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Influence of Self-efficacy on Uncertainty and Quality of Life of Women with Breast Cancer. Integrative Review

Influencia de la autoeficacia en la incertidumbre y la calidad de vida de mujeres con cáncer de mama. Revisión integrativa

Influência da autoeficácia na incerteza e na qualidade de vida de mulheres com câncer de mama. Revisão integrativa

Rosa Pastuña-Doicela[1], *ORCID 0000-0003-2008-7855*
Olivia Sanhueza-Alvarado [2], *ORCID 0000-0002-0184-8957*

[1]*Universidad Central del Ecuador*

[2]*Universidad de Concepción, Chile*

Abstract: Introduction: Breast cancer is a very aggressive disease that negatively impacts quality of life, due to multiple physical, psychological, and aesthetic changes, constant uncertainty and fear of death, which deteriorate self-esteem, self-management capacity, emotions, self-efficacy and sense of hope of affected women. Objective: To determine the influence of self-efficacy in the uncertainty and in the quality of life of women with breast cancer. Materials and Method: A review of the scientific literature was carried out in the main databases, from 2015 to 2020, of full-text articles, using the following descriptors: "breast cancer" "uncertainty" quality of life "and "Self-efficacy", following the guidelines established by the Cochrane Manual and the PRISMA report. Results: Twenty articles that met the inclusion criteria were selected. The following categories addressed in the research are presented as findings: "Deterioration of the quality of life of women due to breast cancer"; "Uncertainty as a psychological stressor that affects quality of life" and "Self-efficacy as a facilitative factor for well-being and coping". Conclusions: Uncertainty emerged as a psychological stressor that deteriorates the integral well-being of the affected women, since it negatively influences the psychological, social and physical domains of quality of life. A positive association between self-efficacy with well-being and coping strategies was identified among women with breast cancer, since self-efficacy reduces the perception of ambiguity and uncertainty.

Keywords: self-efficacy; uncertainty; quality of life; breast cancer.

Resumen: Introducción: El cáncer de mama es una enfermedad muy agresiva que impacta negativamente en la calidad de vida, debido a los múltiples cambios físicos, psicológicos, estéticos, una constante incertidumbre y el temor a la muerte, que deterioran la autoestima, la capacidad de autogestión, las emociones, la autoeficacia y la esperanza de las mujeres afectadas. Objetivo: Determinar la influencia de la autoeficacia en la incertidumbre y en la calidad de vida de las mujeres con cáncer de mama. Materiales y Método: Se realizó una revisión de la literatura científica en las principales bases de datos, entre los años 2015 al 2020, de artículos a texto completo, mediante los siguientes descriptores: "cáncer de mama" "incertidumbre "calidad de vida" y "autoeficacia", siguiendo los lineamientos establecidos por el Manual Cochrane e informe PRISMA. Resultados: Se seleccionaron 20 artículos que cumplieron con los criterios de inclusión. Se presentan como hallazgos las siguientes categorías abordadas en las investigaciones: "Deterioro de la Calidad de vida de las mujeres por el cáncer de mama"; "La incertidumbre como estresor psicológico que afecta la calidad de vida" y "Autoeficacia como factor positivo para el bienestar y el afrontamiento". Conclusiones: Se pudo determinar que la incertidumbre constituye un estresor psicológico que deteriora el bienestar integral de las mujeres afectadas, ya que influye negativamente en los dominios psicológico, social y físico de la calidad de vida. Se observó una relación positiva entre la autoeficacia con el bienestar y las estrategias de afrontamiento en mujeres con cáncer de mama, pues la autoeficacia disminuye la percepción de ambigüedad e incertidumbre.

Palabras claves: autoeficacia; incertidumbre; calidad de vida; cáncer de mama.

Resumo: Introdução: O câncer de mama é uma doença muito agressiva que afeta negativamente a qualidade de vida, devido às múltiplas mudanças físicas, psicológicas, estéticas, incerteza constante e medo da morte, que deterioram a autoestima, a capacidade de autogestão, emoções, autoeficácia e esperança das mulheres afetadas. Objetivo: Determinar a influência da autoeficácia na de incerteza e na qualidade de vida de mulheres com câncer de mama. Materiais e Método: Foi realizada uma revisão da literatura científica nas principais bases de dados, entre os anos de 2015 a 2020, de artigos em texto completo, utilizando os seguintes descritores: "câncer de mama" "incerteza" qualidade de vida "e "Autoeficácia", seguindo as diretrizes estabelecidas pelo Manual Cochrane e pelo relatório PRISMA. Resultados: foram selecionados 20 artigos que atenderam aos critérios de inclusão. As seguintes categorias abordadas na pesquisa são apresentadas como conclusões: "Deterioração da qualidade de vida das mulheres devido ao câncer de mama"; "Incerteza como estressor psicológico que afeta a qualidade de vida" e "Autoeficácia como fator positivo para o bem-estar e o enfrentamento". Conclusões: Determinou-se que a incerteza constitui um estressor psicológico que deteriora o bem-estar integral das mulheres afetadas, uma vez que influencia negativamente os domínios psicológico, social e físico da qualidade de vida. Se observou uma relação positiva entre autoeficácia com o bem-estar e estratégias de enfrentamento em mulheres com câncer de mama, já que a autoeficácia reduz a percepção de ambiguidade e incerteza.

Palavras-chave: autoeficácia; incerteza; qualidade de vida; câncer de mama.

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Correspondence: Olivia Sanhueza-Alvarado, e-mail: osanhue@udec.cl

Introduction

The demographic, epidemiological, and environmental transformations that society has been experimenting have brought about significant changes, mainly in the health-disease process of the populations. [1] Aging, population growth, and adopting harmful habits have increased the incidence of malignant, non-transmissible chronic diseases. [2, 3] In this scenario, cancer constitutes one of the main challenges for healthcare systems around the world, given its high mortality rate and the impact it has on individual, family, and social levels. [4]

Among the different types of cancer, breast cancer is of special concern due to its high prevalence and incidence in the world's female population. [5] The latest estimates published in 2020 by the International Agency for Research on Cancer reported 2,261,419 new cases and 684,996 deaths caused by this disease. [6] In Latin America and the Caribbean there has been an increase in breast cancer with 462,000 new cases and close to 100,000 deaths. [7]

In this context, breast cancer constitutes a global public health problem that has a major impact on women, their families and healthcare systems, given that it is a silent, complex, and extremely harmful disease. [8] As a consequence, screening methods for early diagnosis and treatment are decisive in reducing this disease's mortality, achieving a higher survival rate, [8] promoting early psychosocial adaptation and improving the quality of life of affected women. [9]

Nowadays, a wide range of simple and combined cancer treatments are available that offer higher chances of recovery. However, these treatments cause multiple side effects that deteriorate body image, functional capacity, psychological state and social relationships, affecting the well-being of women and their families. [10]

Although the prognosis and survival rate of women with breast cancer has dramatically improved in recent years, affected women experience problems in multiple aspects of their lives. [11] The psychological impact generated by the diagnosis, treatment, and survival stages negatively impact women's lives, given that they create uncertainty, anxiety, fear of death, loneliness, depression, pain, suffering throughout the disease process, feelings of loss of control over their lives, and gradual loss of self-esteem and their personal coping resources. [10-12]

These feelings and perceptions are associated with diagnosis, the lack of knowledge of the disease process, treatments and uncertainty about the future. [12] Uncertainty has been identified as a factor that causes high levels of psychological stress, and it is regarded as the most influential variable during the process of adaptation to the disease, [14] generating ambiguities that hinder the understanding of the disease and its treatment, which can have an impact on the timely initiation of treatment, the degree of adherence to treatment and the patient's adaptation to their new health condition. [3]

Health-related quality of life (HRQoL) is regarded by multiple authors as a multidimensional and dynamic concept. [15, 16] Shumaker and Naughton (1995) defined HRQoL as "the subjective assessment of the influence of current health status, and health care on the individual´s ability to maintain a level of functioning and their general well-being. Where social, physical and cognitive functioning; mobility and self-care; and emotional well-being converge". [15] It is thus deduced that the quality of life of women with breast cancer is greatly affected not only in physical aspects, but also in psychological, social, and spiritual factors due to the changes in their physical image which deteriorate their self-esteem, self-management skills, feelings, attitudes, mood and social relationships, [17] all of which affect their psyche. [18]

Quality of life has become a necessary criterion within oncological care for breast cancer, as it should lead to an improvement in the overall well-being of affected women. In this regard, one of the variables that has shown a positive influence on the well-being of people with chronic diseases is self-efficacy, [19] which plays a mediating role between personal skills and human behavior, which determines their motivation and well-being. [20]

The construct of self-efficacy was introduced by Bandura (1977) as a key point of the Social Cognitive Theory, acknowledging that individuals possess a self-system that allows them to control their thoughts, feelings, emotions and regulate their behavior in potentially stressful situations. [21] Among women with breast cancer, self-efficacy is regarded as an essential abilityin order to cope with the difficulties, high levels of stress, anxiety, uncertainty, and depression associated with the disease process and its treatments, [22] enhancing a series of strategies such as having a positive mindset and a fighting spirit, which in turn, lead to a better quality of life. [23]

Consequently, to inquire about the possible intervention of self-efficacy to improve quality of life and reduce uncertainty, would allow to explore in greater depth the impact of these variables on the experience of women with breast cancer, which could contribute with various orientations to the health team, for the design of future care interventions with a holistic approach, focused on the development of coping strategies that facilitate the process of adaptation to the disease. [24] In addition to contributing evidence to healthcare practice in the field of nursing care.

Therefore, the objective of this study is to determine the influence self-efficacy has on uncertainty and quality of life of women with breast cancer through the review of published scientific literature, which will identify the care needs of affected women. Moreover, this study aims to be a contribution to clinical practice and to disciplinary knowledge in the area, allowing healthcare and nursing professionals to apply the existing knowledge and evidence to promote the implementation of interventions that help to improve the quality of life of the women affected by this disease and their families.

Materials and method

This review is carried out in the context of Evidence-Based Nursing, which promotes the application of research findings in clinical nursing practice as a key element to achieve a higher quality of care. [25] This research followed the methodology for integrative reviews proposed by Mendes et al., [26] which allows to gather the best evidence in the selected field of study, whose stages are: definition of the problem and formulation of the review question, establishment of inclusion and exclusion criteria for the studies, search identification of the

relevant studies in the scientific databases, selection and categorization of studies, evaluation of the studies included in the review, interpretation of results and synthesis of knowledge. In addition, PRISMA quality criteria for integrative reviews were considered. [27]

The PIO strategy [25] was used to formulate the question guiding this study, which was defined as follows: What influence does self-efficacy have on uncertainty and quality of life of women with breast cancer?

A review of the scientific literature was conducted to answer the question posed using the databases: Scielo, Pubmed, Scopus, Bvs and Medline and Web of Science. The following DeCS and MeSH descriptors were considered: "breast cancer", "uncertainty", "quality of life" and "self-efficacy" in Spanish, English, and Portuguese. Finally, the research was carried out using a combination of the descriptors "*cáncer de mama* AND *incertidumbre*", "*cáncer de mama* AND *calidad de vida*" and "*cáncer de mama* AND *autoeficacia*", in Spanish; "breast cancer and uncertainty", "breast cancer and quality of life", "breast cancer and self-efficacy", in English, conjugated using the Boolean Operator AND due to the characteristics of this research study.

The inclusion criteria allowed for public access primary quantitative research studies published in English, Spanish and Portuguese between 2015 and 2020 who preferably had a nurse as first or corresponding author, to enhance the development of Nursing care; and whose sample included women with a breast cancer diagnosis. The exclusion criteria included secondary studies such as meta-analyses, systematic reviews, integrative reviews, and studies whose full texts were not available online.

Initially, 134 articles were identified, 20 of which met the inclusion criteria. Quality assessment was carried out using the Effective Public Health Practice Project (EPHPP) tool, which assesses the risk of bias and classifies the methodological quality of the studies into low, moderate, and strong. [28]

Finally, a critical reading was carried out to assess the validity, reliability, relevance, and pertinence of the selected articles. The review complied with the ethical principles by respecting copyrights, using proper citation, and crediting the reviewed authors.

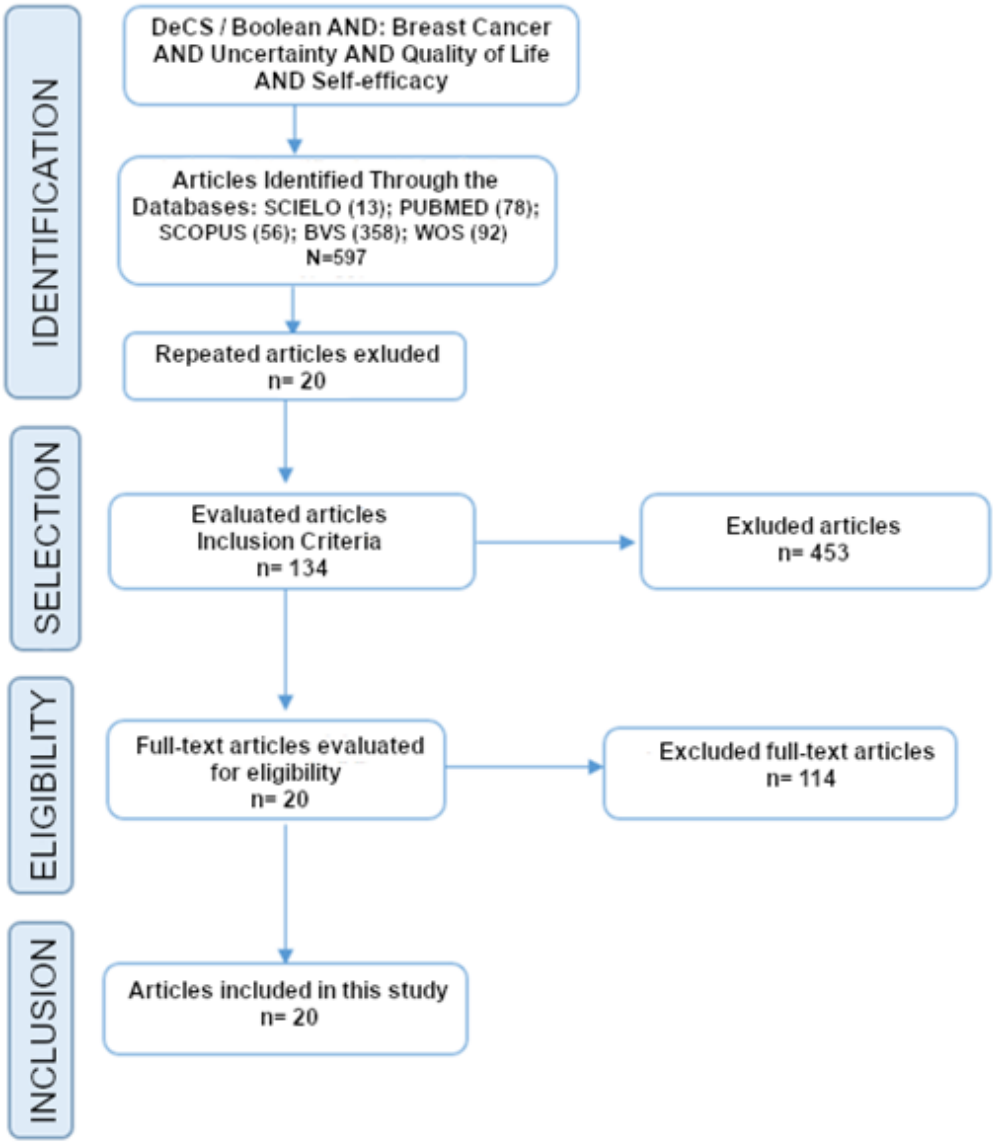

Figure 1. Flowchart of the identification, selection, and inclusion of studies. Source: Own elaboration (2021).

Results

With a baseline of 20 articles that addressed the subject and met the proposed criteria, we proceeded to synthesize and analyze them. The articles that make up the corpus of analysis are presented in Table 1 and are arranged according to the relationship between the studied variables.

Table 1. Results of the influence of self-efficacy on uncertainty and quality of life of women with breast cancer according to the selected articles

Title	Authors/ Country/ Year	Research Design	Scales and questionnaires used to measure the variables	Main Results	EPHPP*
Calidad de vida en mujeres con cáncer de mama sometidas a quimioterapia. Cali-Colombia. [Quality of life in women treated with chemotherapy for breast cancer in Cali, Colombia.]	Mejía et al. (29) Colombia, 2020.	Descriptive, observational, and cross-sectional.	EORTC QLQ-C30 questionnaire. EORTC QLQ-BR23 questionnaire.	In women with breast cancer undergoing chemotherapy, the factors associated with low quality of life were mammary symptoms (p=0.038), systemic therapy side effects (p=0.012), lower sexual pleasure (p=0.027) and lower expectations about the future (p=0.045). The most relevant symptoms were fatigue, insomnia, hair loss, reduced physical functioning and lower sexual pleasure.	Moderate quality
Impact of Uncertainty on the Quality of Life of Young Breast Cancer Patients: Focusing on Mediating Effect of Marital Intimacy.	Oh y Hwang (30) Korea, 2018.	Descriptive, cross-sectional, and correlational.	The Mishel Uncertainty in Illness Scale (MUIS). The Functional Assessment of Cancer Therapy - Breast (FACT-B).	The results showed a significant correlation between the level of uncertainty and the 4 subscales of quality of life: physical well-being (p = 0.26); social well-being (p = .010); functional well-being (p = 0.09); and emotional well-being (p = 0.08). Moreover, marital intimacy was directly affected by uncertainty (p = .024).	Strong quality
Incertidumbre frente a la enfermedad en mujeres diagnosticadas con cáncer de mama. [Uncertainty Against Disease in Diagnosed Women with Breast Cancer.]	Muñoz et al. (31) Colombia, 2018.	Descriptive, cross-sectional, and correlational.	The Mishel Uncertainty in Illness Scale (MUIS).	62% of participants showed a regular level of uncertainty. This variable is shown as a factor that alters the peace of mind and overall well-being of the affected women, especially during diagnosis, since lack of security, distress and facing death may cause physical, emotional, and spiritual damage, which have an impact on quality of life.	Moderate quality
The relationship of uncertainty, hope and quality of life in patients with breast cancer.	Jo y Son. (32) Korea, 2017.	Descriptive, exploratory, cross-sectional.	The Mishel Uncertainty in Illness Scale (MUIS). Hope was measured using Nowotny's Hope Scale. Korean version of Quality of Life (QOL).	Uncertainty scores were negatively correlated with the subitems of hope: confidence (p = .000), relationship with others (p = .015), possibility of future (p = .006) and inner motivation (p = .003). Uncertainty also showed a negative correlation with the subitems of QoL: emotional status (p = .004), self-esteem (p = .000) and relationship with family (p = .044).	Strong quality
Co-occurrence of anxiety and depressive symptoms following breast cancer surgery and its impact on quality of life.	Gold et al. (33) United States, 2016.	Descriptive, observational, cross-sectional.	Spielberg's State-Trait Anxiety Inventory (STAI-T, STAI-S). Patient's Quality of Life Scale (QOL-PV).	44.5% of patients showed combined anxiety and depressive symptoms, which were related to age, race, lower performance status, cancer treatment, greater difficulty dealing with the disease and treatment, and less support from others to meet their needs. Higher levels of anxiety with or without subsyndromal depressive symptoms were associated with increased fear of recurrence, hopelessness, uncertainty, loss of control, and a decrease in life satisfaction.	Strong quality
Condiciones sociodemográficas y nivel de incertidumbre en mujeres ante el diagnóstico de cáncer de mama. [Demographic Conditions and Level of Uncertainty in Women Facing The Diagnosis of Breast Cancer]	Prieto et al. (34) Colombia, 2015.	Descriptive, cross-sectional, and correlational.	The Mishel Uncertainty in Illness Scale (MUIS).	60.2% of participants had a regular level of uncertainty. The highest levels of uncertainty were present in women between the ages of 45 and 64. The results showed an association between schooling and level of uncertainty with a value of p = 0.03. Uncertainty causes feelings that influence the coping strategies a person may have to adapt to their new health condition.	Strong quality

Comprometimento da qualidade de vida de mulheres com câncer de mama submetidas a quimioterapia no atendimento público e privado [Impact on the quality of life of women with breast cancer undergoing chemotherapy in public and private care]	Cohelo et al. (35) Brazil, 2018	Descriptive, observational, longitudinal.	EORTC QLQ-C30 questionnaire. EORTC QLQ-BR23 questionnaire.	Women with breast cancer undergoing cancer treatments at public and private institutions suffered a progressive deterioration in quality of life, starting from the first phase of chemotherapy (76.2 points at a private level and 74.6 points at a public level, considering the maximum score of 100 points). The most compromised functions were emotional and social for private institutions and physical and pain for public institutions.	Strong quality
Mulheres com neoplasia mamária em quimioterapia adjuvante: avaliação da qualidade de vida [Women with breast cancer in adjuvant chemotherapy: assessment of quality of life]	Cordeiro et al. (36) Brazil, 2018.	Descriptive, observational cross-sectional.	The Functional Assessment of Cancer Therapy - Breast and Arm Morbidity (FACT-B).	The effects of chemotherapy had a negative impact on the quality of life of women with breast cancer, especially alopecia (64%), nausea (64%) and fatigue (52%). The following domains obtained the lowest scores of quality of life: "additional concerns other than breast cancer" related to body image (22.6/36 points), functional well-being (16.9/28 points), additional concerns regarding their arm (16.7/20 points) and emotional well-being (18.8/24 points).	Moderate quality
Quality of life and health status of Indonesian women with breast cancer symptoms before the definitive diagnosis: A comparison with Indonesian women in general	Setyowibo wo. et al. (37) Indonesia, 2018.	Descriptive, cross-sectional, correlational.	WHOQOL-BREF questionnaire to measure quality of life. EQ-5D-5L questionnaire for health status.	Indonesian women with breast cancer symptoms before the definitive diagnosis showed significantly lower scores in the physical and psychological domains as well as more pain/discomfort and anxiety/depression compared to Indonesian women in general. Knowledge of the disease and the support they receive from healthcare professionals may improve these areas of quality of life.	Strong quality
The quality of life of Croatian women after mastectomy: a cross-sectional single-center study	Pačarić et al. (5) Croatia 2018.	Analytical, cross-sectional, single center.	EORTC QLQ-C30 questionnaire. EORTC QLQ-BR23 questionnaire.	The quality of life of women that had undergone a mastectomy one year prior had the highest score in comparison with women that had undergone a mastectomy one month prior. The most affected values immediately after mastectomy were emotional (37.5/100) and sexual (16.67/100) functioning. The symptoms that had the biggest impact on women were hair loss (66.67/100) and fatigue (33.33/100).	Moderate quality
Impacto do câncer de mama e qualidade de vida de mulheres sobreviventes [Impact of breast cancer and quality of life of women survivors]	Lopes et al. (38) Brazil. 2018	Cross-sectional, analytical.	Impact of Cancer (IOC) Scale. The Functional Assessment of Cancer Therapy - Breast (FACT-B) for quality of life.	This study showed that breast cancer survivors have a good quality of life (88.5/100). However, the quality-of-life scores were lower after one year of survival, which were mainly related to physical changes, negative self-evaluation, and cancer concerns (all with a value under $p<0.05$). Moreover, during the first two years of follow-up care, women felt they lacked information about the disease and their treatment.	Moderate quality
Calidad de vida, ansiedad antes y después del tratamiento en mujeres con cáncer de mama [Quality of life and anxiety in women with breast cancer before and after treatment]	Villar et al. (39) Spain, 2017.	Descriptive, observational prospective.	EORTC QLQ-C30 questionnaire. EORTC QLQ-BR23 questionnaire. The State-Trait Anxiety Inventory (STAI).	The baseline quality of life dimensions with the lowest score were future prospects (46.0/100) and sexual pleasure (55.7/100). The dimensions with the highest scores were body image (94.2/100) and role functionality (93.3/100). The most disturbing symptoms were insomnia, fatigue, and hair loss concerns. Moreover, after treatment, physical function, role, body image and symptoms such as fatigue, pain, dyspnea, and adverse effects of systemic therapy worsened. During diagnosis, 48.6% showed severe anxiety, reducing to 15.2% after treatment.	Strong quality
Quality of Life Determinants in Breast Cancer Patients in Central Rural India.	Gangane et al. (40) India. 2017	Cross-sectional, descriptive, exploratory.	Standardized instrument for Assessing Self-Efficacy. WHOQOL – BREF quality of life questionnaire.	The overall mean score for quality of life was 59.3/100. The mean scores were 55.5/100 for physical health, 58.2/100 for psychological health, 63.2/100 for social relationships and 60.4/100 for environmental factors. Moreover, self-efficacy was positively associated with all four domains of quality of life.	Strong quality

Qualidade de vida de mulheres submetidas à cirurgia oncológica de mama [Women's quality of life after breast cancer surgery]	Silva y Da Silva. (41) Brazil, 2016.	Descriptive, observational, and cross-sectional.	WHOQOL-BREF quality of life questionnaire.	After conservative surgery, 62.2% of women had a good perception of quality of life, 21.6% stated it was neither bad nor good, 13.5% said it was very good and 2.7% mentioned that their quality of life was poor. However, women still have physical, psychological, social, and spiritual needs that must be met to improve their Quality of Life after conservative surgery.	Moderate quality
Most prevalent unmet supportive care needs and quality of life of breast cancer patients in a tertiary hospital in Malaysia	Edib et al. (42) Malaysia, 2016.	Descriptive, cross-sectional correlational.	Supportive Care Needs Survey-Short Form Questionnaire (SCNS-SF34). EORTC QLQ-C30 questionnaire.	The highest levels of unmet supportive care needs were observed in the psychological (53.31%) and physical (38.16/100) domains. The most prevalent unmet supportive care needs were uncertainty about the future (78.6%), fears about cancer spreading (76.1%), feelings of sadness (69.2%), feelings about death and dying (68.4%), concerns about those close to the patient (65.0%) and feeling down or depressed (65.0%).	Strong quality
Os domínios afetados na qualidade de vida de mulheres com neoplasia mamária [Quality of life domains affected in women with breast cancer]	García et al. (43) Brazil, 2015.	Descriptive, observational, prospective.	EORTC QLQ-C30 questionnaire. EORTC QLQ-BR23 questionnaire.	Breast cancer and its treatments affected the Quality of Life of women in public institutions. They noticed changes in their physical function, pain symptoms, body image, systemic effects, and future prospects. In private institutions, the affected areas were sexual function, social function, and body image. The quality of life of women was hindered by chemotherapy for both institutions, although it manifested in different domains.	Moderate quality
The Investigation of the Relationship Between Cancer Coping and Symptom Management Self-Efficacy, Perceived Social Support, Uncertainty and Life Orientation in Breast Cancer Female Survivors	Fatemeh et al. (44) Iran, 2018.	Cross-sectional, descriptive-analytical.	The Cancer Coping Questionnaire. The Symptom-Management Self-Efficacy Scale. The Mishel Uncertainty in Illness Scale (MUIS). Scale of Perceived Social Support.	Symptom management self-efficacy and optimistic life orientation were positively correlated with breast cancer coping ($p<0.05$). A negative correlation was identified between uncertainty and cancer coping ($p=0.01$). The results of the stepwise multiple regression analysis showed that cancer coping is positively correlated with predictors such as perceived social support, symptom management self-efficacy and optimistic life orientation among female Iranian breast cancer survivors.	Strong quality
Cancer-Related Self-Efficacy in Iranian Women with Breast Cancer	Kochaki et al. (45) Iran, 2017.	Descriptive, cross-sectional, correlational.	Cancer Behavior Inventory (CBI) to assess coping and self-efficacy.	The sustained cancer-related positive attitude had a high Cancer Behavior Inventory score, as well as the subscales maintenance of activity and independence, understanding information, stress management, coping with treatment-related side-effects, cancer acceptance, maintaining positive attitude and affective regulation. Seeking of social support had a low score. It was shown that a higher level of education was correlated with higher self-efficacy and that self-efficacy among patients with breast cancer increased with time.	Moderate quality
Autoconcepto y bienestar emocional en pacientes con cáncer de mama. Self-concept and emotional well-being in patients with breast cancer	Pintado (46) Mexico, 2017.	Descriptive, cross-sectional, correlational.	Hospital Anxiety and Depression Scale (HADS). Body Image Scale. Rosenberg Self-Esteem Scale (RSES). Mono item based in Bandura's theory.	Results showed that depression has a high positive correlation with anxiety ($p <.001$) and self-esteem ($p <.001$) and a moderate positive correlation with body image ($p <.001$). Moreover, there is a negative correlation between depression and self-efficacy ($p <.001$). Emotional well-being was influenced by alterations on self-concept and body image. Women that had more alterations on their body image, lower self-esteem and lower self-efficacy showed higher levels of anxiety and depression.	Moderate quality
Cancer survivors' self-efficacy to self-manage in the year following primary treatment	Foster el al. (47) United Kingdom, 2015.	Descriptive, cross-sectional, correlational.	Self-Efficacy for Managing Chronic Disease Scale. Quality of Life in Adult Cancer Survivors Scale (QLACS). Personal Wellbeing Index (PWI-A) Brief Illness Perception Questionnaire (Brief IPQ). Center for Epidemiologic Studies Depression Scale (CES-D) Medical Outcomes Study (MOS) social support survey	Different types of cancer were considered for this study, being breast cancer the most common, affecting 45% of participants. Self-efficacy was positively associated with well-being. Variables that were strongly associated with a low self-efficacy score were as follow: higher levels of pain, lower subjective well-being scores, higher levels of depression, living by themselves, being women, having a more threatening perception of cancer and having a lower social support level.	Strong quality

Source: Own elaboration (2021)

The time frame considered for the article search was 5 years, finding one article published in 2020; [29] nine in 2018; [5, 30, 31, 35-37, 38, 44] four in 2017; [32, 39, 40, 45, 46] and three in 2016 [33, 41, 42] and 2015. [34, 43, 47] Regarding the research design, 100% of the studies had a quantitative approach, 84.2% were cross-sectional and 15.3% were longitudinal. Eight were correlational studies; [30, 31, 34, 37, 42, 45-47] seven were observational; [29, 33, 35, 36, 39, 41, 43] three were analytical [5, 38, 44] and two were exploratory. [32, 40] Considering the EPHPP scores, [28] nine articles had moderate quality [5, 29, 31, 36, 38, 41, 43, 45, 46] and eleven reached a strong quality. [30, 32-35, 37, 39, 40, 42, 44, 47]

Regarding the geographical area of the selected studies, seven took place in Asia; [30, 32, 37, 40, 42, 44, 45] ten in the Americas [29, 31, 33-36, 38, 41, 43, 46] and three in Europe, [5, 39, 47] evidencing that the majority were carried out in the Americas. 25% of them took place in Brazil, [35, 36, 38, 41, 43] 15% in Colombia, [29, 31, 34] 10% in Iran [44, 45] and Korea [30, 32] and 5% were carried out in the United States, [33] Croatia, [5] Indonesia, [37] Spain, [39] Malaysia, [42] Mexico [46] and the United Kingdom. [47] The studies were published in English (10= 52.6%), Portuguese (5= 26.3%) and Spanish (4= 21%).

The articles made use of a wide variety of scales and questionnaires to collect data in accordance with the objectives of each study, as shown in Table 2.

Table 2. Main Self-Efficacy, Uncertainty and Quality of Life Scales used in the reviewed studies

Instrument and studies that applied it	Variable	Items	Dimensions and score	Reliability
Self-Efficacy for Managing Chronic Disease Scale. (47)	Self-Efficacy	11 items	Highly homogeneous, one-dimensional self-efficacy scale. Assesses an individual's confidence to carry out six self-care tasks and five cancer-specific self-care behaviors. A high score indicates high self-efficacy.	Cronbach's Alpha 0.92
Cancer Behavior Inventory (CBI). (45)	Self-Efficacy	33 items	Measures self-efficacy regarding behaviors related to cancer coping.	Cronbach's Alpha between 0.80 and 0.90
The Mishel Uncertainty in Illness Scale (MUIS). (30,31,32,34)	Uncertainty	27 items	Measures the level of uncertainty (UL) through three dimensions: Stimuli frame, Cognitive capacity, and Structure providers. The highest scale score is 135 points and the lowest is 27 points.	Cronbach's Alpha 0.98
EORTC QLQ-C30 questionnaire. (5,29,30,35,39,42,43)	Quality of Life of cancer patients	30 items	Incorporates five functional scales (physical, role, cognitive, emotional, and social functioning). Three symptom scales (fatigue, pain, and nausea/vomiting). A Global Health Status Scale Six single items (dyspnea, insomnia, appetite loss, constipation, diarrhea, and financial difficulties) Scale ranges in score from 0 to 100; the higher the score, the lower the QoL.	Cronbach's Alpha between 0.83 and 0.90
QLQ-BR23 questionnaire (5,29,30,35,39,42,43)	Quality of Life of breast cancer patients	23 items	Structured in 4 functional scales: Body image (4 items); Sexual functioning (2 items); Sexual enjoyment and Future perspective (1 item). Moreover, it has 4 symptom scales: arm symptoms (3 items), breast symptoms (4 items), systemic therapy side-effects (7 items) and upset by hair loss (1 item). Scales range in score from 0 to 100; the higher the score, the lower the QoL.	Cronbach's Alpha between 0.80 and 0.93
WHOQOL-BREF quality of life questionnaire. (37,40,41)	Quality of Life	26 items	Contains two general questions regarding quality of life and health status satisfaction and 24 questions grouped into four areas: Physical health, Psychological health, Social relationships and Environment. Scales range in score from 0 to 100; the higher the score, the lower the QoL.	Cronbach's Alpha 0.88
The Functional Assessment of Cancer Therapy - Breast (FACT-B). (30,36,38)	Quality of Life	36 items	Two components: one is general and comprised of 27 items, and the other is specific, related to breast cancer system and comprised of 9 items. The instrument measures five domains: physical well-being (7 items), social/familiar well-being (7 items), emotional well-being (6 items), functional well-being (7 items) and a breast cancer subscale related to the disease and its treatment (9 items).	Cronbach's Alpha 0.89

Source: Own elaboration (2021)

The most significant contribution of these studies is the description of each variable in relation to breast cancer and the influence that may exist between them, which shows the priorities that need to be addressed in healthcare, an example of this are the deterioration in Quality of life of women due to breast cancer and its treatments [5, 32, 35, 36, 39], uncertainty as a psychological stressor that affects quality of life [30, 31, 34, 40] and Self-efficacy as a facilitating factor for well-being and coping. [45-47]

Deterioration of women's quality of life due to breast cancer and its treatments

Regarding quality of life and well-being in breast cancer patients, it has been shown that women experience physical and psychological alterations to a greater extent; [39, 32] overall quality of life deteriorates due to cancer treatments, [5, 35, 36, 39] changes in body image and degree of functionality, [33, 36] and uncertainty regarding the therapeutic approach, fear of death and future expectations. [31, 32, 37]

Studies show that overall quality of life of women with breast cancer obtained low scores, [38, 40] as women experience multiple changes that may lead to a loss of balance between the physical, emotional, and social functions. [32, 36, 37, 39] Moreover, the domains of quality of life that are most affected by the disease are the psychological, [37, 39] social [32] and functional, especially sexual, dimensions. [5, 29, 38] It has also been shown that certain psychological determinants may affect the quality of life and well-being of affected women [33, 37] such as anxiety, self-esteem, positive thoughts, and uncertainty [30, 31] as well as socioeconomic factors such as level of education, age, income, marital status, and perceived social support. [34]

Women's physical domain is affected by prolonged treatments that are exhausting, which cause countless side-effects such as nausea, vomiting, dizziness, fatigue, alopecia, insomnia, [29, 36] changes in body image and significant functional limitations. [5, 35, 39] Negative changes should be highlighted regarding sexuality, mainly in young women, as a result of the impact of cancer treatments and specially chemotherapy, which cause exhaustion, low self-esteem due to altered body image, fear of rejection by their partner due to loss of femininity, low levels of sexual hormones and decrease in sexual desire. [36, 40]

Studies show that most of the unmet needs that alter the quality of life of women with breast cancer are psychosocial, which could aggravate their physical symptoms, [42] and affect their family life. Moreover, women with this diagnosis have higher levels of anxiety with or without depressive symptoms, which are associated with a higher fear of recurrence of the disease, hopelessness toward the future, uncertainty due to the disease, loss of control over their lives and a decrease in life satisfaction. [33] Furthermore, the physical, emotional, and spiritual effects of the disease alter the well-being and peace of mind of women due to lack of security, distress, and fear of facing death, which may accelerate the development of the disease or create different pathologies, compromising their quality of life [30, 31]

Another key aspect of living with breast cancer that is worth mentioning, is the personal and family burden caused by this disease. [32, 33] Relevant concerns for women are family unbalance and restructuring due to the disease, requiring care or support from their spouse or close relative in moments of crisis, and fear of the family future due to the constant threat of death and loss of functionality. [31] Fear of damaging their marital relationship or estrangement from their partner, [35, 40] due to the lack or decrease in sexual activity are relevant factors to consider, especially in patients who have undergone total or partial mastectomies. [30]

Uncertainty as a psychological stressor that affects quality of life

Uncertainty in the face of the disease has proved to be a psychological stressor that deteriorates peace of mind [31, 42] and affects the four domains of quality of life, mainly the psychological domain, directly related to depression. [30-32] The uncertainty that develops after being faced with a diagnosis may lead to significant emotional alterations for affected women and their families, given that it creates high levels of stress, distress, anxiety, depression, and hopelessness. [31] Moreover, uncertainty negatively affects quality of life, healthcare satisfaction and self-care. [30]

Uncertainty also proved to be a cognitive factor that accompanies women and their families throughout the development of the disease, as living with a chronic disease such as breast cancer means living with a constant feeling of lack of security and worry in some women. [31] After a diagnosis confirmation, women experience fear of death, feelings of doubt toward the future, anxiety, confusion, desperation, hopelessness, and worry regarding the disease and their own and their family's future. [31, 32] From the moment of diagnosis, women's lives change and are restructured, which leads to a deep emotional crisis that damages their psychological well-being.

Furthermore, uncertainty is regarded as a stressor that damages the peace of mind and overall well-being of the affected women, given that they perceive the disease to be an obstacle to beat in order to continue with their life project, being influenced by low level of education, age, low financial resources, and cultural factors. [31] Women have higher uncertainty when faced with the disease prognosis and complexity of the treatment if they have a low education level and lack information. [34]

At the same time, uncertainty increases in patients with a low socioeconomic level, because this condition can be a determinant factor in the access to healthcare services and delays in treatment initiation, which contributes to the increase of uncertainty in the disease and generates a discomfort derived from the inability to determine the meaning of the facts that damages the well-being of the sick women. [30, 34, 40]

Self-efficacy as a facilitating factor for well-being and coping

During the breast cancer process, women suffer from high levels of stress, anxiety, uncertainty, and distress, [34] in addition to physical pain, functional limitations, and lower self-esteem, which alter their well-being and lower their self-efficacy. [47] Similarly, women who experience changes in body image because of cancer treatments have higher levels of anxiety and depression, which lower self-efficacy and self-concept. [46] Ongoing uncertainty, prolonged medical treatments, and constant fear of death, [31] make it difficult for women to maintain a high level of self-efficacy. [19]

However, studies show that self-efficacy is positively related to quality of life of people with chronic diseases; social support and optimism are also linked with a higher level of self-efficacy and psychological well-being. [44, 45] There is a positive correlation between self-efficacy and quality of life [40] well-being and coping, [44, 45, 47] given that self-efficacy would condition the personal mechanisms that ease the adaptation to their new health condition. [44]

Self-efficacy in managing symptoms and optimism toward life are positively correlated with coping in breast cancer patients, [44] and a maintained positive attitude is related to a high level of behavior against cancer. [47] Furthermore, research showed that a high level of education is related to higher self-efficacy and that self-efficacy in patients grows over time. [45]

Moreover, there is a negative correlation between uncertainty and the 7 subscales of the Cancer Behavior Inventory (CBI): maintaining activity and independence, seeking and

understanding medical information, stress management, coping with treatment-related side-effects, accepting cancer and maintaining a positive attitude, affective regulation and seeking support. [45] Low socioeconomic levels, [45, 47] lack of knowledge of the disease, [38] being a woman and having less social support [46, 47] were among the determinant factors of low self-efficacy levels.

Discussion

The study of health-related quality of life of women with breast cancer continues to be a challenge for healthcare professionals, especially in nursing, due to its high complexity and that, in fact, the quality of life is a result of the interaction of women and their families with the disease, its evolution, cancer treatments and their side-effects, as well as the changes produced in their physical, psychological, and social domains due to the disease. Even so, studying the quality of life of patients with breast cancer has enabled a shift from the traditional concept of health and purely physical well-being into a more comprehensive concept of well-being. [49]

The analysis of the obtained results clearly evidences that women with a breast cancer diagnosis undergo multiple changes in their clinical, psychological, family, social, functional, sexual, and work spheres that negatively impact their quality of life. [5, 29, 37, 39] The affected women have low levels of overall quality of life, [40] due to the alterations arising from the disease and its treatments, which cause a loss of balance between the physical, emotional, and social functions. As a result, the study of psychological, social, and spiritual aspects has become more relevant in recent years, as they offer a more comprehensive approach, which is necessary in the field of nursing in relation to quality of life. [50]

Women and their families who must coexist with breast cancer feel lack of security, fear and uncertainty regarding future prospects and require the influence of a constant positive attitude as a predictor of a better understanding of the disease and managing stress, anxiety, and depression; this motivational support and assistance to maintain a positive attitude may be given and stimulated by the healthcare team, especially by nurses caring for patients in oncology units supported by the interdisciplinary team that treats women, facilitating the development of coping strategies that allow affected women to adapt to their new health condition. [45] As a consequence, self-efficacy is regarded as an important predictor that influences women's behavior against breast cancer and constitutes a facilitating factor for well-being, as shown by the obtained results.

The reviewed studies placed uncertainty as a variable that generated high levels of stress, distress, anxiety, depression, and hopelessness, all of which negatively affect the quality of life of women with breast cancer and their families, their level of satisfaction with healthcare services and self-efficacy. [30] These situations make women feel unable to confront the disease and its challenges. Therefore, care strategies targeted toward women with breast cancer should incorporate clinical and psychological elements and the perspective of the affected patients, thus having a more meaningful impact on their well-being and quality of life.

Uncertainty is a cognitive factor that accompanies women and their families throughout the development of the disease, as living with a chronic disease such as breast cancer means living with a constant feeling of worry and lack of security. [31] Lack of information may lead to uncertainty [38] and it may also create a feeling of discomfort due to the patient's inability to

determine the meaning of the facts; a subjective interpretation of their disease puts them in an unfavorable position that may alter their psychological well-being and responsiveness.

A revealing fact is that uncertainty increases in patients with a low socioeconomic level, [34] which could be a determinant factor derived from difficult access to healthcare services, delays in the initiation of treatment and needing to fulfill a great number of requirements.

Women's self-esteem is damaged during the course of the disease, altering their well-being and damaging their self-efficacy. [46] After suffering changes in their body image due to cancer treatments, women show higher levels of anxiety and depression, which could lead to lower self-efficacy and self-concept. Studies show a negative linear relationship between self-efficacy and uncertainty in the face of the disease, given that uncertainty may create emotional discomfort, increase difficulty to predict symptoms, a gradual loss of motivation and a lower coping capacity, [51] which negatively relate to quality of life and well-being.

Although scientific literature shows little evidence regarding the influence of self-efficacy on quality of life and uncertainty in women with breast cancer, it was determined that self-efficacy regarding symptom management and an optimistic outlook on life were positively correlated with coping with breast cancer. Furthermore, there is a significant negative correlation between uncertainty and maintenance of activity and independence, seeking and understanding medical information, stress management, coping with treatment-related side-effects, accepting cancer and maintaining a positive attitude, affective regulation and seeking support. Maintaining a positive attitude is related to higher levels of behavior against cancer and a high level of education is related to higher levels of self-efficacy.

In view of this, it is deeply important in nursing to achieve a holistic approach regarding oncological care, as it highlights the need to design care interventions that incorporate biological, psychological, emotional, spiritual, and social factors, also to identify the sociocultural determinants of each context due to the nature of the recipient of nursing care: the human being. This should be done so that the diverse care, help and support needs of women with breast cancer can be met.

Conclusions

As an answer for the objective, it was determined that self-efficacy is a predictor of a better quality of life in women with breast cancer, given that self-efficacy has a positive relationship with well-being and the development of disease coping strategies. Uncertainty proved to be a psychological stressor that damages the overall well-being of affected women, and it negatively influences the psychological, functional, social, and physical domains. However, this variable may be mediated by enhancing self-efficacy as a powerful cognitive factor that has an effect on behavior and responsiveness to existential crisis created by the disease and its treatments.

The quality of the information provided by the healthcare team, especially by nurses, represents a key point in the care of sick women and their families. Uncertainty rises if the information is ambiguous, so nursing care calls for the development of relevant, empathetic, sensitive, and humane educational programs. In this regard, it is recommended that nurses carry out care interventions starting from the moment of diagnosis and throughout the course of the disease in order to reduce doubts and possible emotional effects.

Education is a useful tool to lower uncertainty toward the disease during care interventions if it is reliable and concise, provided by a credible source and given through clear and assertive communication means. This would help people to understand the disease process, allowing for the development of coping strategies that ease the adaptation to the new health condition. Uncertainty toward the disease should be addressed during the different stages of the disease: moment of diagnosis, treatment, and care. Reliable information and nursing care will reduce uncertainty in each phase of the disease.

Based on the results, self-efficacy is a determinant of well-being when faced with different health conditions. Moreover, applying this psychological tool during nursing interventions may help improve self-perception, increase the patient's self-confidence, and give them a positive attitude to effectively manage crisis.

This analysis found that breast cancer creates high levels of stress, suffering, uncertainty, and distress from the moment of diagnosis and throughout the disease and treatments processes, as well as during recovery, up until remission. This drastically damages the quality of life of affected women. This study showed that self-efficacy is a cognitive-behavioral factor of self-protection, allowing women with breast cancer to accept and/or handle difficulties and threats that may hinder their biopsychosocial well-being.

Future research should consider using a qualitative approach to analyze the relationship between self-efficacy and uncertainty in women with breast cancer.

One of the limitations of the present study was the difficulty finding studies that analyzed the influence of self-efficacy on uncertainty and quality of life in breast cancer patients.

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