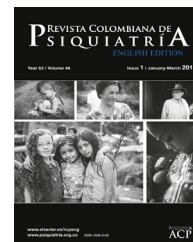




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Original article

Adaptation to the disease, resilience and optimism in woman with breast cancer



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ABSTRACT

This research aims to determine the relationship between the variables adaptation to the disease, resilience and dispositional optimism in women with breast cancer in Montería (Colombia). This study is a descriptive-correlational type, evaluating 116 participants. The instruments applied were the Font Quality of Life Questionnaire, to assess the Index of Adaptation to Disease, Wagnild and Young's Resilience Scale (RS) and the Life Orientation Test-Revised (LOT-R). The statistical program SPSS 25.0 was used for the analysis of the data. A normality test was performed which led to the application of the Spearman correlation coefficient. Findings indicated the presence of adaptation in the participants and resilient and optimistic characteristics, however, there is no significant relationship between these variables and adaptation to the disease.

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Adaptación a la enfermedad, resiliencia y optimismo en mujeres con cáncer de mama

RESUMEN

Esta investigación tiene por objetivo determinar la relación entre las variables adaptación a la enfermedad, resiliencia y optimismo disposicional en mujeres con cáncer de mama en Montería (Colombia). Este estudio es de tipo descriptivo-correlacional, se evaluó a 116 participantes. Los instrumentos aplicados fueron el Cuestionario de Calidad de Vida de Font, el Índice de Adaptación a la Enfermedad, la Escala de Resiliencia de Wagnild y Young (ER) y el Life Orientation Test-Revised (LOT-R). Para el análisis de los datos, se empleó el programa

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estadístico SPSS 25.0. Se aplicó una prueba de normalidad y se calculó el coeficiente de correlación de Spearman. Los hallazgos indicaron adaptación de las participantes y características resilientes y optimistas; sin embargo, no existe relación significativa entre estas variables y la adaptación a la enfermedad.

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Introduction

Breast cancer (BC) is not a disease that occurs only in women, though this diagnosis is more common in women. Due to the progressive global increase in incidence (24.5%) and mortality (15.5%) data for 2021, the disease continues to be a public health problem¹ that may lead to mental disorders such as depression and post-traumatic stress² due to the symptoms of the disease and side effects of interventions to treat it.^{3,4} For this reason, most studies on psychological variables and BC have focused on emotional distress and stress,^{5–7} as BC has been described to be a traumatic situation,^{8,9} potentially impacting the quality of life of BC patients and their loved ones.¹⁰

In Colombia,¹¹ this type of cancer ranks first in incidence and mortality among women, as occurs worldwide, and the most developed cities are at increased risk. Despite being considered to be a cancer with a good prognosis, the reality is that its mortality rate increases in developing countries.¹²

Statistical BC data reflect a reality that causes emotional distress due to fear of the unknown, ideas of losing control over one's health and impact on life in general, which make the process of adjusting to the disease more difficult.^{4,13} This supports the need to look into solutions that enable patients to deal with the disease in a positive way and lead to the learning and expression of positive emotions.¹⁴

For some authors,^{15,16} depression, anxiety, body image problems, sleep problems, irritability, helplessness, fatigue, fear of death and abandonment, pessimism and the individual's maladjustment in face of the disease are common psychological and emotional reactions in response to BC.¹⁷ As a result, it is important that positive emotions are the focus in women with BC in the interests of improving their physical health.¹⁸

Vázquez et al.¹⁹ reported that cancer research would emphasise various aspects of the disease. Firstly, the effect of positive and negative affects on its development and spread; secondly coping and personality factors; and lastly, positive learning and emotions from the disease, aspects that characterise conditions and processes that facilitate good quality of life.²⁰ The personality traits or coping mechanisms of interest for this study are resilience and dispositional optimism and their relationship with adapting to the disease.

Báñez²¹ defined adaptation to cancer as a process in which coping strategies are used to mitigate negative emotions, as well as the physical, social and psychological effects of the disease. According to Tafuya,²² adaptation thus depends on resilience, coping resources, social support and positive emotions and attitudes that enable better functionality and quality

of life. For Folkman,²³ adaptation is a process that can only be explained to the extent in which the pathogenic and salutogenic factors involved in the process are identified.

Another explanation for adaptation is that it is a process related to the concept of stress, due to the grieving process that arises from the loss of physical health and the lack of control over some aspects in life.^{24,25} In 1946, Selye²⁶ defined stress as a physiological response that occurs as the result of a stressful event and that has the capacity to stimulate changes in the immune, nervous and endocrine systems, thereby increasing the probability of chronic diseases. According to Solis,²⁷ patients with cancer and limitations to express their emotions and feelings, who in turn cope with the disease through denial, inhibition and avoidance, are those who have the most problems adapting to the disease, depression and immune system deterioration.

For Cohler,²⁸ resilience is a personality trait that drives human beings to reach the objectives they have set, from the capacity to generate behavioural patterns that allow them to do so. Various authors^{29–31} define it as a dependent and independent variable, associated with the adaptive functioning of an individual in stressful or critical situations from a developmental and cultural viewpoint.³² According to Leshner et al.,^{33,34} it enables adaptation or adjustment to the extent that the person in question has characteristics associated with the capacity for mastery, perseverance, social support, flexibility, adaptability to changes, anticipation of results, empathy, religiousness and resistance, especially in the face of situations of great adversity, attitudes that in the health field enable protecting individuals and a challenge to disease-related changes and conditions.³⁵

In BC patients, the most common resilient characteristics are social support, self-efficacy, hope and courage,^{36,37} traits that, according to Seiler et al.,³⁸ contribute to the recovery capacity of cancer patients by favouring positive treatment-related outcome and disease recovery processes. Consequently, post-traumatic growth could occur, in addition to a decrease in physical and psychological symptoms such as depression and anxiety.^{39,40} Some studies^{41–43} have shown that resilience is a source of strength for BC patients and a factor that affects adjustment to the disease.

In 1985, Scheier et al.⁴⁴ defined dispositional optimism as a stable personality characteristic with the capacity to influence a person's actions to obtain favourable results through them. This type of optimism is explained using a behavioural self-regulation model, directed at achieving an objective through a negative feedback system that constantly evaluates the distance between what is done and the expectation of achievement. According to the authors,^{45,46}

expectations were important to achieve results, as expectations mobilise behaviour regarding health-related issues. In addition to expectations, other variables that influence optimism are problem-focused coping strategies,^{47,48} the ability to accept and renounce⁴⁶ and an individual's culture and social support.⁴⁹

Optimism is related to proactive actions linked to protecting and promoting health by minimising risk factors.^{49,50} It minimises stress and has a positive impact on the quality of life of cancer patients,⁵¹ as well as on disease adaptation^{52,53} and post-traumatic growth.⁴⁷

As the variables described are understood to be important, the objective of this study is to determine the relationship of adaptation to the disease based on the resilience and dispositional optimism of women with BC in the city of Montería (Colombia).

The study hypothesis was that the findings would show significant relationships between resilience and optimism with adaptation to the disease.

Methods

This study had a non-experimental, transversal-correlational design, which aims to describe and show a relationship between the variables at a single time point.⁵⁴

Subjects

A total of 116 women diagnosed with BC participated, with a mean age of 53.8 years (range: 28–83), Colombian nationality and residency in the Department of Córdoba and surrounding areas. Non-probabilistic convenience sampling was used to identify willing and available subjects, due to the vulnerability of the sample.⁵⁴

Inclusion criteria were being a woman over age 18 with a BC diagnosis in the 3–12 months prior to applying the instruments, receiving medical treatment and having signed the informed consent form. Exclusion criteria were having an original diagnosis of another type of cancer, cognitive deterioration described in medical records or altered states of consciousness or other adverse effects of the disease or treatments that could prevent ongoing assessment (nausea, vomiting or involuntary motor activation, among others).

Instruments

Ad hoc questionnaire on sociodemographic and medical data

This was designed for the study to identify sample characteristics such as age, number of children, marital status, level of education, salary range, cancer stage diagnosis and treatments received.

Adaptation to the disease

Adaptation was determined using the adaptation to disease index, a secondary measure of Font's *Quality of Life* (QoL) questionnaire,⁵⁵ the purpose of which is to evaluate deterioration in the quality of life of cancer patients.

The instrument was created in 1988, contains 24 items distributed into four sub-scales: increase in symptoms (SINTO),

increase in loss of bodily functional capacity (CORPO), increase in loss of family and social relationships (RELFAM) and increase in psychological distress (PSICOL). Moreover, it contemplates the overall measure of loss of QoL. The items have analogue rating scales from 0 to 100 (0: no deterioration; 100: the greatest deterioration possible). The overall scale gives a Cronbach's alpha of 0.85 and the sub-scales $\alpha = 0.57$, $\alpha = 0.85$, $\alpha = 0.62$ and $\alpha = 0.80$. The overall scale obtained for the sample in this study is $\alpha = 0.83$.⁵⁵

The formula for the disease adaptation index proposed by Blasco et al.⁵⁶ in 1992 is the sum of the scores from the SINTO, CORPO and RELFAM sub-scales, divided by the subscale PSICOL $\times 3$. A score ≥ 1.0 is considered adaptation. The higher the score, the greater the adaptation.⁵⁷

Resilience scale

Created by Wagnild et al.⁵⁸ in 1993, it has 25 items that measure two factors (personal competence and self-acceptance), made up of five resilience characteristics: equanimity, perseverance, self-reliance, meaningfulness and existential aloneness.

Items are answered using a 7-point Likert scale (1: completely disagree to 7: completely agree). Regarding reliability, the original version requires an $\alpha = 0.91$ for the test total, and for factors and characteristics this ranges between 0.67 and 0.84.⁵⁸ In Colombia,⁵⁹ the validation obtained an $\alpha = 0.84$ for the test total; between 0.53 and 0.83 was obtained for characteristics, 0.95 for personal competence and 0.68 for self-acceptance. For this study, the test total was $\alpha = 0.90$.

Scoring standards indicate that the general test score ranges from 25 to 175 (the higher the score, the greater the expression of the individual's resilience). Regarding the factors, the minimum and maximum scores are: personal competence 17–119 and self-acceptance 8–56. Regarding characteristics: equanimity 4–28; perseverance 5–49; self-reliance 8–49; meaningfulness 4–28 and existential aloneness 3–21.⁵⁹

Life orientation test-revised

It was originally developed in 1994⁶⁰ and consists of 10 items; three measure optimism, three measure pessimism and the remaining four are not used to calculate the score. Answers are based on a Likert scale from 0 to 4 (0: strongly disagree; 4: strongly agree). Scores ≤ 6 indicate low presence of the characteristics and scores ≥ 7 indicate high presence of both dispositional optimism and pessimism. The six items from the original test obtained an $\alpha = 0.78$. In Colombia, Valdelamar-Jiménez et al.⁶¹ validated the test in a sample of cancer patients ($\alpha = 0.96$). For this test, $\alpha = 0.76$ was obtained.

Procedure

This study was approved by the ethics committee of the Universidad San Buenaventura in Medellín and of Clínica IMAT Oncomédica. Once the research was approved, patients who met the study inclusion and exclusion criteria were identified and invited to participate by being presented with the informed consent in which the study objectives and scope were specified. After the subjects, witnesses and investigator in charge signed the consents, the instruments were applied.

Table 1 – Adaptation to the disease.

Adaptation to the disease index, mean $\pm$ standard deviation (range)	1.7 $\pm$ 1.5 (1–10)
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Then the data were entered and encrypted for their analysis using the statistical package SPSS version 25.0 for Windows.⁶²

Data analysis

Before data were analysed, compliance with the assumptions for using parametric techniques was evaluated via the Kolmogorov-Smirnov normality test, which is suitable for samples >50 subjects.⁶³ The results ranged from $p < 0.001$ to $p = 0.030$, which guided the non-parametric technique of the Spearman correlation coefficient for the analysis of the correlations between the variables resilience and adaptation to the disease, as well as between dispositional optimism and adaptation to the disease. Prior to the correlation analysis, the overall Cronbach's alpha was obtained for the tests and a descriptive analysis of the numerical and qualitative variables was performed.

Study-related ethical considerations

The study was conducted with the informed consent of subjects, in accordance with the Declaration of Helsinki of the World Medical Association of 1964, amended in different periods until 2013.⁶⁴

Results

Regarding the characteristics of the women with BC enrolled in the study, they had a mean age of 53.8 ± 11.6 years; most had a common-law partner (31.0%) or were single (28.4%); they had an average of 2.5 ± 1.8 children; an educational level of completion of primary school (28.4%), secondary school (24.1%) and university (20.2%); and a low income (71.6%). Most came from urban areas (72.4%). Regarding medical/clinical variables, 42.2% were treated with chemotherapy alone and 46.6% with a combination of chemotherapy and surgery. The most commonly reported diagnoses were stages IIA (22.4%) and IIIB (22.4%). It was noteworthy that most of the diagnoses fell between these two stages.

Regarding psychological study variables, Table 1 shows the values of the variable adaptation to the disease (1.7 ± 1.5) which reveal that subjects adapted to the physical, functional and family/social aspects of their disease. This means that adaptation occurred in the face of the changes caused by BC in their physical appearance, their health condition, their ability to perform activities of daily living and the way they interact with others.

Regarding resilience, Table 2 shows that the women evaluated achieved a balance in life, and had persistence, self-discipline and self-esteem, reflecting the high scores for personal competence factors (104.5 ± 11.8) and self-acceptance and acceptance of life (48.9 ± 6.6), as well as the characteristics of equanimity (23.4 ± 4.0), perseverance

Table 2 – Resilience factors and characteristics.

Personal competence	104.5 $\pm$ 11.8 (29–119)
Self-acceptance and acceptance of life	48.9 $\pm$ 6.6 (8–56)
Characteristics	
Equanimity	23.4 $\pm$ 4.0 (8–28)
Perseverance	42.1 $\pm$ 5.2 (12–49)
Self-reliance	44.2 $\pm$ 5.8 (7–49)
Meaningfulness	25.1 $\pm$ 3.8 (4–28)
Existential aloneness	18.6 $\pm$ 2.9 (6–21)
Overall resilience	153.4 $\pm$ 17.6 (37–175)

The values express mean $\pm$ standard deviation (range).

Table 3 – Dispositional optimism.

Optimism	12.0 $\pm$ 3.8 (4–33)
Pessimism	5.4 $\pm$ 4.4 (0–25)

The values express mean $\pm$ standard deviation (range).

(42.1 ± 5.2) and self-reliance (44.2 ± 5.8). The overall resilience score was also high (153.4 ± 17.6).

Table 3 shows high optimism scores (12.0 ± 3.8) and low pessimism scores (5.4 ± 4.4) associated with the perception of self-control, added to favourable expectations and attitudes for the future and for what they want, which is why they take action to achieve it.

In the relationship of adaptation to the disease according to resilience and dispositional optimism (Table 4), no statistically significant relationships are detected. All coefficients turned out to be low for resilience, its factors and its characteristics (Spearman's rho between -0.012 and -0.126), and for optimism and pessimism ($\rho = -0.012$ and $\rho = -0.002$). All relationships had a $p > 0.05$. Therefore, adaptation to the disease would not change if the resilient and optimistic characteristics of subjects vary. Scoring high in the three variables has not been shown to be a guarantee that there is a connection between them and the patients' adaptation to BC.

Discussion

The findings in this study concur with previous findings in subjects with similar or identical health conditions.

In previous studies, it was found that patients with BC who appear to have adapted, understand their diagnosis and its implications⁶⁵ use coping strategies that enable them to deal with the adverse conditions⁶⁶ and accept their disease,⁶⁷ responding in a resilient and optimistic way.⁶⁸ High scores on factors and characteristics associated with resilience demonstrate the construct in the way that patients behave in the face of the diagnosis, the disease, and the side effects of their treatments; attitudes which facilitate the protection of patients when making changes to their lifestyle.³⁵

The history of resilient reactions to adverse situations enables capacities such as perseverance, flexibility, empathy, adaptation to change and anticipation of consequences to be repeatedly expressed.³⁴ These characteristics are still common in BC patients, in addition to self-efficacy, optimism and courage.^{36,37} Their recovery capacity is also found to favour treatment results⁴⁰ while their triggering of negative emo-

Table 4 – Adaptation to the disease based on resilience and dispositional optimism.

Adaptation to the disease based on resilience	PC	ASL	EQ	PE	SR	MG	EA	OR	
	ρ	–0.099	–0.013	–0.012	–0.082	–0.077	0.065	–0.126	–0.078
	p	0.291	0.887	0.896	0.380	0.411	0.491	0.178	0.407
Adaptation to the disease based on optimism/pessimism						Optimism		Pessimism	
	ρ					–0.012		–0.002	
	p					0.902		0.981	

ASL: self-acceptance and acceptance of life; EA: existential aloneness; EQ: equanimity; MG: meaningfulness; OR: overall resilience; PC: personal competence; PE: perseverance; SR: self-reliance.

tional responses such as anxiety and depression³⁸ is reduced, which improved adaptation to the disease.^{42,43} This makes resilience a variable with a significant impact on health and quality of life.⁶⁹

Optimism is another of the variables that usually appears in unfavourable situations.⁷⁰ For the study subjects, optimism obtained high scores as opposed to pessimism, in line with studies that found a decrease in fatigue and emotional distress in optimistic patients.^{53,71}

Dispositional optimism allows BC patients to focus their attention on problem solving.^{47,48} This leads them to take actions related to protecting and promoting health^{49,50} and contributes to adaptation to the disease,^{52,72} improves quality of life^{51,68} and leads to post-traumatic growth.⁴⁷

Although resilience and dispositional optimism are variables that have been shown to be related to adaptation to the disease, the results in this study were contradictory. These traits did not emerge as characteristics that could explain patients' adaptation to BC at any point in this study.

For this research, the most evident limitation is the sample size, which has a good number of subjects for a clinical study, but is not sufficient to achieve homogeneity or the possibility of performing an analysis using medical/clinical variables.

In addition to increasing the sample size, a feasible recommendation would be to conduct longitudinal studies at different treatment stages, with the support of other research sites in Colombia.

Conclusions

The presence of resilient and optimistic characteristics in women diagnosed with and treated for BC does not equate to there being a relationship between these variables and adaptation to the disease, which involves the analysis of other psychological characteristics such as social support, coping strategies, type of personality, anxiety, depression and stress, among others, which could be related and in some ways explain adaptation to BC.

It is nonetheless considered important to maintain the resilient and optimistic characteristics of patients given that they facilitate attitude and lifestyle changes in face of the disease and, therefore, improve patient quality of life.

Conflicts of interest

The authors declare that they have no conflicts of interest.

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