

# Systematic Review: Psychological Changes in Women Diagnosed with Breast Cancer

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## Abstract

Breast cancer is considered one of the most common cancers among women, accounting for 25% - 29% of new cases worldwide each year. The diagnosis, living with the disease, as well as the different treatments can have important impacts on the Psychological and mental health of patients. **Objective:** To investigate the psychological aspects that women with breast cancer develop or may develop. **Methodology:** A systematic review using the PRISMA methodology was used. **Results:** 11 articles that met the inclusion and exclusion criteria were analysed. The largest flow of publications in relation to the effects of the patient with cancer, were carried out between the years 2000 and 2023. **Conclusions:** Psychological disorders (depression, anxiety, stress) are part of the lives of women diagnosed with breast cancer, and their prevalence varies from one woman to another.

## Keywords

Anxiety, Depression, Psychosis, Sadness, Cancer

## 1. Introduction

According to Ferreira *et al.* [1] breast cancer is considered one of the most common types of cancer among women, accounting for 25% - 29% of new cases each year worldwide.

The diagnosis of breast cancer in women often represents a psychological and emotional burden, which can alter the person's mode of operation due to anxiety, depression or even psychosis [2].

Carcinogenesis is a silent process, initially asymptomatic, with some symptoms appearing over time and depending on the homeostasis of each organism, because each person responds differently, and these responses are influenced by diet, physical exercise, obesity, drinking and smoking habits, hours of sleep, the presence of chronic diseases [3].

Cancer is one of the most feared diseases at the moment. Breast cancer in particular is caused by the disordered multiplication of cells in the area (breast), generating abnormal cells that multiply, giving rise to a tumor. Early detection allows for greater chances of successful treatment and reduces aggressive interventions [4].

Furthermore, it is known that early detection has often not been possible, due to fear of diagnosis, non-acceptance of the disease (personal barrier), cultural aspects, and some difficulties in some health services [5].

Cancer is a group of more than 200 pathologies whose common characteristic is the abnormal growth of cells that invade different tissues or parts of the body and which can proliferate (metastasize), destroying tissues locally, regionally or at a distance, affecting the functioning of the organism partially or as a whole. Breast cancer is a neoplasm that grows in the breast tissue and, for the most part, starts in the ducts or lobules of the mammary gland. It can be classified as non-invasive carcinoma (carcinoma in situ) with a lower risk of metastasis. Invasive or infiltrative carcinoma refers to a tumor that spreads to other tissues (local, regional or distant) [4].

The prevalence of psychological conditions in the female population diagnosed with breast cancer varies, with different studies showing a prevalence of depression ranging from 03% to 55% [2].

Among the risk factors for breast cancer, research shows that aging and a woman's reproductive life, such as early menarche, not having had children and late menopause, have a major influence on the onset of the disease. Protective factors to reduce the occurrence of breast cancer are closely related to: avoiding alcohol consumption, eating a healthy diet and practicing regular physical activity [4].

Anxiety, stress and depression are consequences that some breast cancer patients experience from the time of diagnosis and can continue during and after treatment. These can increase the severity of the symptoms (physical or psychosocial) associated with chemotherapy and can affect adherence to treatment. Breast cancer, in its different phases, brings with it additional concerns that can generate an altered sense of femininity and feelings of low self-esteem with repercussions on quality of life, leading to disastrous psychological effects, diagnosis, treatment, rehabilitation, cure, recurrence and/or termination. In view of the above, patients are often observed with psychological effects such as feelings of sadness, grief and anxiety symptoms, which can be considered as "expected and

common reactions to the diagnosis of the disease. These reactions interfere with patients' quality of life. Early detection of Psychological/Psychiatric illnesses, knowing predisposing factors, helps in the appropriate treatment propaedeutics with an impact on improving the quality of life of these patients, [6] [7].

Studies carried out in the breast cancer population have shown that negative psychological effects are present in over 90% of cases, the most commonly reported being those linked to depression, anxiety, cognitive response, tiredness, decreased well-being, etc. [8] [9]

The psychological and stress associated with a cancer diagnosis contributes to the emergence of affective and emotional disorders, such as anxiety and depression, which interfere with quality of life. The physical state of patients with chronic illnesses has a direct impact on their psychological symptoms. The strategy can reduce psychological symptoms [6].

Family support is the primary care of breast cancer patients, and is an element that effectively combats anxiety, depression, fear of life/death, and concomitantly is a predictor of socialization, since this support must be permanent [9]-[11].

Research by Mistura *et al.* [12], mentions the fact that breast cancer patients experience depression, anguish, sadness and anxiety, these psychological symptoms were minimized in patients who systematically had family, religious and multidisciplinary health team support [12].

Once breast cancer has been diagnosed (in situ or invasive), immediate treatment is recommended, depending on the classification and stage (psychological, surgical, chemotherapy, radiotherapy, hormone therapy, palliative care), the success of which is based on alleviating symptoms and increasing life expectancy. When hope is lost in these cases, in which all therapeutic proposals have been made and no results have been achieved, palliative care is chosen, preferably at home alongside family members if the clinical condition allows it [3].

Based on psychological changes (anxiety, depression, psychosis) in breast cancer patients, which vary from person to person, patients are generally affected, but when well accompanied by multidisciplinary teams, they raise their self-esteem, increase their life expectancy, etc. [2] [13]

The main care we should provide to a breast cancer patient is psychological, spiritual and emotional care, in order to mitigate the symptoms and at the same time reduce the emotional effects [3].

Scientific research has clearly shown that depression, anxiety and psychosis in women with breast cancer have an effect on self-esteem and the ego, which has compromised many women's sex lives (sensitivity, pleasure and orgasm) [2] [13] [14].

Given this symbiosis between negative psychological effects and the sexuality of women suffering from breast cancer, there is a growing need for systematic and regular psychological support in order to affect their quality of life [15].

Thus, the perception of body image related to appearance can be influenced by dissatisfaction in cases of patients who have undergone mastectomy or chemotherapy. This indicates that the degree of psychological affect is directly pro-

portional to the time of diagnosis and type of treatment, which also determines the degree of psychological affect (depression, anxiety, and rejection) [16].

Body image after mastectomy, associated with hair loss and lymphoedema, has been one of several factors that has led some women with cancer to develop depression due to their lack of acceptance of their body image after treatment, especially in the post-surgical period [17] [18].

The difference in the body image of these women at the cost of surgical treatment (mastectomy, radical or conservative), sometimes with lymphoedema, has been a major concern for women, but in health education with good psychological support, these negative elements have found good support in these women leading them to be winners [19].

Another element is the degree of anxiety linked to image with regard to hair loss, a situation that many cannot digest and even think that it has been an appearance that leads them to be discriminated against, thus feeling sad, desperate, with social rejection, finding support in multidisciplinary teams, family, friends and in the words of God heard in church [20]-[22].

From the moment of accepting the experience of alopecia (hair loss), fatigue and spirituality, the change of body and its existential implications perceived by the women, is a window that makes it possible to cover the conception of the body, providing subsidies on the part of others for humanized care based on singularity and socio-cultural context [23].

In general, the biggest repercussion of a breast cancer diagnosis in women has to do with self-esteem, which can lead to depression, sadness and lack of interest in things etc. [24].

Esta patologia, leva um numero considerável de mulheres acometidas a desenvolverem estresse psicológico crônico, isto devido ao facto de ser uma doença que quando diagnosticada tardiamente, as chances de cura são menores, [25].

Negative psychological effects (depression, anxiety) are very common in women with breast cancer, which reminds us of the importance of regular screening for these symptoms in this population in order to determine an early and effective treatment window, centered on the patient, the family and improving their quality of life [26] [27].

The feelings that go through the minds of women with breast cancer range from despair, fear, anxiety and death to the effort to overcome it with the help of health teams, husbands, children, neighbors and others who support the cause. These are predictors of rehabilitation and directly affect the success rate [28]-[30].

The husband or partner of a woman with breast cancer suffers just as much, if not more, than the woman, and is a person who, in addition to supporting his partner, also needs to be followed up by a team of psychologists, because he is also prone to developing depression, anxiety and psychosis. Receiving good treatment and support will also provide good support for your partner [31].

Physical activity has been shown to be a good occupation for minimizing the negative psychological effects, resilience, and is therefore now a recommenda-

tion for women with cancer who have few or no physical limitations [32] [33].

The aim of this research is to identify psychological aspects in women who have been diagnosed with breast cancer.

## 2. Methodology

Northern quest: what are the psychological factors in women diagnosed with breast cancer? To answer this question, we defined the following inclusion and exclusion criteria, subsequently seeking information in this investigation (**Table 1**).

**Table 1.** Inclusion and exclusion criteria.

INCLUSIVE	EXCLUSIVE
Articles published between 2000 and 2023	Articles published outside the research period
Research of the following types: papers, final graduate work (TFG), PhD theses, other publications in scientific journals.	Systematic reviews, books, meta-analysis
Articles in Inglês, Espanhol and Português	Articles in outhur language
Documents related to key words, such as: Anxiety, depression, psychosis, sadness, cancer, review, systematics.	Terms and unrelated words the cool words
Free access documents and full text	Restricted documents

Search strategy: the search process for articles for the systematic review is carried out using the search engines: Lilacs, BDENF and Index Psychology. **Table 2** specifies the Mesh terms used and their corresponding DeCS, the Boolean operators, the filters used and the results of their application in each case.

**Table 2.** Terms and search filters in selected databases.

	Terms Mesh e DeCS	Boolean operators	Filters used	Quantity of Results
Lilacs	psychological effects in women with breast cancer	And or not	Espanhol and Português, 2000 - 2023	58
	Anxiety, depression, psychosis, sadness, cancer in women			143
Index Psicology	psychological effects in women with breast cancer	And or not	Inglês, Espanhol and Português, 2000 - 2023	142
	Anxiety, depression, psychosis, sadness, cancer in women			301
DBENF	psychological effects in women with breast cancer	Ando or not	Inglês, Espanhol and Português, 2000 - 2023	72
	Anxiety, depression, psychosis, sadness, cancer in women			126
	Total documents available for a first analysis			842

### 1) Analysis of the information collected

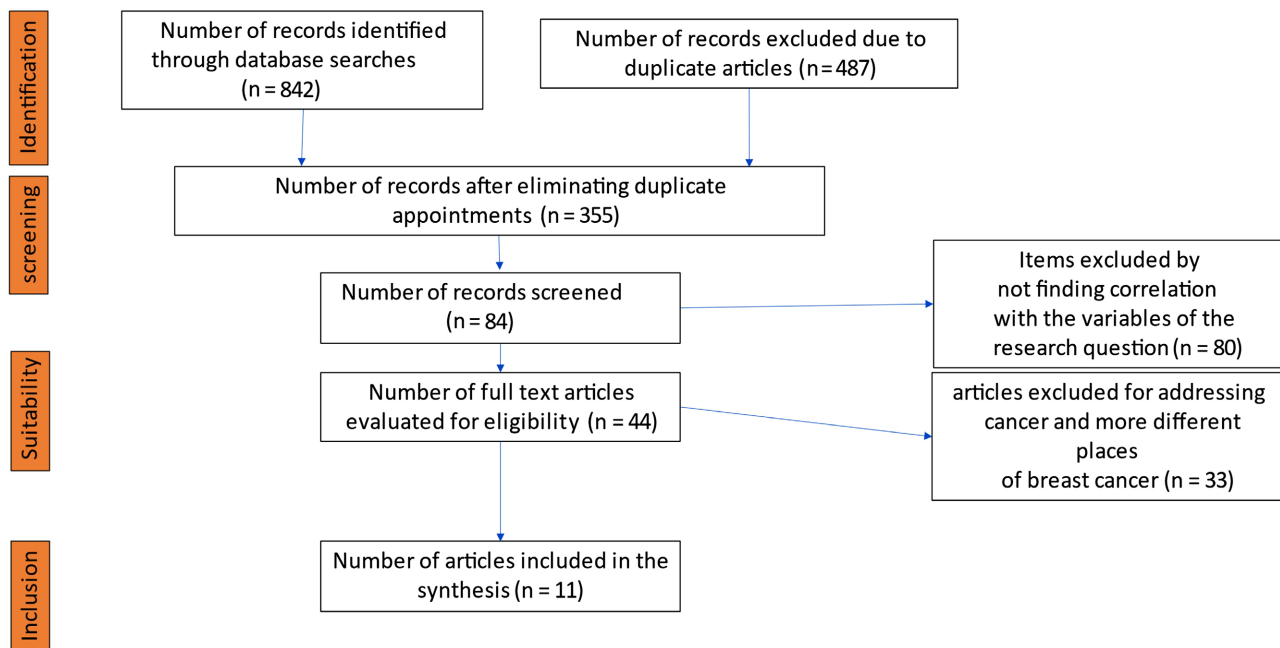
First analysis: for the first analysis of the documents found, a selection process is carried out by reading the title, which has the following variables in a ratio of at least two to one (**Table 3**):

**Table 3.** Articles selected for this research.

	Search results	Articles excluded for not finding correlation with the variables of the research question	Total documents selected for a second analysis in each search
Lilacs	201 (58 + 143)	178	23
Index Psicologia	443 (301 + 142)	402	41
BDENF	198 (126 + 72)	134	20
Total documents selected for a second analysis		84	

- a) Psychological
- b) Anxiety
- c) Depression
- d) Psychosis
- e) Sadness
- f) Cancer in women

Second analysis: the abstract is read and the inclusion and exclusion criteria related to the variables belonging to the research question posed are applied. The results are presented in the flow chart (**Figure 1**).



**Figure 1.** Flowchart. Note: Own elaboration based on the PRISMA flow chart.

**2) Sequence the data obtained:** to sequence the data obtained, the articles are analyzed, taking as reference the following analysis criteria (under what is indicated in the inclusion and exclusion criteria):

N°	Authors and year	type of study	Sample	General objective	Results	Conclusions
1	Balsanelli, A. C. S., & Grossi, S. A. A. [10]	Prospective Longitudinal	122	Identification of predictors of life expectancy in women with breast cancer undergoing chemotherapy treatment	The increase in hope at the end of chemotherapy treatment was statistically significant ( $p = 0.012$ ). The delay in treatment since the onset of breast cancer symptoms, Karnofsky Performance Status, depression, self-esteem and pain were characterized as factors associated with hope by the univariate analysis. Among the variables analyzed, pain was the only predictor of hope.	Pain was the predictor in this sample. Hope increased during treatment and revealed the following associated factors: Karnofsky Performance Status, delay in starting treatment, depression, self-esteem and pain. This study made a multidisciplinary contribution, allowed us to understand the factors that can influence hope and provided support for nursing care. The data showed conditions for improving or worsening hope, which requires interdisciplinary attention in oncology.
2	Camargo <i>et al.</i> , 2020 [4]	Descriptive Cross-sectional	50	identifying factors related to post-traumatic growth following breast cancer diagnosis and treatment	It was found that variables such as age, having a partner, longer time since diagnosis, hope, lower indicators of depression, higher level of education and religion are factors that contribute to the development of post-traumatic growth.	Multidisciplinary intervention and family support minimize stress factors during and after treatment.
3	Camargo <i>et al.</i> , 2020 [4]	Descriptive Cross-sectional	30	The aim was to identify the factors related to post-traumatic growth following the diagnosis and treatment of breast cancer	As a result, it was found that variables such as age, having a partner, longer time since diagnosis, hope, lower indicators of depression, a higher level of education and religion are factors that contribute to the development of post-traumatic growth.	These results point to the importance of identifying these variables in the psychosocial profile of cancer patients, and especially to the need to develop interventions that can promote the maintenance and development of protective factors in the face of treatment stressors.

## Continued

4	De Carlo, 2012 [11]	Descriptive Cross-sectional Observational	159	the aim of the study was to determine the relationship between family support and the presence of anxiety and depression in the primary caregiver of breast cancer patients	the results showed that 7 out of 10 respondents have significant anxiety and 50% depression between the two variables was found to be directly proportional moderate and statistically significant (OR = 0.698, p = 0.0001). With regard to family support, men are increasingly involved in activities to promote the adaptation of women as opposed to men, p < 0.05. In addition, those who dedicate themselves to an activity and are part of a group provide more support.	Studies on this subject are still insufficient and the degree of anxiety and depression experienced by caregivers is high, so more research is suggested on the effects that an individual has when acquiring the role of main caregiver. The study's findings are valuable and alert nurses to design and implement educational interventions for caregivers in order to improve the patient's quality of life, for themselves and for the family
5	Faller <i>et al.</i> , 2016 [8]	Quantitative cross-section	33	Assessing pain and associated symptoms in elderly cancer patients undergoing palliative care at home	The elderly were mostly in the sixth decade of life (60 to 69 years), mostly women, married, with breast cancer, low income and low schooling, and with other diseases associated with cancer. It was found that 90.1% of the patients reported moderate, burning, daily and continuous pain at the site affected by the tumor. The symptoms associated with pain were anxiety, tiredness, depression and reduced well-being	Measures to control pain and symptoms need to be readjusted and health managers need to invest more to enable better palliative care at home.
6	Ferreira <i>et al.</i> , 2019 [1]	Bibliographic review	56	Literature review of scientific publications on post-traumatic growth in women with breast cancer	From a total of 56 final references analyzed, it was observed that the USA, China and Portugal are the countries with the highest number of publications on the subject, with the majority of studies being cross-sectional and quantitative. Post-traumatic growth is a phenomenon observed in many women who have survived breast cancer and is influenced by factors such as social support, coping strategies, psychological stress, depression, cognitive processing, quality of life, perception of the disease, religiosity/spirituality, anxiety, cancer-specific stressors, optimism, positive affect and mental health.	Through this study, it was possible to map out, in the literature, some of the main psychological variables related to the growth observed after experiencing breast cancer, and this experience may be associated not only with negative impacts, but also with important resignifications about life.

## Continued

7	Mistura <i>et al.</i> , 2011 [12]	Descriptive with a qualitative approach.	6	identify how mastectomized women cope with cancer and chemotherapy treatment	Feelings experienced included depression, anguish, sadness and anxiety. Among the devices used to deal with the problem were religious and family support	The care given to women must be carried out by a multi-professional team, ensuring comprehensive care, taking into account the woman's multiple dimensions.
8	Pedreiro, S. R. G., 2020 [9]	Systematic Literature Review	12	To evaluate the effect of a resistance exercise program on mastectomized women with or at risk of developing lymphedema, based on scientific evidence.	The effects of resistance exercise programs in the selected studies were visible in terms of quality of life, depression, anxiety, cognitive function, pain, feeling of heaviness, physical fitness, muscle strength, joint range of motion, fatigue and lymphedema. Regarding the impact of exercise on lymphoedema, six studies found that the differences between the groups were not significant	This work could help raise awareness among the general population and health professionals about resistance exercise, which is effective and generally safe. It should be progressive, supervised and combined with aerobic exercise, stretching and relaxation in order to reduce adverse effects. This means that strengthening exercises can be performed safely by women with lymphoedema, without the risk of increasing the volume of the upper limb with oedema.
9	Regino <i>et al.</i> , 2018 [6]	Observational, quantitative, descriptive and prospective longitudinal study	14	Checking for correlations between anxiety and depression scores and quality of life domains before and after chemotherapy	The physical domain of quality of life was negatively correlated with depression before and after chemotherapy. There was also a negative correlation between the psychological and environmental domains and anxiety and depression before and after chemotherapy	It was concluded that depression and anxiety had a negative influence on the quality of life of the women studied in the physical, psychological and environmental domains
10	Regino <i>et al.</i> , 2018 [6]	Descriptive quantitative observational study	14	Checking the prevalence of depression and anxiety in women diagnosed with breast cancer	Depression and anxiety have a negative influence on women undergoing chemotherapy after being diagnosed with breast cancer	It can be concluded that most women diagnosed with cancer undergoing chemotherapy show signs of depression and anxiety

## Continued

11	Santiago, N. 2009 [3]	A quantitative-descriptive cross-sectional study was carried out	154	Analyzing the experiences of nurses who care for cancer patients in the process of dying	<p>Survey of nurses (N = 154) in the areas of hematology, surgical oncology and medical oncology. Care is provided mainly by general nurses and nursing assistants. 20% have been studying nursing for less than 3 years, with an average of 13.7 years. 91% of the nurses were female. With regard to age, we found a minimum of 20 years, a maximum of 65 and an average of 36.4 years. It was identified that a lower degree of training, a higher degree of intervention or general routine care and less experience in treating the cancer patient in the agonizing process more difficult to detect their patient has just entered agony. 13% of those surveyed try to preserve life at all costs, performing resuscitation and life support techniques, which can lead to therapeutic cruelty. The most experienced are better able to identify that their patient is in the last moments of life after death, they have observed that the agony lasts for an uncertain time and not 48 hours or so as stated in the literature. Most are considered capable of identifying that a person has died and, although they must adhere to medical notification. Their educational plans do not include this problem, as they attend complementary courses and learn about the care of the dying person through daily praxis. Given the uncertainty generated by the proximity of death nurses have mixed feelings such as anxiety indifference, evaluating the dimension of life and health, no regard for life, loss of interest in everyday matters, there is no meaning for them, work, physical and emotional fatigue</p>	<p>The results made it possible to identify the experiences of nursing staff treating cancer patients in the process of dying, which are similar in the two institutions studied. Differences are found in comparison with the literature, however, although there is internal validity, there is no external validity to be able to generalize the results, as it was a non-probabilistic sample. There are opportunities for psycho-emotional intervention for the nurses surveyed who have emotional problems such as distress, depression or burnout at work.</p>
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### 3. Discussion

It has been shown that the United States of America, Portugal and China are among the countries with the most publications on this subject, where most of the studies are cross-sectional and quantitative. The phenomenon observed in several women who have survived breast cancer, suffering the influence of factors such as social support, coping strategies, psychological stress, depression,

cognitive processing, quality of life, perception of the disease, religiosity/spirituality, anxiety, cancer-specific stressors, optimism, positive affect and mental health, have been the most researched [7].

This study analyzed the psychological state (anxiety, depression and psychosis) of patients diagnosed with breast cancer.

According to the results of this study, anxiety, depression, self-esteem and psychosis had a significant and negative influence on the lives of women diagnosed with breast cancer, although the manifestation of these conditions varied according to the time of diagnosis and the type of treatment the woman underwent, and these psychological changes altered the daily lives of these women.

As depression and anxiety increased in the lives of these patients, their quality of life worsened, with a variability in pathophysiological response depending on the support they may have been receiving at the time of the onset of these psychological changes [6].

The assessment of anxiety and depression in breast cancer patients should always be taken into account, since these psychological changes interfere with adherence to treatment, treatment success, quality of life and/or the outcome of the disease [6] [9].

Since psychological changes accompany patients, they were categorized as elements that interfere with patients' life expectancy, according to [34].

Having a partner, an early diagnosis, being younger, having less depression, a higher level of education and attending church are all good prognostic factors and mean that fewer psychological changes develop [4].

Studies by Carlos [11] showed that thirty percent of the women surveyed who had breast cancer had significant anxiety and 50% depression, which is an element to consider in treatment, especially in follow-up appointments [11].

One of the factors that leads patients to develop anxiety and depression in this population is the presence of continuous burning pain, which is an element that needs to be controlled in order to avoid worsening the condition [8].

Anxiety and depression interfered with social life, but physiotherapy and the psychological support received from multidisciplinary teams, families, friends and the church significantly improved the patients' quality of life [28] [29].

#### **4. Conclusions**

Based on the data obtained in this research, we conclude the following:

- 1) Anxiety and depression in women diagnosed with breast cancer are present in all of them to varying degrees or intensity.
- 2) It was noted that depression and anxiety had a negative influence on the lives of these women.
- 3) The help and support of family members and multidisciplinary teams helped to minimize the patients' psychological changes.
- 4) Early initiation of psychological support for these patients helps to achieve a favorable outcome in the health-disease binomial, which is why immediate in-

tervention and early and optimal diagnosis and treatment are recommended for a good or at least acceptable quality of life.

5) This research allowed us to conclude that regardless of psychological disorders in women with breast cancer, they can be minimized with acceptance of the disease, psychological and psychiatric treatment if necessary.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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