining the regular part of life, or successfully adapting to stressful experiences in life (Johnston et al., 2015). The ability to successfully adjust to adversity, difficult life experiences, major threat, or trauma is characterized widely as resilience. Recent research indicates that resilience is an "active process" rather than simply reversing pathological mechanisms (Feder et al., 2019). The ability to adapt to life circumstances positively is referred to as resilience. The process of dynamism involves a form of adaptable functioning that enables

individuals to confront obstacles by restoring an initial equilibrium or rebounding as a chance for development (Sisto et al., 2019).

Resilience is crucial for cancer patients as it can shield them from the harmful effects of stress. It helps in managing or adversity of a cancer diagnosis, coping with adverse events and making necessary life adjustments. This, in turn, improves mental health and treatment outcomes (Seiler & Jenewein, 2019). Resilience is an important factor for cancer patients as they navigate the challenges of their diagnosis and treatment, such as chemotherapy, radiotherapy, or even surgery. Resilience can help patients maintain a positive outlook and cope with their illness' emotional and physical stress. Previous research has indicated that the concept of resilience in cancer patients is tentative due to the fact that conceptualizations of resilience may change over time as the researcher's comprehension of the concept improves or changes (Luo et al., 2020). However, no study clearly defines resilience in breast cancer patients. Considering the benefits of concept analysis and the need to redefine resilience among breast cancer patients, thus it is essential to conduct a study to explore the attributes, antecedents, and consequences. This study aimed to systematically analyze resilience in patients with breast cancer, its attributes, antecedents, and consequences.

2. Methods

This concept analysis is incorporated with a literature review of available evidence. Databases from CINAHL, Embase, Scopus, Web of Science, PubMed, Cochrane, and Medline-OVID were explored to gain the articles that discussed resilience. Databases were searched until 1 February 2022. Quantitative studies fulfilling the following inclusion criteria were included: (1) studied resilience in the breast cancer patient, and (2) resilience was measured by validated instruments. Studies were excluded if the full text were not accessible. The search used 'resilience*' and 'breast cancer' as the keywords. Studies from databases were carefully screened by EndNote version 20. Duplicates of articles were removed electronically and manually. Two independent reviewers examined the title and abstract to ensure their eligibility criteria as included studies. Following the systematic review guideline recommendation, the PRISMA flowchart was used to get the final included articles.

The Walker and Avant approach was used to carry out the following concept analysis on resilience in a breast cancer patient. It is a common strategy to do concept analysis due to the simplicity and convenient usage to reach the aim of redefinition. Walker and Avant's concept analysis consists of eight steps, including selecting a concept, determining the purpose of analysis, identifying all uses of the concept, defining attributes, identifying a model case, identifying borderline, related, and contrary cases, identifying antecedents and consequences and defining empirical referents (Walker & Avant, 2018). This approach was used as an analysis guide to construct resilience among breast cancer patients.

3. Results

A comprehensive literature search in seven electronic databases was performed, with 890 studies retrieved. After the screening and eligibility step, 53 papers were included to construct the concept analysis (Figure 1). From those included studies, keywords were identified and clustered into antecedents, attributes, and consequences (Table 1, Figure 2). Further analysis was conducted using the Walker and Avant approach (Walker & Avant, 2018).

3.1 The uses of the concept

The word resilience derives from the participle of the Latin verb resilire, meaning "to jump back" or "to recoil". Resilience can be defined as the ability to effectively adapt to challenging life experiences, which involves the capacity to exhibit mental, emotional, and behavioral flexibility in response to both internal and external demands (VandenBos, 2007).

Resilience refers to the capacity to adjust the changes in life circumstances. It involves a dynamic process and requires a particular sort of adaptive functioning to deal with the obstacles in life by regaining initial equilibrium or bouncing back to growth (Sisto et al., 2019). Resilience is intrinsically linked to mental health as a protective factor against psychological distress. All aspects, such as biological (e.g., gene-environment interaction), personal (e.g., feeling of coherence, optimism, hope), and social (e.g., social support, acceptance) aspects, contribute to the resilience of cancer patients. Thus, it is primarily favorable to psychological and treatment-

related outcomes (Seiler & Jenewein, 2019). Psychological resilience enables people to overcome challenges by preserving and increasing their resources to the point where personal strength and a positive restructuring of their biographical history are achieved. As a result, adopting resilient attitudes allows one to construct and reconstruct one's life path, re-establish a new balance by bringing about change in oneself, and responding constructively to challenges, turning them into chances for progress (Sisto et al., 2019; Yi et al., 2020).

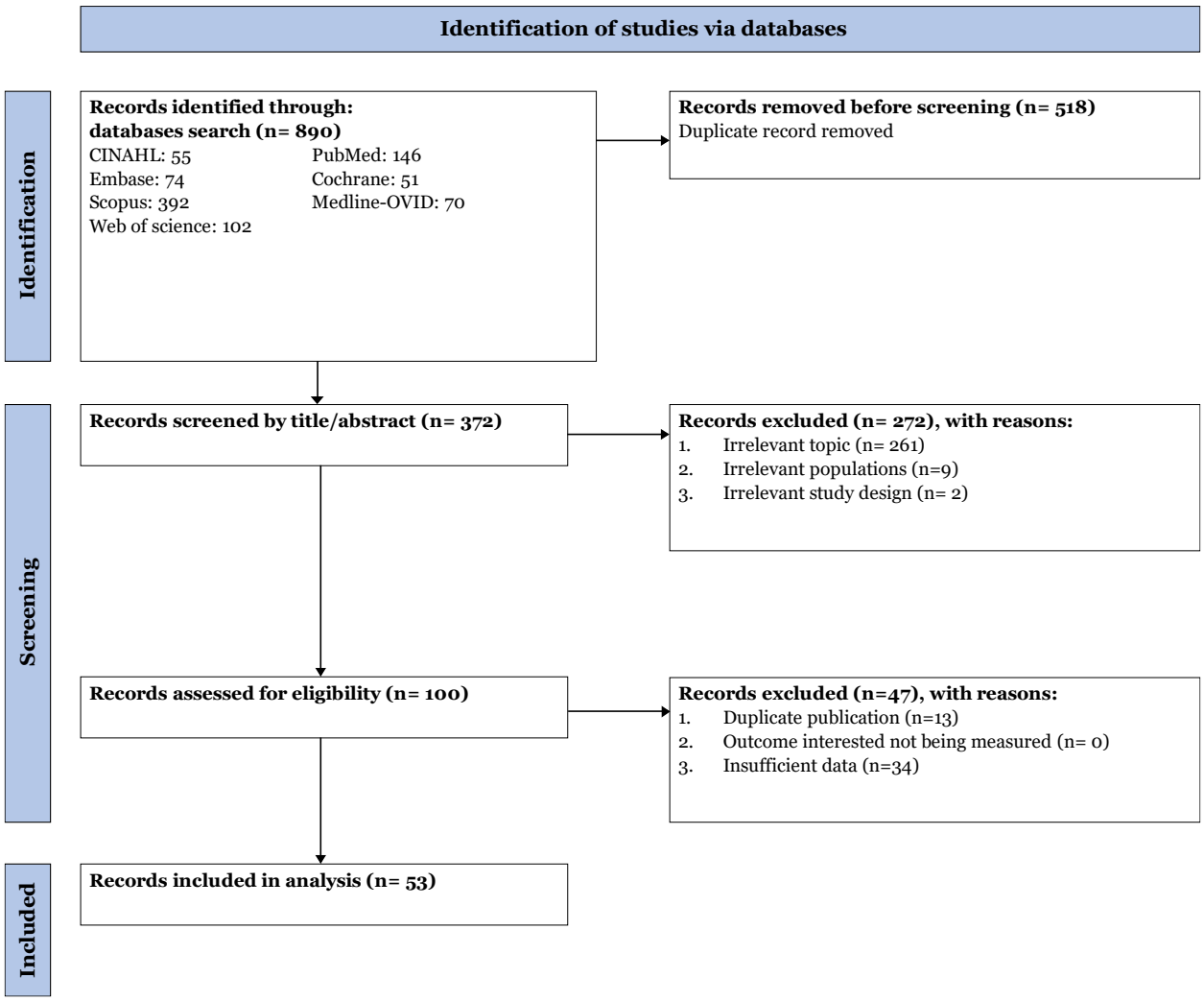

Figure 1. PRISMA flowchart

3.2 Defining attributes

Identification of the defining attributes of a concept is the heart of concept analysis. Protective factors refer to distinct characteristics or circumstances that are essential for the manifestation of resilience. Several attributes of the concept of resilience in breast cancer patients were identified, including; 1) satisfaction with social support, 2) ability to cope with the disease and cancer treatment, and 3) optimism (see Table 1, Figure 2).

The first antecedent is the ability to cope with the disease and treatment. The term coping refers to the ongoing cognitive and behavioral strategies employed by individuals to manage internal or external stressors that may be overwhelming or beyond their capacity to handle (Lazarus & Folkman, 1984). The diagnosis and treatment of cancer can elicit significant and enduring distress. The empirical data suggests that the patients' level of engagement with the treatment was correlated with their capacity to manage the stress and burden associated with their illness and treatment. The association between positive thinking and improved mental and physical health is linked to the employment of adaptive coping strategies (Carver et al., 2005). Emotional intelligence and resilience are essential for people to deal with difficult situations, including patients with breast cancer. This ability to cope with the crisis is modifiable through

support and training. Patients who could enhance resilience and have better emotional intelligence are associated with better clinical outcomes (Edward & Warelow, 2005).

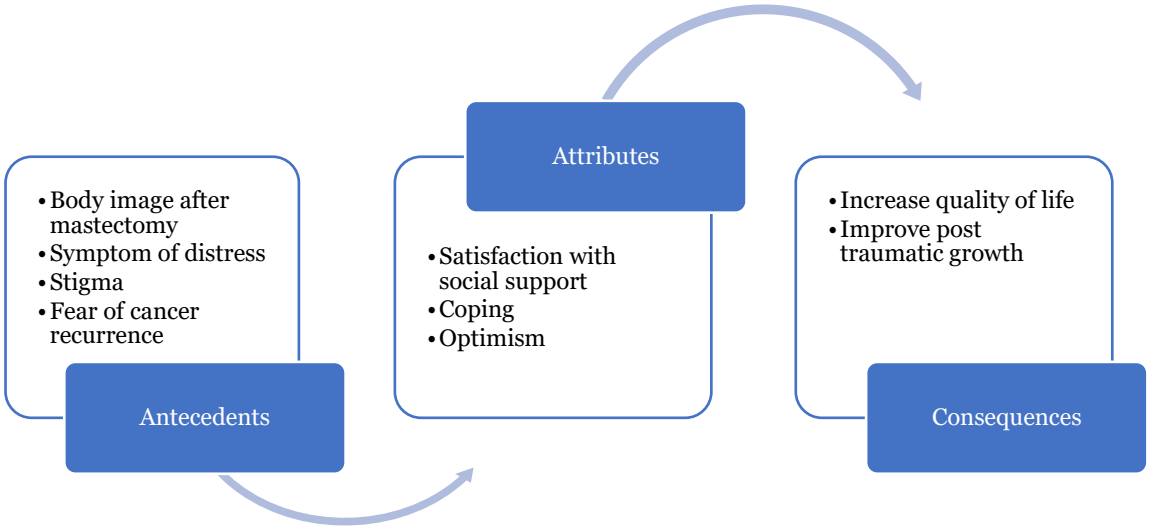

Figure 2. Attributes, antecedents, and consequences of resilience among breast cancer patients

The second attribute is satisfaction with social support. The concept of social support pertains to an individual's subjective evaluation of their level of contentment with social interactions. There is a prevalent belief that it plays a crucial role in mitigating both psychological and physical stress responses (Cohen & Wills, 1985). The moderating influence of social support on genetic and environmental vulnerabilities for mental illness may be attributed to its impact on various psychosocial factors, including the promotion of effective coping strategies and the modulation of multiple neurobiological factors. The provision of social support appears to play a significant role in endowing individuals with the ability to withstand and recover from the negative effects of stress (Pérez et al., 2016). Stress can occur in patients with breast cancer from diagnosis to recovery, necessitating social support from the surrounding environment. Social support is critical for developing resilience and an increase in the quality of life of breast cancer patients. Health practitioners should establish appropriate recommendations to assist patients in obtaining adequate assistance and building resilience to improve their quality of life following breast cancer (Zhang et al., 2017).

The level of contentment with social support indicates that such contentment may serve as a mediator or moderator in relation to health outcomes. Furthermore, the contentment pertaining to the origins and varieties of aid, the ability to recover from adversity, and a hopeful outlook demonstrate a favorable standard of living (Simancas Fernandez et al., 2021). A study by Razurel and Kaiser (2015) found that satisfaction with social support, primarily from the spouse, will reduce psychological disorders, depressive symptoms, and anxiety and increase self-efficacy.

The third attribute is optimism. Optimism refers to a widespread expectation of favorable outcomes (Scheier & Carver, 1985). Breast cancer patients who had a higher level of optimism reported more significant social and mental health issues (Colby & Shifren, 2013). Optimism can be characterized as a set of protective factors that facilitate emotional well-being, mitigate anxiety, promote adaptive health behaviors, and yield improved physical health results (Gallagher et al., 2019). Breast cancer patients who encounter substantial stressors and negative or cognitive processes are at an increased risk of developing anxiety and other emotional disorders. At this point, optimism promotes resilience and healthy coping (Gallagher et al., 2019).

3.3 Model Case

A model case demonstrates all its defining attributes and thus helps better articulate the concept's meaning (Walker & Avant, 2018). The following are examples of model cases. In this model, patients experience all attributes.

Angela, 44 years old, has been diagnosed with breast cancer stage 3 in the last two years. She is a gorgeous, successful businesswoman who has a wonderful family with her husband and two children before her illness. Angela has already been unable to work following her cancer treatment due to the side effects of chemotherapy and the tremendous pain she endured. She always tries to cope with her illness and treatment by following yoga and some traditional herbs to reduce the pain. Angela also attends a breast cancer awareness program led by nurses in the hospital where she is receiving treatment. She expressed her satisfaction with the care and support from her husband last two days. She has a high optimism that the disease is curable. After completing the chemotherapy session, the doctor declared her cancer-free survivorship.

Based on the above case, Angela demonstrates all attributes, satisfaction with social support (breast cancer support group), coping (reducing her pain with medication and yoga), and optimism (believing that her disease is treatable).

3.4 Borderline, related, and contrary cases

3.4.1 Borderline case

A borderline case exhibits a majority of the defining characteristics of a given concept, albeit not all of the attributes that are encompassed within the concept.

Clara, 37 years old, was diagnosed with breast cancer stage 2. Clara is known as a tough person in the face of life's problems. Despite the illness she experienced, she still looked cheerful and excited, undergoing a series of cancer therapies. She told the nurse in charge that she could be a survivorship woman for her disease, and she was optimistic that her condition would be better. Although she has not received much support from her husband, she believes to has positive outcomes from treatment.

In this case, Clara only experienced one attribute, namely optimism (believing that her condition would be better).

3.4.2 Related case

A comparable scenario exemplifies instances of apprehension that indicate the concept under investigation yet lacks all of its defining attributes. The concept in question exhibits resemblances to the primary point of interest as observed in analogous scenarios; however, it is important to note that the two concepts are separate and distinct.

Brunette, 34 years old, has come to the hospital for a medical check-up, and she recently received a breast cancer diagnosis. She is severely impacted by having breast cancer and the chemotherapy effects at such a young age, and she wishes to give up. However, she tries to undertake the treatment. Brunette is satisfied with the hospital's services because her illness can be diagnosed early. The hospital also has complete treatment facilities so that her disease is not too late for treatment.

In this case, Brunette's complaint relates to the concept or attribute, but the causes are different. She is satisfied with the hospital's services, not because of social support related to her disease.

3.4.3 Contrary case

In a contrary case, none of the attributes of the concept is present.

A famous photo model, Dorothy, 30 years old, was diagnosed with breast cancer stage III B. When she came to the clinic, her doctor said that she required a total mastectomy before getting worse. She was very frustrated and depressed since she could not continue her carrier due to her cancer. She felt hopeless and thought that her body could not be normal even if the cancer was taken out. Thus, she felt sad and unsatisfied with the doctor's

treatment plan. Because she is an orphan, she lives alone and has no more support from her significant, resulting in her blue feeling and inability to deal with his illness.

In this case, Dorothy shows the opposite symptom of the attribute. She experienced psychological distress, an inability to cope, and was unable to be resilient to her illness.

3.5 Antecedents and consequences

3.5.1 Antecedents

Antecedents are factors, events, or situations before or preceding the concept (Walker & Avant, 2018). The occurrences of traumatic or negative events were identified to be necessary for developing resilience throughout the literature. The events will threaten an individual's ability to cope with the disease and impact the personal response to the life crisis (Garcia-Dia et al., 2013). The available literature indicated that the antecedent of resilience in breast cancer (Figure 2) are body image issues after mastectomy, symptoms of distress, cancer-related stigma, and fear of cancer recurrence (Izydorczyk et al., 2018; Koral & Cirak, 2021; Lee & Kim, 2018; Ocel, 2017).

The surgical intervention utilized in the management of breast cancer has the potential to adversely impact a woman's perception of her physical appearance and self-concept (Koçan & Gürsoy, 2016). We can see this body image issue as a trauma for breast cancer that will trigger resilience in breast cancer patients. Aside from body image disturbance, they will develop symptom distress. The experience of symptom distress has the potential to lead to physical dysfunction and emotional disturbances. This is especially true for upper-arm problems, sleep disturbance, fatigue, and body image disturbance, which may manifest as long-term side effects over time (Boehmke, 2004). Patients with higher distress will have a lower resilience level (Matzka et al., 2016).

Cancer patients are often subjected to social stigma in numerous nations. Stigmatization is linked to diverse clinical outcomes and social ramifications (Fujisawa & Hagiwara, 2015). People who are stigmatized frequently face prejudice and social exclusion. As was previously said, it is not unexpected that cancer stigma deters many people from getting medical care (Matthews et al., 2002). Resilience will moderate stigmatization in breast cancer patients through a higher level of psychological well-being (Ocel, 2017).

The phenomenon of fear of cancer recurrence is characterized by an individual's apprehension, anxiety, or unease regarding the potential for cancer to reoccur or advance. This ailment is frequently encountered by individuals who have undergone therapy for cancer (Ozakinci et al., 2014). Patients with a lower fear of recurrence will have a higher resilience score. Increased resilience can potentially decrease the level of anxiety associated with the possibility of a future occurrence. Individuals possessing a high degree of resilience are anticipated to exhibit a greater capacity for managing stressors encountered throughout their lifespan (Koral & Cirak, 2021).

3.5.2 Consequences

Consequences are the end-points that occur due to the critical components of the concept (Windle, 2011). Consequences aim to recognize or measure the essential characteristics or attributes of the resilience concept. The end-points of resilience in breast cancer patients (see Figure 2) are quality of life and post-traumatic growth (Celik et al., 2021; Edward et al., 2019; Li et al., 2020). Quality of life refers to personal perception of their current expectation regarding their life with breast cancer. Breast cancer is associated with reducing health-related QoL (Lidgren et al., 2007). The experience of a life crisis that arises during the diagnosis and/or treatment of breast cancer has the potential to foster personal resilience, ultimately impacting the individual's quality of life. Patients who exhibit greater resilience tend to experience a notably higher quality of life across a wide range of quality of life domains (Ristevska-Dimitrovska et al., 2015).

Post-traumatic growth (PTG) refers to the positive psychological transformation that individuals undergo as a result of coping with highly challenging life circumstances. PTG emerges in a relatively short period of time following a diagnosis of breast cancer and is linked to the level of illness intrusiveness at the outset, as well as to subsequent increases in social support, spirituality, active-adaptive coping strategies, and mental health (Danhauer et al., 2013). PTG can present itself in diverse forms, such as an augmented sense of gratitude towards life, deeper and

more significant connections with others, enhanced personal resilience, altered priorities, and a more profound existential or spiritual perspective on the existence (Pat-Horenczyk et al., 2015). Insufficient levels of resilience have a direct and indirect impact on post-traumatic growth, as well as the utilization of maladaptive coping mechanisms, and may result in avoidance behaviors that hinder comprehensive processing of the traumatic event (Gori et al., 2021). The presence of PTG has been found to be correlated with decreased levels of psychological distress and increased resilience. Enhancing resilience among breast cancer patients is crucial, as it is widely acknowledged that resilience plays a pivotal role in determining an individual's quality of life and post-traumatic growth (Pat-Horenczyk et al., 2015).

3.6 Empirical Referents

Empirical referents pertain to factual data that can be subjected to testing, replication, and validation (Walker & Avant, 2011). Several studies have utilized the available instrument to identify resilience among breast cancer patients. The most common tools are the Connor–Davidson Resilience Scale (CD-RISC) (Connor & Davidson, 2003) followed by the Resilience Scale (RS) (Wagnild & Young, 1993), and the Resilience Scale for Adults (RSA) (Friborg et al., 2003). Besides those standard tools, two instruments precisely measure the cancer patient's resilience: The Breast Cancer Survivor Resilience Scale and the Resilience Scale Specific to Cancer (RS-SC).

The CD-RISC consists of 25 items with the 5-point Likert scale from not all true (0) to true nearly all the time (4). The tool encompasses five distinct domains, namely personal competence, high standards and tenacity, trust in one's instincts, tolerance of negative affect and strengthening effects of stress, positive acceptance of change and secure relationships, control, and spiritual influences. A positive correlation exists between higher scores and increased resilience among the patient population (Connor & Davidson, 2003).

The Resilience Scale exists with 25 items, divided into five essential characteristics: meaningful (or purpose) life, perseverance, self-reliance, equanimity, and existential aloneness. The responses are available on a 7-point scale from 1, disagree, to 7, agree. Possible scores range from 25 to 175, reflecting higher resilience scores (Wagnild & Young, 1993). The third tool, the Resilience Scale for Adults, consists of six protective dimensions of resilience in adult patients. The aforementioned constructs include self-perception, future planning, social competence, familial cohesion, social resources, and a structured approach. The Resilience Scale for Adults (RSA) comprises 33 items, with response options ranging from 1 to 7. The scores obtained from the RSA are indicative of the degree of protective factors associated with resilience, with higher scores indicating greater levels of resilience (Friborg et al., 2003). Most of the included studies used the CD-RISC as the measurement tool to identify resilience among breast cancer patients. It makes sense since the critical characteristics of resilience in breast cancer patients are covered by this tool, making it more suitable and applicable to identifying resilience in breast cancer. The ability to cope with cancer is related to personal competence; satisfaction with social support includes a secure relationship, and optimism has tenacity.

The Breast Cancer Survivor's Resilience Scale (BCRS) was originated in Japan. The instrument in question was specifically designed for the purpose of assessing the resilience levels of individuals who have survived breast cancer. The BCRS scale is deemed to possess a considerable degree of validity and reliability due to its incorporation of both individual and social factors. Healthcare professionals may contemplate implementing resilience interventions for breast cancer survivors based on personal and social perspectives, as indicated by the scale (Kim et al., 2020).

The Resilience Scale Specific to Cancer Instrument (RS-SC) comprises five domains, namely generic element, benefit finding, support and coping, hope for the future, and meaning for existence. The scale is designed to measure resilience levels, with higher scores indicating greater resilience. There exist two distinct variations of RS-SC, namely the 25-item and 10-item versions. The psychometric properties of RS-SC-25 are favorable, indicating its potential utility in determining an asymptomatic threshold for informing the implementation of psychosocial or pharmacological intervention. A brief 10-item version (RS-SC-10) has been created utilizing multidimensional item response theory (MIRT) to enhance item discrimination and alleviate the scale burden on patients. This abbreviated version has been employed for patients receiving care in outpatient wards (Ye et al., 2020).

4. Discussion

The objective of this analysis was to conduct a comprehensive examination of resilience in individuals diagnosed with breast cancer, including an assessment of its defining characteristics, precursors, outcomes, and empirical evidence. The resilience of breast cancer patients is noteworthy, given the potentially traumatic nature of the diagnosis and treatment of breast cancer, which can result in both physical and psychological challenges (Martino et al., 2019). Although a cancer diagnosis and treatment can cause considerable distress, a considerable number of cancer patients exhibit remarkable resilience. Regrettably, not all breast cancer patients exhibit a favorable response to adversity, and certain individuals experience a decline in their condition in response to the life crisis associated with breast cancer (Seiler & Jenewein, 2019). Thus, this paper delivered the redefining of resilience among breast cancer patients.

This study identified four antecedents in breast cancer resilience: body image issues after mastectomy, symptoms of distress, cancer-related stigma, and fear of cancer recurrence. Mastectomy is a surgical procedure aimed at the complete removal of breast tissue in order to address or prevent the onset of breast cancer. The mastectomy procedure is commonly regarded as a distressing occurrence that induces psychological strain and, in certain instances, psychological complications (such as anxiety and depressive symptoms, low self-regard, body image concerns, and others). The body image includes the symbolic meaning and importance of her breasts. Changes in body image after mastectomy will affect positive or negative adaptation or resilience (Izydorczyk et al., 2018). Some studies reported mastectomy hurts body image (Ruiz-Rodríguez et al., 2022; Türk & Yılmaz, 2018). This is because mastectomy will change the appearance and women's perception that the cancer experience threatens their womanhood and make them feel less like a woman (Türk & Yılmaz, 2018). On the contrary, an alternative investigation demonstrated that certain women experienced heightened strength and self-assurance subsequent to undergoing surgery. These women refused to conform to conventional beauty standards and expressed a sense of pride in the scars resulting from their mastectomy (Grogan & Mechan, 2016).

Symptoms of distress can affect the resilience of breast cancer patients. The prevalent symptoms encountered by patients undergoing chemotherapy are pain, nausea, and vomiting. (Booth et al., 2007; Maida et al., 2009). The pain was a significant problem for many women with breast cancer, and this was generally poorly managed. Physical pain caused by cancer wounds is a complex phenomenon and seriously impacts patients' quality of life (Maida et al., 2009). The pain may be attributed to various factors such as the expanding neoplasm, compression of adjacent anatomical structures, edema arising from compromised lymphatic and capillary drainage, wound infection, contact with cutaneous nerve endings, or manipulation during dressing alterations (Probst et al., 2012). Wound-related problems were often uncontrollable and unpredictable, as they could appear at any time during the day or night, despite strategies to control the issues. It slowly became more and more of a challenge for the women to contain and disguise odor and exudate (Probst et al., 2012). In addition, the rates of prevalence for nausea or vomiting were recorded as 37% and 13% after 24 hours and 70% and 15% during days 2-5 (Booth et al., 2007). Therefore, the patient must have an excellent coping ability to survive the disease and the side effects of therapy.

Attributes are crucial features that assist in distinguishing one concept from others and clarifying its meaning. The search results revealed several resilience attributes in breast cancer patients, including coping with the disease and cancer treatment, satisfaction with social support, and optimism. Coping is "ongoing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the person's resources" (Lazarus, 1993). Coping strategies used during the diagnostic phases of breast cancer are indicators of psychological adjustment after surgery (Drageset et al., 2010). A patient who has good psychological adjustment would solve the problem and seek support as their coping mechanism (Werdani & Silab, 2020). Early intervention could assist patients in controlling cancer-related stress through effective coping mechanisms that could boost their resilience (Borgi et al., 2020).

Social support provided by social engagement initiatives has the ability to improve coping mechanisms, resilience, and social connectedness, as well as have positive benefits on both physical and mental health (Steptoe & Fancourt, 2019). According to Lam et al. (2010), there exists a positive correlation between optimism and resilience among individuals diagnosed with

cancer. According to Seiler and Jenewein's (2019) study, a positive outlook and positive initial treatment outcomes were indicative of resilience and reduced distress in female breast cancer patients. According to Stewart and Yuen (2011), resilience will be achieved when individuals manage to maintain or regain their mentality in significant difficulties or risks. Therefore, those three-concept play a vital role in developing resilience, especially in breast cancer patients.

The results or ramifications manifest as the level of well-being and the positive psychological changes following a traumatic event. The concept of quality of life, specifically pertaining to health, has been operationalized as the subjective evaluation of breast cancer patients regarding their physical, mental, and social well-being, which is impacted by factors such as diagnosis, treatment, post-treatment, and survivorship. This evaluation is typically conducted using rigorously validated instruments (Mokhatri-Hesari & Montazeri, 2020). The impact of psychological resilience on various domains of health-related quality of life is noteworthy. Patients who exhibit greater resilience tend to experience a notably higher quality of life across a wide range of dimensions pertaining to their overall well-being (Ristevska-Dimitrovska et al., 2015). Post-traumatic growth is a phenomenon that is observed when an individual is able to derive positive meaning from a traumatic event that has caused significant distress. This implies that the extent of the trauma experienced by the survivor is a crucial factor in determining the likelihood of post-traumatic growth. Individuals who exhibit high levels of resilience may have a decreased tendency to perceive threats to their personal or ideological beliefs. Consequently, individuals who possess greater resilience are better equipped to mitigate the impact of such events, thereby highlighting the necessity of providing education (Jannat et al., 2022; Levine et al., 2009).

5. Implications and limitations

This concept analysis of resilience in breast cancer patients helps nurses develop holistic patient-centered nursing interventions to enhance the resilience of breast cancer patients. Nurses working with breast cancer patients may find resilience and its attributes for the assessment and implement the nursing intervention. This study suggests that resilience is an important concept in improving the quality of life and post-traumatic growth in breast cancer patients. Despite its universal approach, the current concept analysis also has its limitation. As our literature search was based on mostly English-language academic databases, our perspective might be biased toward non-English academic literature.

6. Conclusion

This concept analysis provides in-depth insights into resilience among breast cancer patients. Resilience reduces adversity and facilitates transition after a life crisis. Identification from the literature reveals that significant characteristics of resilience in breast cancer patients include coping with the disease and treatment, optimism, and satisfaction with social support. Furthermore, the body image issue after mastectomy, symptoms of distress, cancer-related stigma, and fear of cancer recurrence are identified as antecedents, and quality of life and post-traumatic growth are consequences of breast cancer patients' resilience. The CD-RISC, RS, and RSA are the referent tools to measure resilience among breast cancer patients. Identifying attributes, antecedents, consequences, and empirical referents of resilience makes further research and clinical service clearer.

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Author contribution

FEJ: Data curation, formal analysis, software, visualization, writing – original draft. ALW: Software, validation. NA: Validation, writing – review & editing.

Conflict of interest

No conflict of interest to be declared.

References

Ahn, J. Y. (2016). The influence of symptoms, uncertainty, family support on resilience in patients with breast cancer receiving chemotherapy. *Supportive Care in Cancer*, *24*(1), S236. https://doi.org/10.1007/s00520-016-3209-z

Al Eid, N. A., Alqahtani, M. M., Marwa, K., Arnout, B. A., Alswailem, H. S., & Al Toaimi, A. A. (2020). Religiosity, psychological resilience, and mental health among breast cancer patients in Kingdom of Saudi Arabia. *Breast Cancer: Basic and Clinical Research*, *14*, 1-13. https://doi.org/10.1177/1178223420903054

Alizadeh, S., Khanahmadi, S., Vedadhir, A., & Barjasteh, S. (2018). The relationship between resilience with self-compassion, social support and sense of belonging in women with breast cancer. *Asian Pacific Journal of Cancer Prevention*, *19*(9), 2469-2474. https://doi.org/10.22034/apjcp.2018.19.9.2469

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Bazzi, A. R., Clark, M. A., Winter, M. R., Ozonoff, A., & Boehmer, U. (2018). Resilience among breast cancer survivors of different sexual orientations. *LGBT Health*, *5*(5), 295-302. https://doi.org/10.1089/lgbt.2018.0019

Bennett, B. K., Lloyd, A. R., Webber, K., Friedlander, M., & Goldstein, D. (2012). Predictors of resilience in women treated for breast cancer: A prospective study. *Journal of Clinical Oncology*, *30*(15), 9044. https://doi.org/10.1200/jco.2012.30.15_suppl.9044

Boehmke, M. M. (2004). Measurement of symptom distress in women with early-stage breast cancer. *Cancer Nursing*, 27(2), 144-152. https://doi: 10.1097/00002820-200403000-00008

Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*(1), 20-28. https://doi.org/10.1037/0003-066x.59.1.20

Booth, C. M., Clemons, M., Dranitsaris, G., Joy, A., Young, S., Callaghan, W., Trudeau, M., & Petrella, T. (2007). Chemotherapy-induced nausea and vomiting in breast cancer patients: A prospective observational study. *The Journal of Supportive Oncology, 5*(8), 374-380

Borgi, M., Collacchi, B., Ortona, E., & Cirulli, F. (2020). Stress and coping in women with breast cancer: Unravelling the mechanisms to improve resilience. *Neuroscience & Biobehavioral Reviews, 119*, 406-421. https://doi.org/10.1016/j.neubiorev.2020.10.011

Carver, C. S., Smith, R. G., Antoni, M. H., Petronis, V. M., Weiss, S., & Derhagopian, R. P. (2005). Optimistic personality and psychosocial well-being during treatment predict psychosocial well-being among long-term survivors of breast cancer. *Health Psychology, 24*(5), 508-516. https://doi.org/10.1037/0278-6133.24.5.508

Celik, G., Çakir, H., & Kut, E. (2021). Mediating role of social support in resilience and quality of life in patients with breast cancer: structural equation model analysis. *Asia-Pacific Journal of Oncology Nursing*, *8*(1), 86-93. https://doi.org/10.4103/apjon.apjon_44_20

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*(2), 310-357. PMID: 3901065

Colby, D. A., & Shifren, K. (2013). Optimism, mental health, and quality of life: A study among breast cancer patients. *Psychology, Health & Medicine*, *18*(1), 10-20. https://doi.org/10.1080/13548506.2012.686619

Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression & Anxiety*, *18*(2), 76-82. https://doi.org/10.1002/da.10113

Danhauer, S. C., Case, L. D., Tedeschi, R., Russell, G., Vishnevsky, T., Triplett, K., Ip, E. H., & Avis, N. E. (2013). Predictors of post-traumatic growth in women with breast cancer. *Psycho-Oncology*, *22*(12), 2676-2683. https://doi.org/10.1002/pon.3298

Deshields, T., Tibbs, T., Fan, M. Y., & Taylor, M. (2006). Differences in patterns of depression after treatment for breast cancer. *Psycho-Oncology: Journal of the Psychological, Social, and Behavioral Dimensions of Cancer*, *15*(5), 398-406. https://doi.org/10.1002/pon.962

Di Giacomo, D. (2018). Psychological resilience in early breast cancer young patients: Experience in real life. *Journal of Psychosomatic Research*, *109*, 99. https://doi.org/10.1016/j.jpsychores.2018.03.047

Dooley, L. N., Slavich, G. M., Moreno, P. I., & Bower, J. E. (2017). Strength through adversity: Moderate lifetime stress exposure is associated with psychological resilience in breast cancer survivors. *Stress Health*, *33*(5), 549-557. https://doi.org/10.1002/smi.2739

Drageset, S., Lindstrøm, T. C., & Underlid, K. (2010). Coping with breast cancer: Between diagnosis and surgery. *Journal of Advanced Nursing*, *66*(1), 149-158. https://doi.org/10.1111/j.1365-2648.2009.05210.x

Edward, K. L., Chipman, M., Giandinoto, J. A., & Robinson, K. (2019). Quality of life and personal resilience in the first two years after breast cancer diagnosis: Systematic integrative review. *British Journal of Nursing*, *28*(10), S4-S14. https://doi.org/10.12968/bjon.2019.28.10.S4

Edward, K. L., & Warelow, P. (2005). Resilience: When coping is emotionally intelligent. *Journal of The American Psychiatric Nurses Association*, *11*(2), 101-102. https://doi.org/10.1177/1078390305277526

Fang, Y., Mingjun, W., Pengqiong, L., Xiuhui, Z., Yuqian, S., Xiaoqin, J., Liwei, J., Changxiang, C., & Qingsong, Z. (2017). Empirical analysis of post-traumatic growth status and influencing factors for breast cancer inpatients base on post-traumatic growth inventory. *Boletín Técnico, 55*(7), 716-724.

Feder, A., Fred-Torres, S., Southwick, S. M., & Charney, D. S. (2019). The biology of human resilience: Opportunities for enhancing resilience across the life span. *Biological Psychiatry*, *86*(6), 443-453. https://doi.org/10.1016/j.biopsych.2019.07.012

Fradelos, E. C., Papathanasiou, I. V., Veneti, A., Daglas, A., Christodoulou, E., Zyga, S., & Kourakos, M. (2017). Psychological distress and resilience in women diagnosed with breast cancer in Greece. *Asian Pacific Journal of Cancer Prevention: APJCP*, *18*(9), 2545-2550. https://doi.org/10.22034/apjcp.2017.18.9.2545

Friborg, O., Hjemdal, O., Rosenvinge, J. H., & Martinussen, M. (2003). A new rating scale for adult resilience: what are the central protective resources behind healthy adjustment? *International Journal of Methods in Psychiatric Research, 12*(2), 65-76. https://doi.org/10.1002/mpr.143

Fujisawa, D., & Hagiwara, N. (2015). Cancer stigma and its health consequences. *Current Breast Cancer Reports*, *7*(3), 143-150. https://doi.org/10.1007/s12609-015-0185-0

Gallagher, M. W., Long, L. J., Richardson, A., & D'Souza, J. M. (2019). Resilience and coping in cancer survivors: The unique effects of optimism and mastery. *Cognitive Therapy and Research*, *43*(1), 32-44. https://doi.org/10.1007/s10608-018-9975-9

Garcia-Dia, M. J., DiNapoli, J. M., Garcia-Ona, L., Jakubowski, R., & O'Flaherty, D. (2013). Concept analysis: resilience. *Archives of Psychiatric Nursing*, *27*(6), 264-270. https://doi.org/10.1016/j.apnu.2013.07.003

Gori, A., Topino, E., Sette, A., & Cramer, H. (2021). Pathways to post-traumatic growth in cancer patients: moderated mediation and single mediation analyses with resilience, personality, and coping strategies. *Journal of Affective Disorders, 279*, 692-700. https://doi.org/10.1016/j.jad.2020.10.044

Grogan, S., & Mechan, J. (2016). Body image after mastectomy: A thematic analysis of younger women's written accounts. *Journal of Health Psychology*, *22*(11), 1480-1490. https://doi.org/10.1177/1359105316630137

Hsu, H.-T., Juan, C.-H., Chen, J.-L., & Hsieh, H.-F. (2021). Mediator roles of social support and hope in the relationship between body image distress and resilience in breast cancer patients undergoing treatment: A modeling analysis. *Frontiers in Psychology, 12*, 695682. https://doi.org/10.3389/fpsyg.2021.695682

Huang, Y., Huang, Y., Bao, M., Zheng, S., Du, T., & Wu, K. (2019). Psychological resilience of women after breast cancer surgery: A cross-sectional study of associated influencing factors. *Psychology, Health & Medicine*, *24*(7), 866-878. https://doi.org/10.1080/13548506.2019.1574353

Izydorczyk, B., Kwapniewska, A., Lizinczyk, S., & Sitnik-Warchulska, K. (2018). Psychological resilience as a protective factor for the body image in post-mastectomy women with breast cancer. *International Journal of Environmental Research and Public Health*, *15*(6), 1181. https://doi.org/10.3390/ijerph15061181

Jannat, F., Alipour, S., Noori, F., Ansari, S., Ashtab, T., Eskandari, A., Boroumand Sani, S., Orouji, M., Goodarzi, D., & Dousti Amshaki, F. (2022). Comparison of the effectiveness of breast

cancer education through two virtual methods for increasing knowledge in nurses. *Nurse Media Journal of Nursing*, 12 (1): 100-110. https://doi.org/10.14710/nmjn.v12i1.41780

Johnston, M. C., Porteous, T., Crilly, M. A., Burton, C. D., Elliott, A., Iversen, L., McArdle, K., Murray, A., Phillips, L. H., & Black, C. (2015). Physical disease and resilient outcomes: A systematic review of resilience definitions and study methods. *Psychosomatics*, *56*(2), 168-180. https://doi.org/10.1016/j.psym.2014.10.005

Kaczmarek, Ł. D., Seķ, H., Ziarko, M., & Marzec, M. (2012). Mechanisms of psychological resiliency in women after mastectomy. *Contemporary Oncology/Współczesna Onkologia*, *16*(4), 341-344. https://doi.org/10.5114/wo.2012.30065

Kamen, C., Jabson, J., Mustian, K., Flannery, M., & Boehmer, U. (2017). Psychological distress, minority stress, and psychosocial resources among sexual minority breast cancer survivors. *Psycho-Oncology*, *26*, 57. https://doi.org/10.1002/pon.4354

Kiaei, T., Makvandi, B., Manesh, F. M., & Hafezi, F. (2021). The causal relationship between perceived stress, perceived social support, and resilience with emotional adaptation mediated by body image of breast cancer patients. *Razavi International Journal of Medicine*, *9*(2), 81-86. https://doi.org/10.30483/rijm.2021.254202.1052

Kim, J. M., Choi, J. H., & Han, J. W. (2020). Validity and reliability of a Korean version of the breast cancer survivors resilience scale. *Japan Journal of Nursing Science, 17*(3), e12331. https://doi.org/10.1111/jjns.12331

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. https://doi.org/10.5152/tjbh.2016.2913

Koral, L., & Cirak, Y. (2021). The relationships between fear of cancer recurrence, spiritual well-being, and psychological resilience in non-metastatic breast cancer survivors during the COVID-19 outbreak. *Psychooncology*, *30*(10), 1765-1772. https://doi.org/10.1002/pon.5727

Kourou, K., Manikis, G., Poikonen-Saksela, P., Mazzocco, K., Pat-Horenczyk, R., Sousa, B., Oliveira-Maia, A. J., Mattson, J., Roziner, I., Pettini, G., Kondylakis, H., Marias, K., Karademas, E., Simos, P., & Fotiadis, D. I. (2021). A machine learning-based pipeline for modeling medical, socio-demographic, lifestyle, and self-reported psychological traits as predictors of mental health outcomes after breast cancer diagnosis: An initial effort to define resilience effects. *Computers in Biology and Medicine*, *131*, 104266. https://doi.org/10.1016/j.compbiomed.2021.104266

Lam, W. W., Bonanno, G. A., Mancini, A. D., Ho, S., Chan, M., Hung, W. K., Or, A., & Fielding, R. (2010). Trajectories of psychological distress among Chinese women diagnosed with breast cancer. *Psychooncology*, *19*(10), 1044-1051. https://doi.org/10.1002/pon.1658

Lazarus, R. S. (1993). Coping theory and research: past, present, and future. *Psychosomatic Medicine*, *55*(3), 234-247. https://doi.org/10.1097/00006842-199305000-00002

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. USA: Springer publishing company. ISBN 0826141927

Lee, J. H., & Kim, H. Y. (2018). Symptom distress and coping in young Korean breast cancer survivors: The mediating effects of social support and resilience. *Journal of Korean Academy of Nursing*, *48*(2), 241-253. https://doi.org/10.4040/jkan.2018.48.2.241

Lee, B. J., Boyle, C., & Bower, J. E. (2016). Do resilient breast cancer patients experience post-traumatic growth?. *Psycho-Oncology*, *25*, 153-154. https://doi.org/10.1002/pon.4082

Lee, K. M., Jung, D., Kim, T. Y., Lee, K. H., Im, S. A., & Hahm, B. J. (2017). Resilience as a predictor for emotional distress and quality of life during neoadjuvant chemotherapy in women with breast cancer. *Psycho-Oncology*, *26*, 141. https://doi.org/10.1002/pon.4476

Levine, S. Z., Laufer, A., Stein, E., Hamama-Raz, Y., & Solomon, Z. (2009). Examining the relationship between resilience and post-traumatic growth. *Journal of Traumatic Stress, 22*(4), 282-286. https://doi.org/10.1002/jts.20409

Li, L., Hou, Y., Hou, Y., Kang, F., & Wei, X. (2020). The mediating and moderating roles of resilience in the relationship between anxiety, depression, and post-traumatic growth among breast cancer patients based on structural equation modeling: An observational study. *Medicine, 99*(50), e23273. https://doi.org/10.1097/MD.0000000000023273

Liu, Y., Li, Y., Chen, L., Li, Y., Qi, W., & Yu, L. (2018). Relationships between family resilience and post-traumatic growth in breast cancer survivors and caregiver burden. *Psycho-Oncology*, *27*(4), 1284-1290. https://doi.org/10.1002/pon.4668

Lidgren, M., Wilking, N., Jönsson, B., & Rehnberg, C. (2007). Health-related quality of life in different states of breast cancer. *Quality of Life Research*, *16*(6), 1073-1081. https://doi.org/10.1007/s11136-007-9202-8

Lillie, H. M., Venetis, M. K., & Chernichky-Karcher, S. M. (2018). He would never let me just give up: Communicatively constructing dyadic resilience in the experience of breast cancer. *Health communication*, *33*(12), 1516-1524. https://doi.org/10.1080/10410236.2017.1372049

Luo, D., Eicher, M., & White, K. (2020). Individual resilience in adult cancer care: A concept analysis. *International Journal of Nursing Studies*, *102*, 103467. https://doi.org/10.1016/j.ijnurstu.2019.103467

Maida, V., Ennis, M., Kuziemsky, C., & Trozzolo, L. (2009). Symptoms associated with malignant wounds: A prospective case series. *Journal of Pain and Symptom Management, 37*(2), 206-211. https://doi.org/10.1016/j.jpainsymman.2008.01.009

Markovitz, S. E., Schrooten, W., Arntz, A., & Peters, M. L. (2015). Resilience as a predictor for emotional response to the diagnosis and surgery in breast cancer patients. *Psycho-Oncology*, *24*(12), 1639-1645. https://doi.org/10.1002/pon.3834

Martino, M. L., Lemmo, D., Gargiulo, A., Barberio, D., Abate, V., Avino, F., & Tortoriello, R. (2019). Underfifty women and breast cancer: Narrative markers of meaning-making in a traumatic experience. *Frontiers in Psychology*, *10*, 618. https://doi.org/10.3389/fpsyg.2019.00618

Matthews, A. K., Sellergren, S. A., Manfredi, C., & Williams, M. (2002). Factors influencing medical information seeking among African American cancer patients. *Journal of Health Communication*, *7*(3), 205-219. https://doi.org/10.1080/10810730290088094

Matzka, M., Mayer, H., Köck-Hódi, S., Moses-Passini, C., Dubey, C., Jahn, P., Schneeweiss, S., & Eicher, M. (2016). Relationship between resilience, psychological distress, and physical activity in cancer patients: A cross-sectional observational study. *PLoS ONE, 11*(4), e0154496. https://doi.org/10.1371/journal.pone.0154496

Menezes, M., Sória, D., Coutinho, L., Souza, S., & Oliveira, T. (2013). Nurse care and resilience in women with breast cancer in adjuvant chemotherapy. *European Journal of Cancer*, *49*, S385. https://doi.org/10.1016/S0959-8049(13)70062-5

Mohlin, Å., Axelsson, U., Bendahl, P. O., Borrebaeck, C., Hegardt, C., Johnsson, P., Hallberg, I. R., & Rydén, L. (2020). Psychological resilience and health-related quality of life in Swedish women with newly diagnosed breast cancer. *Cancer Management and Research*, *12*, 12041-12051. https://doi.org/10.2147/CMAR.S268774

Mohlin, Å., Bendahl, P. O., Hegardt, C., Richter, C., Hallberg, I. R., & Rydén, L. (2021). Psychological resilience and health-related quality of life in 418 Swedish women with primary breast cancer: Results from a prospective longitudinal study. *Cancers*, *13*(9), 2233. https://doi.org/10.3390/cancers13092233

Montazeri, A. (2020). Health-related quality of life in breast cancer patients: Review of reviews from 2008 to 2018. *Health and Quality of Life Outcomes*, *18*(1), 338. https://doi.org/10.1186/s12955-020-01591-x

Muñoz Carmona, D. M., De Haro Piedra, R., Nieto-Guerrero, J., Flores Rodríguez, J., López Díez, B., & Ortíz Gordillo, M. (2018). Capacity of resilience during radiotherapy treatment in breast cancer [Conference Abstract]. *Radiotherapy and Oncology*, *127*, S738. https://doi.org/10.1016/S0167-8140(18)31659-1

Mushtaq, M., & Naz, F. (2017). Body image satisfaction, distress, and resilience in women with breast cancer surgery: A within-group study. *Journal of Postgraduate Medical Institute*, *31*(1), 39-43.

O'Brien, M., Li, L. Y., O'Brien, T., & Giese-Davis, J. (2013). The relationship between emotional expression and resilience in a long-term telephone group for women with secondary breast cancer. *Psycho-Oncology*, *22*, 266. https://doi.org/10.1111/j.1099-1611.2013.3394

Ocel, H. (2017). The relations between stigmatization and mindfulness with psychological well-being among working women diagnosed with breast cancer: The role of resilience. *Türk Psikoloji Dergisi, 32*(80), 116-137. http://www.psikolog.org.tr/tr/yayinlar/dergiler/1031828/tpd13004433201700000m000013.pdf

Ozakinci, G., Sobota, A., & Humphris, G. (2014). Fear of cancer recurrence among breast cancer survivors. *Current Breast Cancer Reports*, *6*(3), 219-225. https://doi.org/10.1007/s12609-014-0153-0

Pat-Horenczyk, R., Perry, S., Hamama-Raz, Y., Ziv, Y., Schramm-Yavin, S., & Stemmer, S. M. (2015). Post-traumatic growth in breast cancer survivors: Constructive and illusory aspects. *Journal of Traumatic Stress*, *28*(3), 214-222. https://doi.org/10.1002/jts.22014

Peters, M. L., & Markovitz, S. (2019). Fear of cancer recurrence, optimism, and trait resilience predict emotional and physical functioning in breast cancer survivors. *Psychosomatic Medicine*, *81*(4), A209-A209.

Pérez, S., Conchado, A., Andreu, Y., Galdón, M. J., Cardeña, E., Ibáñez, E., & Durá, E. (2016). Acute stress trajectories 1 year after a breast cancer diagnosis. *Supportive Care in Cancer*, *24*(4), 1671-1678. https://doi.org/10.1007/s00520-015-2960-x

Probst, S., Arber, A., & Faithfull, S. (2012). Malignant fungating wounds - the meaning of living in an unbounded body. *European Journal of Oncology Nursing*, 17(1), 38-45. https://doi.org/10.1016/j.ejon.2012.02.001

Quattropani, M., Lenzo, V., Mucciardi, M., & Toffle, M. (2016). Metacognition as predictor of emotional distress in cancer patients. *Life Span and Disability, 19*, 221-239. http://www.lifespanjournal.it/Client/rivista/ENG91_full%20issue.pdf#page=123

Rajasooriyar, C. I., Kumar, R., Sriskandarajah, M. H., Gnanathayalan, S. W., Kelly, J., & Sabesan, S. (2021). Exploring the psychosocial morbidity of women undergoing chemotherapy for breast cancer in a post-war setting: Experiences of Northern Sri Lankan women. *Support Care Cancer*, *29*(12), 7403-7409. https://doi.org/10.1007/s00520-021-06296-5

Razurel, C., & Kaiser, B. (2015). The role of satisfaction with social support on the psychological health of primiparous mothers in the perinatal period. *Women Health*, *55*(2), 167-186. https://doi.org/10.1080/03630242.2014.979969

Rim, H. D., Yeun, J. S., Wan, J. C., & Kyung, S. S. (2021). Structure equation modeling for resilience in patients with breast cancer. *Korean Journal of Adult Nursing*, *33*(2), 87-101. https://doi.org/10.7475/kjan.2021.33.2.87

Ristevska-Dimitrovska, G., Filov, I., Rajchanovska, D., Stefanovski, P., & Dejanova, B. (2015). Resilience and quality of life in breast cancer patients. *Open Access Macedonian Journal of Medical Sciences*, *3*(4), 727-731. https://doi.org/10.3889/oamjms.2015.128

Romeo, A., Di Tella, M., Ghiggia, A., Tesio, V., Gasparetto, E., Stanizzo, M. R., Torta, R., & Castelli, L. (2019). The traumatic experience of breast cancer: Which factors can relate to the post-traumatic outcomes? *Frontiers in Psychology*, *10*, 891. https://doi.org/10.3389/fpsyg.2019.00891

Ruiz-Rodríguez, I., Hombrados-Mendieta, I., Melguizo-Garín, A., & Martos-Méndez, M. J. (2022). The importance of social support, optimism, and resilience on the quality of life of cancer patients. *Frontiers in Psychology*, *13*, 833176. https://doi.org/10.3389/fpsyg.2022.833176

Ruini, C., Vescovelli, F., & Albieri, E. (2013). Post-traumatic growth in breast cancer survivors: new insights into its relationships with well-being and distress. *Journal of Clinical Psychology in Medical Settings*, *20*(3), 383-391. https://doi.org/10.1007/s10880-012-9340-1

Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Health Psychology*, *4*(3), 219-247. https://doi.org/10.1037//0278-6133.4.3.219

Seiler, A., & Jenewein, J. (2019). Resilience in cancer patients. *Frontiers in Psychology,* 10, 208. https://doi.org/10.3389/fpsyt.2019.00208

Simancas Fernandez, M., Zapata Rueda, C., Galvan Patrignani, G., Celedon Rivero, J. C., & Hernandez Padilla, J. (2021). Adaptation to the disease, resilience, and optimism in woman with breast cancer. *Revista Colombiana de Psiquiatria,* S0034-7450(21)00129-3. https://doi.org/10.1016/j.rcp.2021.06.006

Sisto, A., Vicinanza, F., Campanozzi, L. L., Ricci, G., Tartaglini, D., & Tambone, V. (2019). Towards a transversal definition of psychological resilience: A literature review. *Medicina*, *55*(11), 745. https://doi.org/10.3390/medicina55110745

Son, K. L., Lee, K. M., Jung, D., Kim, T. Y., Lee, K. H., Im, S. A., & Hahm, B. J. (2017). The influence of resilience on anxiety, depression, and quality of life in women with breast cancer before neoadjuvant chemotherapy. *Psycho-Oncology*, *26*, 94-95. https://scholarworks.unist.ac.kr/handle/201301/33859

Song, I. M., Yoon, S. C., Baek, J. H., & Lee, S. K. (2021). The effects of personality traits and resilience on quality of life in breast cancer survivors [Conference Abstract]. *Asia-Pacific Psychiatry*, *13*(SUPPL 1). https://doi.org/10.1111/appy.12460

Sood, A., Loprinzi, C., Sharma, V., & Prasad, K. (2012). Stress management and resilience training (SMART) program to decrease stress and enhance resilience among breast cancer survivors: A randomized trial. *BMC Complementary and Alternative Medicine*, 12(Suppl 1): P211. https://doi.org/10.1186/1472-6882-12-S1-P211

Srivastava, J., Shukla, H., Kaushik, S., & Tewari, M. (2016). The effect of cognitive behaviour therapy on resilience and quality of life in women suffering from breast cancer [Conference Abstract]. *European Journal of Cancer*, *57*, S149. https://doi.org/10.1007/s11136-020-02665-5

Steptoe, A., & Fancourt, D. (2019). Leading a meaningful life at older ages and its relationship with social engagement, prosperity, health, biology, and time use. *Proceedings of The National Academy of Sciences*, *116*(4), 1207-1212. https://doi: 10.1073/pnas.1814723116

Stewart, D. E., & Yuen, T. (2011). A systematic review of resilience in the physically ill. *Psychosomatics 52*, 199–209. https://doi/10.1016/j.psym.2011.01.036

Tu, P. (2018). Resilience and positive psychological changes after a cancer diagnosis and treatment [Conference Abstract]. *Supportive Care in Cancer*, *26*(2), S305-S306. https://doi.org/10.1007/s00520-018-4193-2

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), 205-210. https://doi.org/10.5152/ejbh.2018.3875

VandenBos, G. R. (2007). *APA Dictionary of Psychology*. American Psychological Association. https://psycnet.apa.org/record/2006-11044-000

Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the Resilience Scale. *Journal of nursing measurement*, *1*(2), 165-178. PMID: 7850498.

Walker, L. O., & Avant, K. C. (2018). *Strategies for Theory Construction in Nursing*. https://books.google.com.tw/books?id=oPkZtAEACAAJ

Wan, A. H. Y., Leung, P. P. Y., & Chan, C. L. W. (2015). *Resilience and Spiritual Growth of Chinese Recovering from Breast Cancer: The Mediating Role of Challenge Cognitive Appraisals and Positive Affectivity*. The 17th International Congress of the Psycho-Oncology Society (IPOS 2015), Washington, DC. http://hdl.handle.net/10722/218181

Wang, L., & Zhang, Y. (2020). The factors influencing psychological resilience in breast cancer patients undergoing mastectomy and the effects of mindfulness-based stress reduction on the patients' psychological resilience and anxiety. *International Journal of Clinical and Experimental Medicine*, *13*(11), 8924-8932. https://www.ijcem.com/files/ijcem0119310.pdf

Werdani, Y. D. W., & Silab, P. A. A. (2020). Self-efficacy affects cancer patients in solving problems, seeking support and avoiding problems as coping mechanisms. *Nurse Media Journal of Nursing*, *10*(2), 146-157. https://doi.org/10.14710/nmjn.v10i2.26803

Windle, G. (2011). What is resilience? A review and concept analysis. *Reviews in Clinical Gerontology*, *21*(2), 152-169. https://doi.org/10.1017/S0959259810000420

Wu, Z., Liu, Y., Li, X., & Li, X. (2016). Resilience and associated factors among Mainland Chinese women newly diagnosed with breast cancer. *PLoS ONE*, *11*(12), e0167976. https://doi.org/10.1371/journal.pone.0167976

Ye, Z. J., Zhang, Z., Tang, Y., Liang, J., Zhang, X. Y., Hu, G. Y., Sun, Z., Liang, M. Z., & Yu, Y. L. (2020). Minimum clinical important difference for resilience scale specific to cancer: A prospective analysis. *Health and Quality of Life Outcomes*, *18*(1), 381. https://doi.org/10.1186/s12955-020-01631-6

Yi, F., Li, X., Song, X., & Zhu, L. (2020). The underlying mechanisms of psychological resilience on emotional experience: Attention-bias or emotion disengagement. *Frontiers in Psychology*, *11*, 1993. https://doi.org/10.3389/fpsyg.2020.01993

Zhang, H., Zhao, Q., Cao, P., & Ren, G. (2017). Resilience and quality of life: Exploring the mediator role of social support in patients with breast cancer. *Medical Science Monitor: International Medical Journal of Experimental and Clinical Research, 23*, 5969-5979. https://doi.org/10.12659/msm.907730

Appendix

Table 1. Description of the articles and their contributions to the concept analysis

No.	Title	Author/Year	Methodology	The study's contribution to the concept analysis	Contribution
1.	The influence of symptoms, uncertainty, family support on resilience in patients with breast cancer receiving chemotherapy	Ahn (2016)	Quantitative	Family support was identified as the primary predictor variable of resilience.	Antecedent
2.	Religiosity, Psychological Resilience, and Mental Health Among Breast Cancer Patients in Kingdom of Saudi Arabia	Al Eid et al. (2020)	Quantitative	The findings indicate that there exist significant statistical correlations between psychological resilience and quality of life.	Consequences
3.	Predictors of resilience in women treated for breast cancer: A prospective study	Bennett et al. (2012)	Quantitative	The presence of distress symptoms was identified as a significant predictor of resilience.	Antecedent
4.	Mediating Role of Social Support in Resilience and Quality of Life in Patients with Breast Cancer: Structural Equation Model Analysis	Celik et al. (2021)	Quantitative	The relationship between resilience and functional quality of life was found to be partially mediated by social support.	Antecedent
5.	Resilience in breast cancer survivors: Depression, anxiety, and quality of life after treatment	Deshields et al. (2006)	Quantitative	A significant proportion of female participants demonstrated resilience by exhibiting minimal levels of distress.	Antecedent
6.	Predictive features of resilience in early breast cancer young patients: Experience in real life	Di Giacomo (2018)	Quantitative	The capacity of the patient to manage a diagnosis of breast cancer is a prognostic factor that exhibits a stronger correlation with emotional traits.	Attributes
7.	Moderate stress exposure is associated with psychological resilience among breast cancer survivors	Dooley et al. (2017)	Quantitative	The phenomenon of stress can potentially contribute to the development of resilience, provided that it is experienced within a finite timeframe.	Antecedent
8.	Characteristics of psychological resilience and body image in women in the early and late periods after mastectomy	Izydorczyk et al. (2018)	Quantitative	The study participants exhibited superior coping strategies for managing setbacks and adverse emotional states, indicating a heightened capacity for disengagement from challenging circumstances and alterations in their physical appearance.	Antecedent, Consequences

Table 1. Continued

No.	Title	Author/Year	Methodology	The study's contribution to the concept analysis	Contribution
9.	Mechanisms of psychological resiliency in women after mastectomy	Kaczmarek et al. (2012)	Quantitative	The present study aims to elucidate the relationship between coping strategies and the impact of resiliency on life satisfaction among women who have undergone mastectomy. This discovery offers supplementary proof of the essential function of coping mechanisms in the mechanisms of resilience.	Attributes
10.	Minority stress, psychosocial resources, and psychological distress among sexual minority breast cancer survivors	Kamen et al. (2017)	Quantitative	The study suggests that there is a positive correlation between heightened minority stress and reduced psychosocial resources, such as resilience and social support, with increased psychological distress among breast cancer survivors who identify as sexual minorities.	Attributes, Consequences
11.	The causal relationship between perceived stress, perceived social support, and resilience with emotional adaptation mediated by body image of breast cancer patients	Kiaei et al. (2021)	Quantitative	The mediating function of body image is observed in the correlation between perceived social support, perceived stress, and resilience with life satisfaction.	Antecedent, Attributes, Consequences
12.	Functional Impairments in the Mental Health, Depression and Anxiety Related to the Viral Epidemic, and Disruption in Healthcare Service Utilization Among Cancer Patients in the COVID-19 Pandemic Era	Kim et al. (2022)	Quantitative	A statistically significant correlation was observed between reduced resilience and heightened anxiety in response to the COVID-19 pandemic.	Antecedents
13.	Computational Models for Predicting Resilience Levels of Women with Breast Cancer	Kourou et al. (2021)	Quantitative	This study aims to investigate the clinical outcomes, quality of life, and patient well-being of women with breast cancer. The analysis will consider various factors, including biological, social, environmental, occupational, and lifestyle factors, to predict resilience in this population.	Consequences

Table 1. Continued

No.	Title	Author/Year	Methodology	The study's contribution to the concept analysis	Contribution
14.	Do resilient breast cancer patients experience post-traumatic growth?	Lee et al. (2016)	Quantitative	The study found that a strong sense of resilience was linked to decreased levels of overall distress, but not specifically distress related to cancer. In general, the findings indicate that possessing a moderate degree of resilience could potentially serve as a safeguard against depression and promote personal development.	Antecedent, Attributes, Consequences
15.	Resilience as a predictor for emotional distress and quality of life during neoadjuvant chemotherapy in women with breast cancer	Lee et al. (2017)	Quantitative	A heightened level of resilience may serve as a protective factor for patients experiencing elevated emotional distress and help to sustain their quality of life while undergoing neoadjuvant chemotherapy. The implementation of psychosocial interventions aimed at enhancing resilience could potentially prove beneficial in ameliorating emotional distress and improving overall quality of life.	Antecedent, Consequences
16.	The mediating and moderating roles of resilience in the relationship between anxiety, depression, and post-traumatic growth among breast cancer patients based on structural equation modeling: An observational study	Li et al. (2020)	Quantitative	The study found significant correlations between resilience and anxiety, depression, and post-traumatic growth (all $P < .01$).	Antecedent, Consequences
17.	Nurse care and resilience in women with breast cancer in adjuvant chemotherapy	Menezes et al. (2013)	Qualitative	The identified risk factors and protective factors included chemotherapy, fatigue, illness, prolonged hospitalization, alopecia, nausea, substance addiction, inadequate familial support, emotional suppression, and a self-perception of invincibility.	Attribute, Antecedent
18.	Psychological Resilience and Health-Related Quality of Life in Swedish Women with Newly Diagnosed Breast Cancer	Mohlin et al. (2020)	Quantitative	The study found a significant positive correlation between psychological resilience and health-related quality of life (HRQoL) among Swedish women who were recently diagnosed with breast cancer. No modifying factor was detected in this relationship.	Consequences

Table 1. Continued

No.	Title	Author/Year	Methodology	The study's contribution to the concept analysis	Contribution
19.	Psychological Resilience and Health-Related Quality of Life in 418 Swedish Women with Primary Breast Cancer: Results from a Prospective Longitudinal Study	Mohlin et al. (2021)	Quantitative	The study findings indicate that there exists a positive correlation between resilience and Health-Related Quality of Life (HRQoL) one year after diagnosis. This suggests that resilience plays a crucial role in sustaining HRQoL.	Consequences
20.	Capacity of resilience during radiotherapy treatment in breast cancer	Muñoz Carmona et al. (2018)	Quantitative	Resilience has been found to be associated with body image following mastectomy and standard radiotherapy treatment.	Antecedent
21.	The relationship between emotional expression and resilience in a long-term telephone group for women with secondary breast cancer	O'Brien et al. (2013)	Quantitative	The issue of family and friend relationships is a prominent concern for individuals who have been diagnosed with cancer.	Antecedent
22.	Structure Equation Modeling for Resilience in Patients with Breast Cancer	Rim et al. (2021)	Quantitative	Management strategies aimed at improving the resilience of breast cancer patients should focus on factors such as patients' optimism, spiritual well-being, hope, and symptom experience.	Attributes
23.	The influence of resilience on anxiety, depression and quality of life in women with breast cancer before neoadjuvant chemotherapy	Son et al. (2017)	Quantitative	The independent contribution of resilience to a decreased level of anxiety and depression, as well as an increased level of quality of life, has been observed in breast cancer patients prior to neoadjuvant chemotherapy.	Antecedent, Consequences
24.	The effects of personality traits and resilience on quality of life in breast cancer survivors	Song et al. (2021)	Quantitative	The association between quality of life and personality profiles was moderated by resilience.	Antecedent, Consequences
25.	Stress Management and Resilience Training (SMART) program to decrease stress and enhance resilience among breast cancer survivors: A randomized trial	Sood et al. (2012)	Quantitative	At the 12-week mark, a statistically significant causal relationship has been observed between resilience, perceived stress, anxiety, and overall quality of life.	Antecedent, Consequences
26.	The effect of cognitive behaviour therapy on resilience and quality of life in women suffering from breast cancer	Srivastava et al. (2016)	Quantitative	Cognitive Behavioral Therapy (CBT) holds clinical significance in enhancing resilience and augmenting the quality of life among individuals who have survived breast cancer. Additionally, it can serve as a supplementary approach to augment conventional oncologic therapy and enhance the rapport between healthcare providers and patients.	Antecedent

Table 1. Continued

No.	Title	Author/Year	Methodology	The study's contribution to the concept analysis	Contribution
27.	Resilience and positive psychological changes after a cancer diagnosis and treatment	Tu (2018)	Quantitative	The results underscored the significance of cultivating resilience and adaptive coping mechanisms in breast cancer survivors, as these factors are associated with enhanced psychological growth and overall well-being.	Attributes Consequences
28.	Resilience and spiritual growth of Chinese recovering from breast cancer: The mediating role of challenge cognitive appraisals and positive affectivity	Wan et al. (2015)	Quantitative	Breast cancer patients who exhibit resilience have reported experiencing spiritual growth, which can be attributed to their perception of the illness as a challenge and their capacity to experience positive emotions in the face of trauma.	Consequences
29.	The factors influencing psychological resilience in breast cancer patients undergoing mastectomy and the effects of mindfulness-based stress reduction on the patients' psychological resilience and anxiety	Wang and Zhang (2020)	Quantitative	There exists a negative correlation between an individual's psychological resilience and their level of anxiety. The implementation of Mindfulness-Based Stress Reduction (MBSR) has the potential to improve the psychological resilience of patients and alleviate their symptoms of anxiety.	Antecedent
30.	Resilience and Associated Factors among Mainland Chinese Women Newly Diagnosed with Breast Cancer	Wu et al. (2016)	Quantitative	The study found a positive correlation between resilience and both social support and optimism.	Antecedent, Consequences
31.	The Relations Between Stigmatization and Mindfulness with Psychological Well-Being Among Working Women Diagnosed with Breast Cancer: The Role of Resilience	Ocel (2017)	Quantitative	The study conducted a moderated regression analysis and found that the impact of stigmatization on quality of life was moderated by resilience.	Antecedent, Consequences
32.	Exploring the psychosocial morbidity of women undergoing chemotherapy for breast cancer in a post-war setting: experiences of Northern Sri Lankan women	Rajasooriyar et al. (2021)	Quantitative	In addition to the acute consequences of chemotherapy, individuals contended with issues related to their physical appearance, societal disapproval, and reliance on others, all while navigating apprehensions regarding the well-being of their loved ones and the financial burden of cancer treatment.	Antecedents

Table 1. Continued

No.	Title	Author/Year	Methodology	The study's contribution to the concept analysis	Contribution
33.	The relationships between fear of cancer recurrence, spiritual well-being and psychological resilience in non-metastatic breast cancer survivors during the COVID-19 outbreak	Koral and Cirak (2021)	Quantitative	Breast cancer survivors who exhibit high levels of subjective well-being (SWB) and psychological resilience tend to experience lower levels of fear regarding cancer recurrence, even in cases where they have been unable to maintain regular medical follow-up due to the COVID-19 pandemic.	Antecedent
34.	Fear of cancer recurrence, optimism and trait resilience predict emotional and physical functioning in breast cancer survivors	Peters and Markovitz (2019)	Quantitative	The present study examines the relationship between fear of cancer recurrence, optimism, and trait resilience, and their impact on the emotional and physical functioning of breast cancer survivors. The findings suggest that these factors play a significant role in predicting the emotional and physical well-being of breast cancer survivors.	Antecedent, Attributes
35.	Pathways to post-traumatic growth in cancer patients: moderated mediation and single mediation analyses with resilience, personality, and coping strategies	Gori et al. (2021)	Quantitative	The study found that the degree of resilience exhibited by individuals was a significant predictor of post-traumatic growth (PTG) and post-traumatic symptoms, both through direct and indirect pathways. The mediating role of various coping strategies was also observed.	Attributes, Consequences
36.	Relationships between family resilience and post-traumatic growth in breast cancer survivors and caregiver burden	Liu et al. (2018)	Quantitative	The results of our study suggest that there is a need for interventions aimed at promoting family resilience, fostering post-traumatic growth (PTG) among individuals who have survived breast cancer, and reducing the burden of caregiving on family members.	Consequences
37.	Resilience and quality of life in breast cancer patients	Ristevska-Dimitrovska et al. (2015)	Quantitative	Breast cancer patients who exhibit lower levels of resilience tend to experience poorer body image and future outlook, as well as more severe adverse effects of systemic therapy, including arm and breast symptoms. Patients exhibiting higher levels of resilience tend to experience a notably enhanced quality of life across a wide range of domains pertaining to their overall well-being.	Antecedent, Consequences

Table 1. Continued

No.	Title	Author/Year	Methodology	The study's contribution to the concept analysis	Contribution
38.	Body image satisfaction, distress and resilience in women with breast cancer surgery: A within group study	Mushtaq and Naz (2017)	Quantitative	The study found notable variations in body image contentment, distress, and resilience between the pre and post evaluations of females who underwent breast cancer surgery.	Antecedent, Consequences
39.	Trajectories of psychological distress among Chinese women diagnosed with breast cancer	Lam et al. (2010)	Quantitative	Resilience to distress was predicted by optimism and improved early post-operative treatment outcomes.	Antecedent, Attributes
40.	Relationship between Resilience, Psychological Distress and Physical Activity in Cancer Patients: A Cross-Sectional Observation Study	Matzka et al. (2016)	Quantitative	Cancer patients who exhibit greater resilience, particularly those in advanced age cohorts, tend to report lower levels of psychological distress.	Antecedent
41.	Psychological distress and resilience in women diagnosed with breast cancer in Greece	Fradelos et al. (2017)	Quantitative	Based on our findings, it appears that resilience may have an adverse impact on depressive symptomatology.	Antecedent
42.	Resilience as a predictor for emotional response to the diagnosis and surgery in breast cancer patients	Markovitz et al. (2015)	Quantitative	The presence of resilience may offer a degree of safeguarding against the experience of emotional distress among individuals diagnosed with cancer. The results of our study indicate that resilience could potentially be considered as a trait that exhibits stability and is not susceptible to the influence of adverse circumstances.	Antecedent
43.	Symptom Distress and Coping in Young Korean Breast Cancer Survivors: The Mediating Effects of Social Support and Resilience	Lee and Kim (2018)	Quantitative	The development and availability of intervention methods that reinforce resilience and offer social support can be beneficial in improving the coping mechanisms of young breast cancer survivors who frequently experience distress.	Antecedents Attributes
44.	Resilience Among Breast Cancer Survivors of Different Sexual Orientations	Bazzi et al. (2018)	Quantitative	The results of this study indicate that interventions aimed at enhancing the quality of life and well-being of cancer survivors from various backgrounds could potentially utilize social support and other resilience-related factors.	Attributes Consequences
45.	Post-traumatic growth in breast cancer survivors: New insights into its relationships with well-being and distress	Ruini et al. (2013)	Quantitative	The levels of post-traumatic growth were found to be higher among survivors of breast cancer, and this was observed to be linked with a reduction in psychological distress and an increase in resilience.	Antecedent Consequences

Table 1. Continued

No.	Title	Author/Year	Methodology	The study's contribution to the concept analysis	Contribution
46.	Empirical analysis of post-Traumatic growth status and influencing factors for breast cancer inpatients base on post-traumatic growth inventory	Fang et al. (2017)	Quantitative	The results of the correlation analysis indicate that there is a statistically significant positive correlation (P<0.01; P<0.05) between the post-traumatic growth (PTG) experienced by breast cancer patients and their levels of self-management efficacy and resilience.	Consequences
47.	The mediating and moderating roles of resilience in the relationship between anxiety, depression, and post-traumatic growth among breast cancer patients based on structural equation modeling: An observational study.	Li et al. (2020)	Quantitative	The study found that there were significant correlations between resilience and anxiety, depression, and post-traumatic growth (all with a P-value of less than 0.01).	Attributes Consequences
48.	Breast cancer: a manual for a proposed group treatment integrating evidence-based resilience factors	Friborg et al. (2005)	Quantitative	The treatment objectives for breast cancer patients with regards to their psychological resilience involve facilitating the acquisition of novel coping mechanisms to alleviate stress, augmenting their personal and social aptitude, and promoting the utilization of existing social support systems. Additionally, the goals include improving family cohesion, fostering optimism and enhancing the quality of life. Furthermore, the treatment aims to assist patients in developing new values and priorities that align with their present and future life circumstances.	Antecedent Attributes Consequences
49.	Psychological resilience of women after breast cancer surgery: a cross-sectional study of associated influencing factors	Huang et al. (2019)	Quantitative	The positive impact of physical exercise of moderate intensity, self-efficacy, family hardiness, and social support on the promotion of disease rehabilitation and improvement of quality of life is well-established. Specifically, these factors have been found to have a positive effect on PR.	Attributes Consequences
50.	The Relationship between Resilience with Self- Compassion, Social Support and Sense of Belonging in Women with Breast Cancer	Alizadeh et al. (2018)	Quantitative	The present study elucidated the impact of self-compassion, social support, and sense of belonging on the resilience of Iranian women diagnosed with breast cancer.	Attributes

Table 1. Continued

No.	Title	Author/Year	Methodology	The study's contribution to the concept analysis	Contribution
51.	Quality of life and personal resilience in the first two years after breast cancer diagnosis: systematic integrative review	Edward et al. (2019)	Review	Several factors were found to predict higher levels of quality of life and personal resilience, including younger age, disease progression at initial presentation, personality traits such as optimism, and various moderating factors such as social support, clinical interventions, and the development of self-management skills.	Attributes Consequences
52.	"He would never let me just give up": Communicatively Constructing Dyadic Resilience in the Experience of Breast Cancer	Lillie et al. (2018)	Qualitative	The findings indicate that the communication between couples has a dual effect on resilience, as it can both facilitate and impede it.	Attributes
53.	Mediator Roles of Social Support and Hope in the Relationship Between Body Image Distress and Resilience in Breast Cancer Patients Undergoing Treatment: A Modeling Analysis	Hsu et al. (2021)	Quantitative	The study found that social support played a partially mediating role in the association between body image distress and resilience.	Attributes Antecedent