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Psychosocial Correlates of Women with Breast Cancer during Chemotherapy: A Scoping Review

Correlatos psicosociales de mujeres con cáncer de mama durante la quimioterapia: una revisión exploratoria

Ana S. Santos^{1,*}, Isabel Silva¹¹Faculty of Human and Social Sciences, Fernando Pessoa University. Porto, Portugal.**Abstract.**

Introduction. Treatments for breast cancer (BC) cause changes in the lives of these women and their psychological state and quality of life (QoL) can be affected at several levels. **Objective.** To synthesize the current knowledge about how QoL, social support (SS), resilient coping, spirituality, and positive and negative affect (PANA) behave during the experience of BC and chemotherapy (CT). **Methodology.** For this scoping review, the PRISMA ScR guidelines were followed, it was used B-On, and studies between 2016 and 2021 were discriminated. 120 articles were obtained, and 14 cross-sectional and retrospective studies were included for review, since the others did not assess at least one of the variables of interest, as they were literature reviews, included metastatic or advanced cancer, and had as participants the significant others of women with BC. **Results.** BC and CT have a significant positive impact on SS, spirituality and resilience and a significant negative impact on QoL and PANA. Spirituality and SS showed to be important coping strategies used by women with BC. There seems to be a positive correlation between most variables, except for negative affect. **Discussion/Conclusions.** These psychosocial variables that seem to be affected by cancer and its treatments should be considered by the health team. Psychological interventions that focus on the needs and resources of these women should be developed, namely group interventions and Positive Psychology-based interventions.

Resumen.

Introducción. Los tratamientos para el cáncer de mama (CM) provocan cambios en la vida de estas mujeres, y su estado psicológico y calidad de vida (CdV) pueden verse afectados a varios niveles. **Objetivo.** Sintetizar el conocimiento actual sobre cómo se comportan la CdV, el apoyo social (AS), el afrontamiento resiliente, la espiritualidad y el afecto positivo y negativo (APAN) durante la experiencia de CM y quimioterapia (QT). **Metodología.** Para esta revisión de alcance, se siguieron las directrices PRISMA ScR, se utilizó B-On y se discriminaron los estudios entre 2016-2021. Se obtuvieron 120 artículos, y se incluyeron 14 estudios transversales y retrospectivos para su revisión, ya que los demás no evaluaban al menos una de las variables de interés, eran revisiones bibliográficas, incluían cáncer metastásico o avanzado y tenían como participantes a las personas significativas de mujeres con CM. **Resultados.** El CM y la QT tienen un impacto positivo significativo en el AS, la espiritualidad y la resiliencia y un impacto negativo significativo en la CdV y el APAN. La espiritualidad y el AS mostraron ser importantes estrategias de afrontamiento utilizadas por las mujeres con CM. Parece haber una correlación positiva entre la mayoría de las variables, excepto el afecto negativo. **Conclusiones.** Estas variables psicosociales que parecen verse afectadas por el cáncer y sus tratamientos deben ser consideradas por el equipo sanitario. Deben desarrollarse intervenciones psicológicas que se centren en las necesidades y recursos de estas mujeres, concretamente intervenciones grupales e intervenciones basadas en la Psicología Positiva.

Keywords.

Breast Cancer; Chemotherapy; Well-Being; Quality of Life; Coping.

Palabras Clave.

Cáncer de mama; Quimioterapia; Bienestar; Calidad de vida; Afrontamiento.

1. Introduction

Breast cancer (BC) was estimated to be the most prevalent cancer in women in 2019 (American Cancer Society, 2019). By 2030, it is estimated that the prevalence of different types of cancer will increase to more than 22.1 million because of population's aging (American Cancer Society, 2019).

BC is, therefore, one of the scariest cancers to women (Elsheshtawy et al., 2014) that includes several consequences (e.g., emotional consequences, genetic risk, prognostic, daily changes, etc.) that can impact their quality of life (QoL) (Lôbo et al., 2014). According to Kreitler (2019), medical treatments for cancer have frequently shown association with deterioration on QoL. Some authors have pointed out that it is mainly chemotherapy (CT) that causes symptoms that negatively affect QoL (Chagani et al., 2016; Ganz et al., 2002). When associated with an illness or with health perceptions, QoL is normally named as "Health-Related QoL" (HR-QoL; Binotto et al., 2020) and that can be defined as a "broad and multidimensional sense of personal well-being, particularly as it relates to one's health" (p. 60) and includes physical health, mental health, social health, life satisfaction/beliefs, and environment aspects (e.g., safety, access to services, etc.) (Krahn et al., 2014). As such, HR-QoL reflects the adaptation of an individual to a deficit or to chronic conditions, also including the medical assistance received (Vinnikov et al., 2021). Some studies show that the HR-QoL of women with BC can be influenced by several dimensions. Namely, resilience, social support (SS), spirituality, positive affect (PA), and negative affect (NA) (Panzini et al., 2017; Vilhena et al., 2014; Zhou et al., 2022).

According to Sena et al. (2021), spirituality is an individual, dynamic characteristic that is expressed through practices and beliefs leading to meaning, personal growth, positive feelings, and values. According to Amaro (2013), spirituality helps in experiences of illness and treatments as a protection mechanism, giving balance and increasing strength to live.

Focusing on resilient coping, it can be defined as the resources and skills that people use in adverse circumstances and that allow adaptation, learning, and transformation (Parsons et al., 2016). Resilience plays an important role for cancer patients, since it provides some protection against the negative impact and effects of the diagnosis and treatments (Seiler & Jenewein, 2019). Furthermore, a good coping system in cancer patients during CT improves resilience (Nuwa et al., 2018) and reduces its negative effects (Watkins et al., 2017).

Positive and negative affect is the emotional component of subjective well-being (Galinha & Pais-Ribeiro, 2005). NA refers to the degree to which an individual experiences negative emotional states (e.g., sadness, fear, anger, etc.); PA represents the degree to which one

has positive states (e.g., interest, joy, confidence, etc.) (Watson, 2016). According to Louro et al. (2015), cancer patients going through psychological distress demonstrate NA states with anger, sadness, and worry. Paris et al. (2014) concluded that having BC does not increase NA; however, it decreases PA when receiving treatments such as CT or radiotherapy (RT).

Regarding SS, it can be defined as the understanding of availability of external assistance from family members and significant others (Mokhtari et al., 2022; Zamanian et al., 2021). According to Adam and Koranteng (2020), the way patients respond to diagnosis and treatments is highly related to the SS they receive, since it is a period that causes high stress, anxiety, and sadness. Additionally, it was demonstrated that women with moderate or high levels of perceived SS showed lower levels of CT-related symptoms (e.g., pain, insomnia, nausea, etc.) (Oh et al., 2020).

All these dimensions mentioned can be affected by the trajectory of BC, that involves how women handle the experiences of diagnosis and of treatments (Knobf, 2015).

Based on the above, it becomes evident the necessity of comprehending how these variables behave during BC, specifically during CT, in order to better comprehend the patients' psychological state and to choose the intervention that best attends their needs. As such, the present scoping review aims to synthesize the current knowledge about how these psychosocial dimensions, such as QoL, SS, resilient coping, spirituality, positive and negative affect behave during the experience of BC and their treatments, specifically CT.

2. Method

ng review follows the guidelines of PRISMA for Scoping Reviews (Tricco et al., 2018). To attend all the components identified, it was created the following research question: What do we know about the QoL, spirituality, SS, resilient coping, PA, and NA of women with BC during the trajectory of the illness?

2.1 Study search method

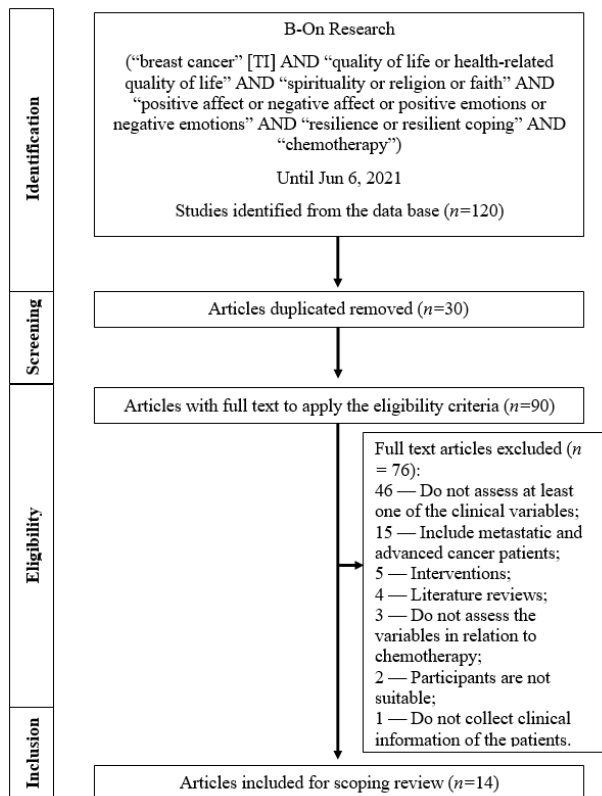
As a research method the electronic database *Biblioteca do Conhecimento Online* (B-On) was consulted. It was decided to use only this database, since B-On comprises: the major publishers of international scientific journals (i.e., Annual Reviews, Coimbra University Press, Elsevier, Springer, Taylor & Francis, Wiley); full-text databases (i.e., EBSCO, Cinahl Plus, MedicLatina, Medline, Psychology & Behavioral Science); and bibliographic reference databases (i.e., Current Contents [ISI], ERIC, Web of Science). The research procedure was as follows: it was selected the advanced search, and it was entered the following Boolean expression: ("breast cancer"[TI] AND "quality of life or health-related quality of life" AND "spirituality or religion or faith" AND "pos-

itive affect or negative affect or positive emotions or negative emotions” AND “resilience or resilient coping” AND “chemotherapy”). Only for the descriptor “breast cancer” was selected an optional field for “Title” (TI). Furthermore, the options full text and peer reviewed were selected and it was removed the selection of “apply equivalent subjects”. The date of publication considered was from 2016 to 2021. From this, 120 articles resulted.

The following flow chart describes these phases of studies’ selection (cf. Figure 1):

Figure 1

Flow chart with the phases of studies selection



2.2 Study inclusion criteria

Initially, inclusion and exclusion criteria were defined to guide the search and the selection of primary studies and to increase the results’ precision. The inclusion criteria were full-text publications of the last 5 years in Portuguese, English or Spanish, studies that analysed at least one of the variables defined, studies that had as participants women aged 18 years or more, studies in which participants had a diagnosis of BC and had been or were being submitted to CT, and studies that had as participants BC women and did a retrospective analysis of their experiences during cancer treatments. No restrictions were placed on the study design (i.e., quantitative, qualitative, and mixed methods approach) or definitions of the study.

Studies that did not meet these criteria were excluded, as well as those that were literature reviews or single case studies, analysed the variables concerning other treatments that were not CT, included palliative or metastatic patients, and included cancer survivors to analyse outcomes in survivorship.

2.3 Screening and data extraction

To avoid duplicate results, the publications were verified, which led to the exclusion of 30 duplicate articles. Afterwards, the articles were read in their entirety, considering the eligibility criteria defined and 76 articles were excluded, so 14 articles were selected from this analysis.

The main reasons for exclusion were for not assessing at least one of the clinical variables, assessing the variables concerning the survival phase, being interventional studies, being literature reviews, not assessing the variables in relation to CT, including metastatic or advanced cancer, and having as participants the significant others of women with BC to analyse their experiences.

3. Results

Table 1 shows the articles identified by authors, year, and country.

It can be verified in Table 1 that the articles’ publication date varies between 2016 and 2021, inclusive. In terms of type of study, there were found six quantitative cross-sectional studies, four qualitative cross-sectional studies, and four retrospective studies. All studies had as participants women with BC submitted to CT. However, some studies also included women who had not done CT and did not distinguish the results between them (Lisica et al., 2019; Mishra & Saranath, 2019; Padilla-Ruiz et al., 2019; Sharif & Khanekharab, 2017).

A summary of the relationships between the psychological variables and each study’s results are presented as Supplementary Material (see Table 2) to facilitate understanding about the variable that had the greatest impact on this population.

In addition, by analysing the studies reviewed, it was possible to understand that seems to exist associations between some of the variables analysed, so the association found are briefly presented in Supplementary Table 3.

Beginning with the analyses of the qualitative cross-sectional studies, Momenifar and colleagues (2020) concluded that participants resorted more to spiritual beliefs, practices, and God to seek faith and to be thankful after the diagnosis, which led to spiritual growth and a sense of hope, comfort, and peace that was useful during CT sessions. Regarding SS, women in this study also referred that the support from family and friends was their central need, especially the support from their spouses and children, since it brought them a soothing effect, security, and hope. Furthermore, SS was also crucial for these women in the days of CT (Momenifar et al., 2020).

Table 1

Summary of the Qualitative and Quantitative Articles Analysed

Author, year, country	Type of study and objectives	Participants	Relevant measures	Main results
Hu et al. (2021), China	Qualitative, retrospective study. To explore stress and the coping strategies of BC survivors during cancer diagnosis and treatment.	63 female survivors with a diagnosis of BC and who had completed treatment.	Semi-structured interview: 1. Coping strategies; 2. Spirituality; 3. SS.	The measures taken by the participants were improve cognition about the disease, face treatment positively, develop hobbies (i.e., traveling, listening to music, planting), and have beliefs (improving mood through faith). The social and family lives of these women changed after the diagnosis. Participants referred the importance of the relatives, friends, and neighbours' support. Women referred their wish to share experiences and strategies used during CT (e.g., with alopecia, etc.) with other patients.
Momenifar et al. (2020), Iran	Qualitative, descriptive and cross-sectional study. To investigate the spiritual experiences of BC patients.	20 women diagnosed with BC for at least one year and with history of at least one of the usual treatments (surgery, CT, RT).	Semi-structured interview: 1. Spirituality; 2. SS; 3. Coping.	BC increased the participants' faith in God and led to spiritual growth. Participants resorted more to God to seek faith and to be thankful. Spiritual beliefs and practices allowed a sense of hope, comfort, and peace during the difficult times of illness, namely CT. Participants referred that the support's perception from family and friends was their central need and referred that they received special support in the days of CT. Support from their spouses and children had a soothing
Medeiros et al. (2019), Brazil	Qualitative, descriptive, and cross-sectional study. To analyse the perception of women with BC on undergoing CT.	20 women with BC submitted to adjuvant or neoadjuvant CT.	1. Spirituality;	Spirituality has an important role because the experience of BC prompted these women to search for the meaning of their being and life, and made women think more about transcendence.

<p>Huang et al. (2019), China</p>	<p>Quantitative, cross-sectional study. To explore the level of psychological resilience of BC women and study the factors that contribute to psychological resilience.</p>	<p>208 women diagnosed with BC submitted to at least two cycles of CT or other adjuvant therapies.</p>	<p>1. Psychological resilience: Common-Davidson Resilience Scale (CD-RISC); 2. SS: Social Support Rate Scale (SSRS).</p>	<p>The psychological resilience of BC women was relatively low. The score for SS was medium (32.17, <i>SD</i> = 4.78). It was verified a positive correlation between resilience and SS and between resilience and QoL. Clinical stage of BC and cycles of adjuvant therapy significantly affected the level of psychological resilience (women with less than three cycles had higher psychological resilience scores than those with three or more).</p>
<p>Padilla-Ruiz et al. (2019), Spain</p>	<p>Quantitative, descriptive, and cross-sectional study. To describe the clinical and sociodemographic factors that correlate with greater resilience in BC survivors.</p>	<p>59 female survivors of BC currently free of cancer (60% received CT).</p>	<p>1. Resilience: CD-RISC.</p>	<p>Going through CT was significantly associated with the resilience scale. For total resilience, the median scores for without CT and with CT were 71 and 79, respectively. The mean of proactive coping was 52.11, which corresponds to a moderate level.</p>
<p>Lisica et al. (2019), Bosnia and Herzegovina</p>	<p>Quantitative, cross-sectional study. To examine the relationship of a measure of psychological resistance and protective factors in women with BC.</p>	<p>100 women diagnosed with BC, during active treatment (65% received CT).</p>	<p>1. Proactive coping: Scale of Proactive Coping.</p>	<p>The mean total for SS was relatively low (46.13, <i>SD</i> = 6.11). The subscale with the highest score from family, friends and significant others was friends' SS.</p>
<p>Mishra & Saranath (2019), India</p>	<p>Quantitative, cross-sectional study. To investigate the association between demographic features and perceived SS during the patients' adjustment to BC.</p>	<p>393 women with early-stage BC who received different forms of adjuvant treatment (58% were on CT).</p>	<p>1. Perceived SS: Multidimensional Scale of Perceived SS.</p>	<p>SS received was often about "distributing the weight of the diagnosis" and about family and friends being there for them in difficult times, namely by taking them to each CT session. SS was also emotional and spiritual support that was given by community networks, where existed connectivity and mutuality. Spiritual support brought peace and comfort.</p>
<p>Flannery et al. (2019), USA</p>	<p>Qualitative, descriptive, and retrospective study. To understand the meaning of SS among women diagnosed with BC. Note: This article is a subsample of a larger mixed study.</p>	<p>47 African American women with BC diagnosed within the past 4 years.</p>	<p>Semi-structured interview: 1. SS; 2. Spirituality.</p>	<p>Spiritual support brought peace and comfort.</p>

<p>Felder et al. (2019), USA</p>	<p>Qualitative, descriptive and cross-sectional study. To explore how BC women conceptualized and experienced support along their BC trajectory.</p>	<p>16 female patients with a BC diagnosis and that received RT or CT.</p>	<p>Semi-structured interview: 1. SS; 2. Spirituality</p>	<p>Women had clear conceptualizations of each person's role and, overall, they expressed that they received overwhelmingly positive support. When the support given was as expected, the support was perceived as positive and helpful. The support given by family and friends came as lack of questioning about treatment decisions, with unquestioning acceptance, and as instrumental support with transportation to the clinical sessions, assistance with daily activities and others. Spiritual support was also mentioned as part of most of the experiences, since clergy was also present in their lives and they connected personally with God. Many women with BC managed to deal with the illness and the treatments largely thanks to the SS they received. All women reported good SS. Available support from their families, friends, neighbours, other patients, spiritual, and health care professionals was crucial to cope with BC and CT. Women reported that spirituality had an important role in emotional support.</p>
<p>Dumrongpanapakorn & Liamputtong (2017), Thailand</p>	<p>Qualitative, cross-sectional study. To comprehend the meanings of BC and the experiences of SS in BC women.</p>	<p>18 women with BC (16 were in CT).</p>	<p>Semi-structured interview: 1. SS; 2. Coping; 3. Spirituality.</p>	<p>Active emotional coping (e.g., search for SS, acceptance, etc.) had the highest mean score (29.669, <i>SD</i> = 6.110), and avoidant emotional coping (e.g., lack of affective involvement, denial, etc.) had the lowest (16.734, <i>SD</i> = 4.467). The QoL total mean score was 108.540 (<i>SD</i> = 19.957). It was found a positive relationship between active coping and QoL and a negative relationship between avoidant coping and QoL.</p>
<p>Sharif & Khanekharab (2017), Malaysia</p>	<p>Quantitative, cross-sectional study. To explore the mediating role of coping strategies in the relationship between QoL and external locus of control among BC patients.</p>	<p>130 Malaysian women diagnosed with BC, after surgery (83 were in CT).</p>	<p>1. Coping strategies: Brief-COPE; 2. QoL: Functional Assessment of Cancer Therapy/Breast.</p>	<p>Active emotional coping (e.g., search for SS, acceptance, etc.) had the highest mean score (29.669, <i>SD</i> = 6.110), and avoidant emotional coping (e.g., lack of affective involvement, denial, etc.) had the lowest (16.734, <i>SD</i> = 4.467). The QoL total mean score was 108.540 (<i>SD</i> = 19.957). It was found a positive relationship between active coping and QoL and a negative relationship between avoidant coping and QoL.</p>

<p>Wu et al. (2016), China</p>	<p>Quantitative, cross-sectional, and descriptive study. To assess the level of resilience and identify predictors of resilience in women recently diagnosed with BC.</p>	<p>213 mainland Chinese women newly diagnosed with BC during scheduled treatment (i.e., CT).</p>	<p>1. Psychological resilience: CD-RISC; 2. SS: SRRS; 3. Coping strategies: Medical Coping Modes Questionnaire.</p>	<p>The average score for psychological resilience was particularly low (60.97, <i>SD</i> = 12.30). The mean score for SS was moderate (43.61, <i>SD</i> = 6.24). It was verified a positive correlation between resilience and SS and between resilience and coping strategies, such as confrontation and avoidance.</p>
<p>Torres et al. (2016), USA</p>	<p>Mixed, retrospective study. To gain an in-depth understanding of BC survivors' experiences, barriers, and facilitators in accessing BC treatment.</p>	<p>32 women with BC who had completed treatment for BC in the last 10 years (20 did CT).</p>	<p>Qualitative approach—semi-structured interview: 1. Coping; 2. SS; 3. QoL; 4. Spirituality.</p>	<p>The coping mechanisms reported by the participants were faith, support networks, positive attitudes, and acts of empowerment. Faith in God was an important coping mechanism and a facilitator during the BC experience. Support systems comprised family, friends, co-workers, and health professionals that provided emotional, spiritual, and informational (about treatments, such as RT and CT, and its side effects) support. QoL concerns were associated with loss of femininity because of the treatments' side effects (RT and CT), which brought challenges in terms of self-consciousness and sexual attractiveness. However, participants reported that it was important for their QoL to continue living their normal lives, by working.</p>
<p>Goldblatt et al. (2016), Israel</p>	<p>Qualitative, retrospective study. To explore types and intensity of negative and positive emotional expressions associated with the BC experience.</p>	<p>20 younger (aged 32–50) and 20 older (aged 51–75) female BC survivors, currently free of disease.</p>	<p>Semi-structured interview: 1. Emotional expressions; 2. Negative and positive emotions; 3. Spirituality</p>	<p>Older participants mentioned substantially less emotional expressions (negative or positive). Younger participants expressed more negative than positive emotions, while the older group expressed the opposite. Women also relied on God and spirituality to diminish distressful emotions. Participants submitted to CT referred a higher number of negative emotions than women who were not.</p>

Note. BC = breast cancer; CT = chemotherapy; RT = radiotherapy; SS = social support; QoL = quality of life

Table 2
Relations between psychosocial variables and results

Study	Quality of life	Social support	Resilient coping	Spirituality	Positive and negative affect
Hu et al. (2021), China	-	The social lives of BC women changed after diagnosis. Extreme importance of SS from family and friends.	Improve cognition about the disease, face treatment positively, develop hobbies, and have beliefs. Women wish to pass on their strategies during treatments to other BC women.	-	-
Momenifar et al. (2020), Iran	-	SS as a crucial need that was received during CT. Especially the support from spouses and children brought them security and hope.	-	After the diagnosis, women sought faith and gratitude, which led to spiritual growth. Spiritual beliefs and practices helped during CT.	-
Medeiros et al. (2019), Brazil	-	-	-	BC made women think about transcendence and search for the meaning of their being and life.	-
Huang et al. (2019), China	-	-	The resilience of BC women was relatively low. The clinical stage of BC and cycles of RT and CT affected the level of psychological resilience (less cycles, more resilience).	-	-
Padilla-Ruiz et al. (2019), Spain	-	-	The median resilience score was relatively high. Doing CT was significantly associated with resilience.	-	-
Lisica et al. (2019), Bosnia and Herzegovina	-	-	Proactive coping in women with BC was moderate.	-	-
Mishra & Saranath (2019), India	-	Women showed a relatively low score of SS. The most common type of support was of friends.	-	-	-
Flannery et al. (2019), USA	-	SS was about dividing the weight of the diagnosis and about emotional, spiritual, and instrumental support (e.g., transportation to CT sessions).	-	Spiritual support brought peace and comfort to these women.	-

<p>Felder et al. (2019), USA</p>	<p>Women received good SS. Women knew the role each person in their lives should have. Support from family and friends was about acceptance and instrumental support.</p>	<p>Spiritual support was also important, since brought them connection and hope.</p>
<p>Dumrongpana-Pakorn & Liamputtong (2017), Thailand</p>	<p>Women referred that they surpassed BC and treatments mainly because of the SS they received. They referred various types of support: from family, friends, other patients, and health professionals.</p>	<p>Spirituality had an important role in terms of emotional support.</p>
<p>Sharif & Khanekharab (2017), Malaysia</p>	<p>The QoL of BC women was moderate.</p>	<p>Active emotional coping (e.g., search for SS, etc.) was the most used.</p>
<p>Wu et al. (2016), China</p>	<p>Psychological resilience was particularly low.</p>	<p>Psychological resilience was particularly low.</p>
<p>Torres et al. (2016), USA</p>	<p>QoL was affected by the loss of their femininity because of the CT's side effects. These brought challenges in self-consciousness and attractiveness. Continuing to live their lives by going to work was important for their QoL.</p>	<p>Women mentioned Faith was an important facilitator during the BC course.</p>
<p>Goldblatt et al. (2016), Israel</p>	<p>Younger women expressed more negative emotions than positive. Women submitted to CT referred a higher number of negative emotions.</p>	<p>Younger women expressed more negative emotions than positive. Women submitted to CT referred a higher number of negative emotions.</p>

Note. BC = breast cancer; SS = social support; PA = positive affect; NA = negative affect; CT = chemotherapy; RT = radiotherapy; QoL = quality of life.

Table 3
Summary of the relationships between variables

	QoL	SS	Resilience	Coping	Spirituality	PA	NA
QoL	–						
SS	Sharif & Khanekharab (2017)	–					
Resilience	Huang et al. (2019)	Huang et al. (2019); Wu et al. (2016)	–				
Coping	Sharif & Khanekharab (2017)	Dumrongpanapakorn & Liamputtong (2017); Hu et al. (2021); Torres et al. (2016)	Wu et al. (2016)	–			
Spirituality	–	Flannery et al. (2019); Momenifar et al. (2020)	–	Dumrongpanapakorn & Liamputtong (2017); Hu et al. (2021); Medeiros et al. (2019); Momenifar et al. (2020); Torres et al. (2016)	–		
PA	–	–	–	–	–	–	–
NA	–	–	–	–	Goldblatt et al. (2016)	–	–

Note. QoL = quality of life; SS = social support; PA = positive affect; NA = negative affect; + = positive association; – = negative association.

From another study reviewed, it was possible to verify that the experience of undergoing CT triggered existential aspects in these women, that made them search for the meaning of life (Medeiros et al., 2019). As such, BC made the participants value spirituality more by thinking about the meaning of their being and transcendence (Medeiros et al., 2019).

Another qualitative study concluded that women had received extremely positive support from the people surrounding them and that they had clear conceptualizations of each person's role, and when they gave the support expected, the support was positive and helpful (Felder et al., 2019). According to the participants of this study, support was good when was about acceptance, lack of questioning about treatment-related decisions and instrumental support, for example, with transportation to clinical sessions, assistance with daily activities, and others. In terms of spirituality, women also mentioned that they started to feel more connected with God and felt closer to clergy (Felder et al., 2019).

The study of Dumrongpanapakorn and Liamputtong (2017) showed again the importance of SS as a coping strategy to deal with cancer, since women referred that they were able to face the illness and the treatments, specifically CT, largely thanks to the SS they received and all of them reported good SS. For these women, SS came from diverse sources, such as relatives, friends, other patients, and health care professionals. Spirituality was also mentioned as having an important role as a coping strategy and in terms of emotional support (Dumrongpanapakorn & Liamputtong, 2017).

Regarding the quantitative cross-sectional studies, Huang and collaborators (2019) evaluated resilience and SS and concluded that women with BC had a moderate level of the two dimensions and that they were positively correlated. Moreover, these authors concluded: women with less than three cycles of adjuvant therapy (RT or CT) had higher psychological resilience scores than those with three to five cycles or more and that resilience promotes better QoL. As such, a higher number of cycles of adjuvant therapy seemed to contribute negatively to psychological resilience. Another study developed a quantitative study about resilience and concluded that the results were relatively high (Padilla-Ruiz et al., 2019). These authors documented that women who received CT demonstrated a higher level of resilience than those who had not and that, of all treatments administered, CT was the one that had the greatest impact in terms of raising the level of resilience.

In the Lisica and colleagues' study (2019), coping was assessed, and women demonstrated a moderate level of proactive coping. Sharif and Khanekharab (2017) used Brief-COPE and their results revealed that the coping strategies most used by women with BC were active-emotional coping strategies and the least used

were avoidant-emotional ones. Furthermore, QoL was also assessed, and it was concluded that women demonstrated a moderate level of QoL during adjuvant treatments, like CT and RT (Sharif & Khanekharab, 2017). These authors also found a positive relationship between active-emotional coping and QoL, a negative relationship between avoidant-emotional coping and QoL, and that SS contributes to better QoL.

Mishra and Saranath (2019) analysed SS and concluded that women demonstrated a relatively low score and that from the diverse sources of SS, the most common one was the one that came from friends. Another quantitative study concluded that women had a low level of psychological resilience and a moderate level of SS and that these two dimensions were positively correlated (Wu et al., 2016). In this study, resilience was also positively correlated with coping strategies like confrontation and avoidance.

Regarding the four retrospective studies included in this review, participants in the study of Hu et al. (2021) used as coping strategies during BC: improving knowledge about cancer, facing treatment in a positive manner, developing hobbies, and having beliefs. In this study, women also mentioned that their social lives changed after the diagnosis and they started to have more support from relatives, friends, and neighbours, which was fundamental. Women also mentioned that they wanted to pass on their experience and to share the strategies they used during CT with other patients (Hu et al., 2021).

According to Flannery and collaborators (2019), the SS received by women with BC was often about dividing the diagnosis' weight and about family and friends being there for them in difficult times: women referred that it was common that significant others offered to take them to each session of CT. These women also mentioned the importance of emotional and spiritual support from community networks, which gave them peace, comfort, and a sense of connectivity (Flannery et al., 2019).

One of these studies had a mixed design and its participants revealed that their concerns regarding QoL were associated with the loss of femininity because of treatments' side effects (Torres et al., 2016). Nevertheless, women stated that it was important for them and for their QoL to continue living their normal lives, by working and doing their daily activities (Torres et al., 2016). This study also assessed coping strategies used by women with BC and some of the strategies mentioned by the participants were faith, SS, positive attitudes, and acts of empowerment. Moreover, all women reported that faith in God was an important facilitator during the BC experience and that support systems included family, friends, co-workers and health professionals that provided emotional, spiritual and informational support, for example, about treatments and its side effects (Torres et al., 2016).

4. Discussion

To synthesize the current knowledge about how these psychosocial dimensions behave during the experience of BC and CT, it was conducted a scoping review on the experiences of women diagnosed with BC submitted to CT, concerning their spirituality, resilience, coping, positive and negative affect, SS, and QoL.

Regarding spirituality, it was verified that women frequently turned to faith, spirituality, and religiosity after the diagnosis and through treatments, namely CT (e.g., Hu et al., 2021). According to Benson et al. (2020), religious coping was the strategy most used by women with BC. This is in line with what Kumar and Parashar (2015) refer to: a cancer diagnosis and its experience exposes a person to the possibility of dying, which increases anxiety and fear of death. Thus, as a human tendency, when hope starts to diminish, they begin to rely on spirituality (Kumar & Parashar, 2015). In the articles reviewed, it was interesting to see that spirituality was given great importance by both individualistic countries (i.e., USA, Brazil) and collectivistic countries (i.e., Iran, China). As such, spirituality seems to give people a sense of meaning that surpasses personal circumstances, social context, and culture and that allows individuals to persist through life challenges (Eckersley, 2007).

In terms of resilience, women submitted to CT showed a higher level of resilience than those who had not (Padilla-Ruiz et al., 2019). These last results are consistent with the conclusion of Rodrigues and Polidori's study (2012), which documented that CT contributes to the improvement of resilience, since it promotes the use of facilitators of resilience development, such as faith, optimism, and SS.

Regarding coping, it was found that women with BC have a moderate level of proactive coping (Lisica et al., 2019) and that the coping strategies most used by them are active-emotional strategies, followed by problem-focused strategies, while the least used are avoidant-emotional strategies (Sharif & Khanekharab, 2017). This is in line with what Benson et al. (2020) reported, which is that women normally use various coping strategies, but the use of active ones has a higher frequency among them. Moreover, in literature, it is referred that the most frequently adopted coping strategies are religious coping, SS seeking, continuing to work, and doing their daily activities, among others (e.g., Benson et al., 2020; Hu et al., 2021).

Regarding SS, most studies analysed reported that women with BC had a moderate level of SS (e.g., Huang et al., 2019; Mishra & Saranath, 2019). Furthermore, there seems to be a consensus that SS received by these women comes from family, friends, co-workers, religious affiliations, other patients, and health professionals (e.g., Flannery et al., 2019; Hu et al., 2021; Torres et al., 2016).

Focusing on affect, only one study assessed the positive and negative affect of women in treatment, women in survivorship and healthy women. These authors con-

cluded that the scores of PA were high, while the scores of NA were low, with the group of women in treatment having the lowest scores for both types of affect (Paris et al., 2014). According to the authors, this suggests that despite having an illness that does not increase NA, but rather reduces PA while receiving treatments such as RT or CT (Paris et al., 2014).

Contrary to what happened with affect, more articles were found on QoL. It was found that women demonstrated moderate levels of QoL during and after adjuvant treatments (i.e., RT and CT) (Sharif & Khanekharab, 2017). In other literature, the results found are diverse with women demonstrating moderate levels of QoL during treatment (Lôbo et al., 2014), as well as during treatment and in survivorship (Zhang et al., 2017).

Additionally, there seems to exist a consensus about the major concerns regarding QoL, with many quantitative and qualitative studies referring treatments' side effects, the perception of femininity's loss, and the impact on self-esteem (e.g., Lôbo et al., 2014; Medeiros et al., 2019; Torres et al., 2016). As such, cancer treatments have diverse consequences on women, which may explain the tendency to have a worse QoL during this phase.

Regarding the relationships between the psychosocial variables, the studies reviewed addressed some of them. Goldblatt et al. (2016) concluded that women relied on God and spirituality to diminish distressful emotions. Spiritual support was also frequently mentioned as a form of SS, that derived from family and significant others that shared the same spiritual beliefs and from the clergy (Felder et al., 2019; Flannery et al., 2019; Momenifar et al., 2020; Torres et al., 2016). Concerning SS, two studies found a positive correlation between resilience and SS (Huang et al., 2019; Wu et al., 2016). SS and spirituality were frequently mentioned as coping strategies used by women with BC. Spirituality was frequently mentioned as having beliefs and faith, which helped women deal with the challenges and the cancer's experience (Dumrongpanapakorn & Liangputtong, 2017; Hu et al., 2021; Medeiros et al., 2019; Momenifar et al., 2020; Torres et al., 2016). Also, in relation to coping, it was documented that resilience was positively correlated to some coping strategies, such as confrontation and avoidance (Wu et al., 2016). Finally, regarding QoL, resilience promotes QoL (Huang et al., 2019): it was confirmed a positive relationship between active-emotional coping and QoL and a negative relationship between avoidant-emotional coping and QoL (Sharif & Khanekharab, 2017); SS was a significant factor in determining the QoL of women (Sharif & Khanekharab, 2017).

These studies provide information about how women coped with BC and its treatments, namely CT, and how some psychosocial dimensions varied during the same period, which can give hints to health professionals, especially psychologists, on how to intervene with this

population. Given that spirituality and SS showed to be very important to women with BC to face the most difficult times, it is suggested that psychosocial interventions consider these two coping strategies in order to help women mobilize them. Furthermore, the support received from other patients was also referred in the studies analysed as important for these women, which can indicate that they may benefit from group psychological interventions, allowing them to share experiences and coping strategies. In terms of PA, NA, and QoL, they showed to be affected by BC and CT, which reveals the importance of psychological interventions that aim these dimensions, in order to enhance them. As such, for example, Positive Psychology-based interventions can be administered to improve PA, well-being, resilience, and spiritual well-being.

Now, all these conclusions can be integrated in the model of adjustment to chronic illness by Stanton et al. (2001), that refers that adjustment is normally defined considering the presence or absence of psychological symptoms, diagnosed psychological disorder, PA, and perceived personal growth. As such, this adjustment to illness depends on various factors, namely (Stanton et al., 2001): personal context (e.g., personality characteristics), disease and treatment context (e.g., disease course, prognosis, etc.), environmental and interpersonal context (e.g., SS), and coping processes. Therefore, health professionals should include and address all these aspects in their clinical practice, to enhance general adjustment to illness and related outcomes, such as QoL and well-being. Specially psychologists should try to address these issues with patients and with other health professionals, as members of a multidisciplinary team, for them to also pay more attention to these issues.

In terms of limitations of this review, as it was possible to verify, these articles are very divergent concerning the study design, the sample size, the variables assessed and the psychometric instruments used, which can make it difficult to compare results and understand whether there is uniformity in the conclusions or not. Furthermore, most studies have a cross-sectional design and some studies did not control other psychological and clinical variables.

It is suggested for future reviews the analysis of these psychosocial correlates in women with BC, with more detailed attention to the implications of the clinical variables on them (e.g., time of diagnosis, disease stage). Additionally, it could also be interesting to develop a systematic literature review considering only metastases or recurrences in women with BC.

Additionally, it is important to note that the number of studies included and that assessed the same variable is small, which does not allow us to consider these results as generalisations to all BC women going through CT. Furthermore, attention is also drawn to the impor-

tance of considering the role that cultural differences can have in the needs of women going through BC and its treatments, specifically CT. Therefore, it is also suggested that each country develops studies that analyse these variables in order to see if they behave the same way and to adapt the psychological interventions.

5. Conclusions

This scoping review summarizes the knowledge about how psychosocial dimensions, like QoL, positive and negative affect, SS, resilience, and coping, behave during BC and its treatments, specifically during CT.

We can derive some conclusions from the studies reviewed. SS and spiritual well-being seem to be reinforced after the BC diagnosis and during CT, since significant others feel the need to be close to the patients during the cancer trajectory for help and patients start to value and resort to spirituality more. Resilience also seems to be a dimension that improves after the submission to CT. QoL and PA decline and NA increases because of the diagnosis and CT's side effects. There were also documented various relationships among the variables, that show that they influence each other, some positively, for instance resilience and SS contribute in a positive manner to QoL; others, negatively, for example, the negative correlation of NA with spirituality.

From this, it is evident the importance of comprehending these psychosocial dimensions in cancer patients to better comprehend their psychological state and to choose the intervention that best attends their needs. Furthermore, given the results obtained, interventions that value and enhance the resources that these women already have are suggested, so that the focus is not only on deficits and psychopathology, but also in resources and in health assets. As such, it is suggested: group interventions to promote the sharing of experiences between patients; psychological interventions focused on the improvement of QoL, NA, and adaptive coping; and psychological interventions based on Positive Psychology to enhance resilience, PA, and spirituality.

Lastly, it seems important to continue to deepen knowledge in these areas to better understand the experiences of women with BC and the clinical and psychosocial characteristics associated with better QoL and other psychosocial correlates, and to better correspond to their needs in terms of psychological interventions.

References

- Adam, A., & Koranteng, F. (2020). Availability, accessibility, and impact of social support on breast cancer treatment among breast cancer patients in Kumasi, Ghana: A qualitative study. *PLOS ONE*, *15*(4), e0231691. <https://doi.org/10.1371/journal.pone.0231691>

- Amaro, L. S. (2013). Resiliência em pacientes com câncer de mama: O sentido da vida como mecanismo de proteção. *Logos & Existência*, 2(2), 147–161
- American Cancer Society. (2019). *Cancer treatment & survivorship facts & figures 2019–2020*. American Cancer Society.
- Benson, R. B., Cobbold, B., Boamah, E. O., Akuoko, C. P., & Boateng, D. (2020). Challenges, coping strategies, and social support among breast cancer patients in Ghana. *Advances in Public Health*, 2020, 1–11. <https://doi.org/10.1155/2020/4817932>
- Binotto, M., Reinert, T., Werutsky, G., Zaffaroni, F., & Schwartzmann, G. (2020). Health-related quality of life before and during chemotherapy in patients with early-stage breast cancer. *E-cancer*, 14, 1007. <https://dx.doi.org/10.3332/2Fecancer.2020.1007>
- Chagani, P., Parpio, Y., Gul, R., & Jabbar, A. A. (2016). Quality of life and its determinants in adult cancer patients undergoing chemotherapy treatment in Pakistan. *Asian-Pacific Journal of Oncology Nursing*, 4(2), 140–146. <https://doi.org/10.4103/2347-5625.204499>
- Dumrongpanapakorn, P., & Liamputtong, P. (2017). Social support and coping means: The lived experiences of Northeastern Thai women with breast cancer. *Health Promotion International*, 32(5), 768–777. <https://doi.org/10.1093/heapro/dav023>
- Eckersley, R. M. (2007). Culture, spirituality, religion and health: Looking at the big picture. *The Medical Journal of Australia*, 186(Suppl. 10), 54–56. <https://doi.org/10.5694/j.1326-5377.2007.tb01042.x>
- Elsheshtawy, E. A., Abo-Elez, W. F., Ashour, H. S., Farouk, O., & Zaaferany, M. I. (2014). Coping strategies in Egyptian ladies with breast cancer. *Breast Cancer: Basic and Clinical Research*, 8, 97–102. <https://doi.org/10.4137/BCBCR.S14755>
- Felder, T. M., Estrada, R. D., Quinn, J. C., Phelps, K. W., Parker, P. D., & Heiney, S. P. (2019). Expectations and reality: Perceptions of support among African American breast cancer survivors. *Ethnicity & Health*, 24(7), 737–753. <https://doi.org/10.1080/13557858.2017.1373072>
- Flannery, I. M., Yoo, G. J., & Levine, E. G. (2019). Keeping us all whole: Acknowledging the agency of African American breast cancer survivors and their systems of social support. *Supportive Care in Cancer*, 27(7), 2625–2632. <https://doi.org/10.1007/s00520-018-4538-x>
- Galinha, I. C., & Pais-Ribeiro, J. L. (2005). Contribuição para o estudo da versão portuguesa da Positive and Negative Affect Schedule (PANAS): I - Abordagem teórica ao conceito de afecto. *Análise Psicológica*, 23(2), 209–218. <https://doi.org/10.14417/ap.83>
- Ganz, P. A., Desmond, K. A., Leedham, B., Rowland, J. H., Meyerowitz, B. E., & Belin, T. R. (2002). Quality of life in long-term, disease-free survivors of breast cancer: A follow-up study. *Journal of the National Cancer Institute*, 94(1), 39–49. <https://doi.org/10.1093/jnci/94.1.39>
- Goldblatt, H., Cohen, M., & Azaiza, F. (2016). Expression of emotions related to the experience of cancer in younger and older Arab breast cancer survivors. *Ethnicity & Health*, 21(6), 564–577. <https://doi.org/10.1080/13557858.2016.1143089>
- Hu, R., Wang, J., Chen, W., Zhao, J., Shao, C., Wang, J., Wei, X., & Yu, J. (2021). Stress, coping strategies and expectations among breast cancer survivors in China: A qualitative study. *BMC Psychology*, 9(1), 26. <https://doi.org/10.1186/s40359-021-00515-8>
- 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>
- Knobf, T. (2015). Breast Cancer. In J. C. Holland, W. S. Breitbart, P. N. Butow, P. B., M. J. Jacobsen, & R. McCorkle (Eds.), *Psycho-Oncology* (3rd ed., pp. 134–138). Oxford.
- Krahn, G. L., Homer-Johnson, W., Hall, T. A., Roid, G. H., Andresen, E. M., Fujiura, G. T., Nosek, M. A., Cardinal, B. J., Drum, C. E., Suzuki, R., & Peterson, J. J. (2014). Development and psychometric assessment of the function-neutral health-related quality of life measure. *American Journal of Physical Medicine & Rehabilitation*, 93(1), 56–74. <https://doi.org/10.1097/PHM.0b013e3182a517e6>
- Kreitler, S. (2019). *Psycho-Oncology for the clinician: The patient behind the disease*. Springer.
- Kumar, C. R., & Parashar, N. (2015). Death anxiety, coping and spirituality among cancer patients. *Indian Journal of Positive Psychology*, 6(3), 291–294.
- Lisica, D., Kolenović-Dapo, J., Dubur, A., Abdulahović, D., & Ejubović, M. (2019). The relationship between protective factors and a measure of psychological resistance in women diagnosed with breast cancer. *Medicinski Glasnik*, 16(2), 317–322. <https://doi.org/10.17392/1034-19>
- Lôbo, S. A., Fernandes, A. F., Almeida, P. C., Carvalho, C. M., & Sawada, N. O. (2014). Qualidade de vida em mulheres com neoplasias de mama em quimioterapia. *Acta Paulista de Enfermagem*,

- 27(6), 554–559. <https://doi.org/10.1590/1982-0194201400090>
- Louro, A. C., Blasco, T., & Fernández-Castro, J. (2015). Is there a relationship between positive affect and other dimensions of quality of life in colorectal cancer patients? *Anales de Psicología*, 31(2), 404–413. <https://doi.org/10.6018/analesps.31.2.160331>
- Medeiros, M. B., Silva, R. M., Pereira, E. R., Melo, S. H., Joaquim, F. L., Santos, B. M., & Goés, T. R. (2019). Perception of women with breast cancer undergoing chemotherapy: A comprehensive analysis. *Revista Brasileira de Enfermagem*, 72(Suppl. 3), 110–117. <https://doi.org/10.1590/0034-7167-2018-0165>
- Mishra, V. S., & Saranath, D. (2019). Association between demographic features and perceived social support in the mental adjustment to breast cancer. *Psycho-Oncology*, 28(3), 629–634. <https://doi.org/10.1002/pon.5001>
- Mokhtari, L., Markani, A. K., Khalkhali, H. R., & Feizi, A. (2022). The perceived social support by Iranian women with breast cancer: A qualitative study. *Supportive Care in Cancer*, 30, 941–949. <https://doi.org/10.1007/s00520-021-06478-1>
- Momenifar, S., Asgarabad, M. H., & Abbasi, M. (2020). Explanation of the spiritual experiences of breast cancer patients: A hermeneutic phenomenological study. *Health, Spirituality and Medical Ethics*, 7(2), 9–19. <https://doi.org/10.29252/jhsme.7.2.9>
- Nuwa, M. S., Kusnanto, & Utami, S. (2018). The influence of age and coping mechanism on the resilience of cancer patients undergo chemotherapy. In *Proceedings of the 9th International Nursing Conference* (pp. 28–36). Universitas Airlangga.
- Oh, G. H., Yeom, C., Shim, E., Jung, D., Lee, K., Son, K., Kim, W., Moon, J. Y., Jung, S., Kim, T., Im, S., Lee, K., & Hahm, B. (2020). The effect of perceived social support on chemotherapy-related symptoms in patients with breast cancer: A prospective observational study. *Journal of Psychosomatic Research*, 30. <https://doi.org/10.1016/j.jpsychores.2019.109911>
- Padilla-Ruiz, M., Ruiz-Román, C., Pérez-Ruiz, E., Rueda, A., Redondo, M., & Rivas-Ruiz, F. (2019). Clinical and sociodemographic factors that may influence the resilience of women surviving breast cancer: Cross-sectional study. *Supportive Care in Cancer*, 27(4), 1279–1286. <https://doi.org/10.1007/s00520-018-4612-4>
- Panzini, R. G., Mosqueiro, B. P., Zimpel, R. R., Bandedeira, D. R., Rocha, N. S., & Fleck, M. P. (2017). Quality-of-life and spirituality. *International Review of Psychiatry*, 29(3), 263–282. <https://doi.org/10.1080/09540261.2017.1285553>
- Paris, A. R., Camacho, S. P., & Alcedo, J. M. (2014). Esperanza, bienestar subjetivo y psicológico en pacientes en tratamiento y sobrevivientes al cáncer de mama. *Revista Latinoamericana de Psicología Positiva*, 2, 33–45.
- Parsons, M., Glavac, S., Hastings, P., Marshall, G., McGregor, J., McNeill, J., Morley, P., Reeve, I., & Stayner, R. (2016). Top-down assessment of disaster resilience: A conceptual framework using coping and adaptive capacities. *International Journal of Disaster Risk Reduction*, 19, 1–11. <https://doi.org/10.1016/j.ijdrr.2016.07.005>
- Rodrigues, F. S., & Polidori, M. M. (2012). Enfrentamento e resiliência de pacientes em tratamento quimioterápico e seus familiares. *Revista Brasileira de Cancerologia*, 58(4), 619–627. <https://doi.org/10.32635/2176-9745.RBC.2012v58n4.564>
- Seiler, A., & Jenewein, J. (2019). Resilience in cancer patients. *Frontiers in Psychiatry*, 10(208). <https://doi.org/10.3389/fpsy.2019.00208>
- Sena, M. A., Damiano, R. F., Lucchetti, G., & Peres, M. F. (2021). Defining spirituality in healthcare: A systematic review and conceptual framework. *Frontiers in Psychology*, 12, 1–11. <https://doi.org/10.3389/fpsyg.2021.756080>
- Sharif, S. P., & Khanekharab, J. (2017). External locus of control and quality of life among Malaysian breast cancer patients: The mediating role of coping strategies. *Journal of Psychosocial Oncology*, 35(6), 706–725. <https://doi.org/10.1080/07347332.2017.1308984>
- Stanton, A. L., Collins, C. A., & Sworowski, L. (2001). Adjustment to chronic illness: Theory and research. In A. Baum, T. A. Revenson, & J. E. Singer (Eds.), *Handbook of health psychology* (pp. 387–404). Lawrence Erlbaum
- Torres, E., Dixon, C., & Richman, A. R. (2016). Understanding the breast cancer experience of survivors: A qualitative study of African American women in rural Eastern North Carolina. *Journal of Cancer Education*, 31(1), 198–206. <https://doi.org/10.1007/s13187-015-0833-0>
- Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garrity, C., & Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine*, 169(7), 467–473. <https://doi.org/10.7326/M18-0850>
- Vilhena, E., Pais-Ribeiro, J., Silva, I., Pedro, L., Menezes, R. F., Cardoso, H., Silva, A. M., & Mendonça, D. (2014). Psychosocial factors as predictors of quality of life in chronic portuguese

- patients. *Health and Quality of Life Outcomes*, *12*(3). <https://doi.org/10.1186/1477-7525-12-3>
- Vinnikov, D., Raushanova, A., Romanova, Z., & Tulekov, Z. (2021). Health-related quality of life in a general population sample in kazakhstan and its sociodemographic and occupational determinants. *Health and Quality of Life Outcomes*, *19*(199). <https://doi.org/10.1186/s12955-021-01843-4>
- Watkins, C. C., Kanu, I. K., Hamilton, J. B., Kozachik, S. L., & Gaston-Johansson, F. (2017). Differences in coping among African American women with breast cancer and triple-negative breast cancer. *Oncology Nursing Forum*, *44*(6), 689–702. <https://doi.org/10.1188/17.ONF.689-702>
- Watson, D. (2016). Positive affectivity: The disposition to experience pleasurable emotional states. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 106–119). Oxford University Press.
- 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>
- Zamaniah, H., Amini-Tehrani, M., Jalali, Z., Daryaafzoon, M., Ramezani, F., Malek, N., Adabimohazab, M., Hozouri, R., & Taghanaky, F. R. (2021). Stigma and quality of life in women with breast cancer: Mediation and moderation model of social support, sense of coherence, and coping strategies. *Frontiers in Psychology*, *13*, Article 657992. <https://doi.org/10.3389/fpsyg.2022.657992>
- 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*, *23*, 5969–5979. <https://doi.org/10.12659/MSM.907730>
- Zhou, K., Ning, F., Wang, X., Wang, W., Han, D., & Li, X. (2022). Perceived social support and coping style as mediators between resilience and health-related quality of life in women newly diagnosed with breast cancer: A cross-sectional study. *BMC Women's Health*, *22*(198). <https://doi.org/10.1186/s12905-022-01783-1>