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Affective self-regulation: cognitive and emotional aspects in the experience with cancer

Autorregulação afetiva: aspectos cognitivos e emocionais na experiência com o câncer

Ana Vergínia Mangussi da Costa Fabiano[1*], Luísa Emília Alves Prado[2], Luciana Maria Caetano[3], Betânia Alves Veiga Dell'Agli[4]

[1]Master in Education, Environment and Society from the University Center of Associated Teaching Faculties – FAE. Doctoral student of the Graduate Program in School Psychology and Human Development at the University of São Paulo (USP), São Paulo (SP), Brazil; [2]Graduating in medicine at the University Center of Associated Teaching Faculties – FAE – São João da Boa Vista (SP), Brazil; [3]PhD in School Psychology and Human Development at the University of São Paulo (USP). Professor of the Graduate Program in School Psychology and Human Development at the University of São Paulo (USP), São Paulo (SP), Brazil; [4]PhD in Education from Unicamp. Professor of the Graduate Program in School Psychology and Human Development at the University of São Paulo (USP), São Paulo (SP), Brazil.

***Corresponding author:** Ana Vergínia Mangussi da Costa Fabiano –*E-mail*: verginia.fabiano@gmail.com

ABSTRACT
It was analyzed whether the affective self-regulation of women with breast cancer interferes in coping with cancer and in seeking a cure. For this, 40 women with breast cancer from a health institution specialized in prevention, diagnosis, and treatment of cancer participated in the study. The instruments used were the Resilience Scale, the Brief Spiritual/Religious Coping Scale, and the Ways of Coping Checklist. The results pointed out that there is a significant positive relationship between affective self-regulation and better ways of coping, that is, the higher the level of resilience and spirituality of an individual, the better his/her way of coping in adverse and stressful situations. It is concluded that affective self-regulation can interfere in the physical, mental, and social well-being of women with breast cancer undergoing chemotherapy, as well as in their strategies for coping with problems.

Keywords: Spirituality. Coping Strategies. Resilience.

RESUMO
Foi analisado se a autorregulação afetiva de mulheres com câncer de mama interfere no enfrentamento do câncer e na busca pela cura. Para tanto, participaram 40 mulheres com câncer de mama de uma instituição de saúde especializada em prevenção, diagnóstico e tratamento do câncer. Os instrumentos utilizados foram Escala de Resiliência, Escala de *Coping* Religioso/Espiritual Abreviada e Escala de Modos de Enfrentamento de Problemas. Os resultados apontaram que há relação positiva significante entre autorregulação afetiva e melhores modos de enfrentamento, ou seja, quanto maior for o nível de resiliência e espiritualidade de um indivíduo, melhor será o seu modo de enfrentamento em situações adversas e estressoras. Conclui-se que a autorregulação afetiva pode interferir no bem-estar físico, mental e social de mulheres com câncer de mama em quimioterapia, bem como em suas estratégias de modos de enfrentamento dos problemas.

Palavras-chave: Espiritualidade. Estratégias de Enfrentamento. Resiliência.

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INTRODUCTION

Cancer, a chronic non-communicable disease (NCD), is considered a public health problem due to its incidence, prevalence, and wide search for satisfactory treatments, besides being considered the second leading cause of death. It changes the patient's way of living and thinking, who finds himself facing a life-threatening disease. This is because, according to a literature review, the historical construction of the terminology of the disease has the attribute of incurability and consequent death sentence, generating a deep fear of acquiring it and the denomination of "survivor" to those affected [1,2,3].

Therefore, there is diversification in the "cancer survivors" terminology, since some authors include family, friends, and health professionals in addition to the patients themselves. Thus, the biopsychosocial context of the patient must be understood in the face of difficulties such as: changes in daily routine due to treatment, greater dependence on third-party care, changes in habits such as smoking and drinking, changes in body image, social isolation, doubts and insecurities, family values and history, among others [4,5,6,7]. Moreover, a vital crisis in the family can be triggered, since the situation can culminate in psychological suffering, evidenced by symptoms of depression, anxiety, manifestation of thoughts of hopelessness, feelings of fear and uncertainty about the future, and dissatisfaction with body image [5,6,7,8].

Health professionals who work in oncology are faced daily with situations of suffering, pain, and loss, generating greater emotional and physical stress. These professionals should be in a broad study to help families and patients to better face the situation and readapt, aiming to increase positive behaviors and thoughts, well-being, promote human flourishing, attenuate depression symptoms in the short term, and develop positive emotions such as optimism, gratitude, hope, self-compassion, and resilience [9,10,11,12,13,14].

The coping strategies to deal with the stress resulting from the disease go beyond cognition, with emphasis on willpower, spirituality, hope, empathy, well-being, self-perception, and resilience, which influence attitudes and decisions, affecting the perception and reading of the world, the set of available alternatives, and the selection of the action to be performed or not. Because this is a period of life in which the person is vulnerable, the recognition of such strategies as sources of strength to face the disease[15] and to regulate affective forces becomes very important.

All actions and thoughts involve cognitive and affective aspects, given that the brain areas that generate emotional states also process information about risks, rewards, and punishments. Therefore, in any situation, be it the simplest or the most complex, both functions intervene. This complex contributes to self-regulation, an ability to monitor and modulate emotion, cognition, and behavior to achieve a goal and/or adapt to specific situations, especially stressful ones. This process requires an integration that involves the person and his/her developmental contexts, thus having a great interference in transformations, internal or external, to confront personal balance. This balance can be reestablished and tend to a more stable stage than before; with this, human action consists in this constant and perpetual dynamism of readjustment or balancing, centered in the desire that the human being must find answers to formulated questions [16,17,18,19,20,21].

The person regulates his or her thoughts, feelings, and actions through the interactions that he or she experiences, in a mediation that takes place in the social sphere, with the conflicts that this same person experiences and from

which he or she learns. The elementary feelings are regulated by the will, which is generated by tendency and, consequently, by the conservation and permanence of values. Such values arise from the projection of feelings onto objects that, later, with interpersonal exchanges and intellectualization of feelings, become cognitively organized, generating the value system of each subject. Thus, the values originate from the regulation system that is established between the subject and the external world (since birth), based on their relations with objects, people, and themselves [22,23].

In other words, affective self-regulation consists of a complex series of events that has its origin in permanent values, acquired during life and throughout the experience with the internal and external world. These values turn a tendency into an act of will, in such a way that there will be an interaction composed of thoughts, feelings, and actions; this interaction emerges from the need to seek a way to cope with the adversity that arises[24], unbalancing the individual and his personal development. Such unbalance can be readjusted/reestablished, in the short or long term, due to the affective and, indirectly, cognitive self-regulation capacity.

Among the elements that favor self-regulation are resilience and spirituality. Resilience is considered a multidimensional construct that includes thoughts, behaviors, and actions that occur over time [25]. It can also be described as a dynamic process of adaptation and resistance to different contexts in which several factors (risk and protective) are involved besides personal and environmental characteristics, including the quality and intensity of events experienced, that is, it is the combination of genetic, constitutional, psychological, social, and situational factors that will determine whether there will be resilience [25].

Thus, a person considered resilient is characterized by his/her flexibility, intelligence, freedom, creativity, openness, empathy, authenticity, communicability, availability, emotional balance, and by his/her ability to withstand several situations (regardless of their level of complication) without losing balance, despite the difficulties that such situations may present [26].

In addition to resilience for regulating emotions, another favoring factor is spirituality. It is considered as a philosophical orientation that produces behaviors and feelings such as hope, love, and faith, and that provides meaning to people's lives. Spirituality is evident when the individual finds himself in situations of emotional stress, physical illness, and death, in search of a meaning to events, wholeness, peace, harmony, and individuality. Spirituality has been increasingly valued in health care practice since it presents itself as a strong ally in the biological, social, and emotional confrontation of difficult moments, such as illness, ratifying its positive influence on people's well-being [27].

The process of falling ill confronts the patients' comfort and expectations, imposes sudden changes, and demands the development of new abilities or the improvement of existing ones. Breast cancer, considered a chronic disease, permeated by risk factors, signs, symptoms, and care needs, needs to be understood beyond the physical, cognitive, and social aspects. It is necessary to empower the population with knowledge about how the disease affects women and about the importance of coping strategies used as a form of expression and experience of the disease, which affects how the signs and symptoms are accepted, evaluated, experienced, modified, generating adherence or abandonment of the proposed treatments [15].

Thus, to understand the importance of the capacity for affective self-regulation in the ways of coping with the disease, especially in women with breast cancer, promotes an

evolutionary contribution to providing a better quality of life for patients and their social circle and a reflection on the behaviors that favor resilience and spirituality. Furthermore, this enables professionals in the oncologic area to provide better care and reception and allows for a therapeutic adjustment to make the existing treatments more satisfactory. From this perspective, the proposed theme promotes to the population the possibility of minimizing suffering or obtaining greater hope of cure with the current treatments, reinforcing the bond of trust among all those involved in the process of becoming ill. In view of the above, this study aims to analyze whether the affective self-regulation of women interferes in facing cancer and in the search for a cure.

METHODOLOGY

A cross-sectional, descriptive, and exploratory study with a quantitative approach was developed with the participation of 40 women diagnosed with breast cancer and undergoing chemotherapy treatment.

The number of participants was defined based on the sample calculation, considering the total number of women with breast cancer treated in the period prior to data collection, totaling one year (from August 2019 to August 2020), and who were undergoing chemotherapy treatment.

Inclusion criteria were: having a recent diagnosis of breast cancer and being on chemotherapy treatment during the first six months. Exclusion criteria were: presence of neurological and/or neuropsychiatric disorders that could alter the domains being investigated, uncorrected sensory alterations, women using psychotropic medication, and women diagnosed with breast cancer, with end of treatment after maintenance.

The research took place in a healthcare institution specialized in cancer prevention, diagnosis, and treatment, located in a city in the state of São Paulo.

INSTRUMENTS

1) Sociodemographic questionnaire of health conditions and religious/spiritual activity to characterize the sample and evaluate the inclusion and exclusion criteria of the participants.

2) The evaluation of affective self-regulation was composed of two scales. One of them is the Resilience Scale [28], to measure resilience through levels of positive psychosocial adaptation to major life events. This scale is composed of 25 items ranging from 1 (strongly disagree) to 7 (strongly agree) - the total score ranges from 25 to 175 points, with high values indicating high resilience. The other is the Brief Scale of Religious and Spiritual Coping - Brief RCOPE [29], made up of 49 items, grouped into 11 factors, being seven Positive Religious/Spiritual Coping factors and four Negative Religious/ Spiritual Coping factors. The positive factors of the Brief RCOPE are: Transformation of oneself and/or one's life; Actions seeking spiritual help; Offering help to others; Positive stance before God; Seeking the institutional other; Detachment through God/Religion and/or Spirituality. The negative factors are: Negative Reappraisal of God; Negative Position before God; Dissatisfaction with the institutional Other; Negative Reappraisal of Meaning. The higher the value obtained by the average of the questions in each dimension, the higher the assessed person's religious and spiritual coping.

3) The evaluation of the Coping Strategies for the Illness was done using the Ways of Coping Checklist - WCC [30]. This is a checklist that contains 45 items, encompassing thoughts and actions that people use to deal with internal

or external demands of a specific stressful event. The authors propose four classificatory factors, which investigate the coping strategies: Factor 1 corresponds to problem-focused coping; Factor 2, to the coping focused on emotions; Factor 3 refers to the search for religious practices/wishful thinking; and Factor 4 relates to seeking social support.

PROCEDURE

In accordance with the ethical precepts for research with human beings, the study was approved by the Research Ethics Committee under number CAAE 36418520.0.0000.5382. The inclusion and exclusion criteria were informed to the person responsible for the institution, who gave the researchers a list with the names of all the women. Schedules for data collection were set according to the days and times when they were at the institution, and the questionnaires were applied in a confidential place to ensure participants' privacy. Data collection occurred between October 2020 and January 2021.

On pre-scheduled days, the researchers approached the women undergoing cancer treatment who were present at the institution. In the waiting room, they were briefly explained the objectives, participation, risks, benefits, and other project information. Those who met the inclusion criteria and consented to participate read and signed the Informed Consent Form (ICF). After acceptance, the three evaluation instruments were filled out by the participants personally. The duration of the sessions ranged from 40 minutes to an hour and 30 minutes, consisting of rapport, filling out the questionnaire, and answering any questions; always done with a lot of receptivity, empathy, and clear language.

After completion, the instruments were collected by the researcher, tabulated, corrected according to standardization criteria proposed by each of them, analyzed and correlated between the variables.

In view of the statistical analysis, it was possible to correlate the data between affective self-regulation, evaluated in relation to resilience and spirituality, and the strategies for coping with the disease.

The Kolmogorov-Smirnov test was used to test the hypothesis of normality of the data due to the characteristics of the sample: small and without dependence on the function of the cumulative distribution. The hypotheses about affective self-regulation (resilience, spirituality) and its relationship with patient characteristics were inferred using Student's t-test. In the analysis, a significance level of 5% was considered, and the comparison was made with the unpaired Student's t-test or ANOVA. Furthermore, the descriptive statistics of the variables were presented, such as: Pearson correlation, mean, variance, and standard deviation. All tests were performed using the Stata software.

RESULTS

The information from this research was analyzed with the aid of a spreadsheet software (Excel 2015) and a statistical data processing program (Stata).

The mean age of the participants was 59.65 (minimum: 38 years; maximum: 74 years). Most had incomplete elementary school education (35%), were married (77.5%) and/or had undergone surgery (66.6%). In addition, 65% were Catholic; 17.5% were Evangelical; 7.5% were Deists; and 2.5% were Spiritists. The participants with the highest frequency in attending their religion were the Catholics (20%), who considered religiosity very important (42.5%), along with Evangelicals (42.5%).

Among the 40 participants, 28.9% had some relapse, and 30% had sequelae from the treatment.

The results of the scales showed (Table 1) that people with higher levels of resilience tend to have a higher level of spirituality, and vice versa, becoming more affectively self-regulated.

Table 1. T-test with the variables Resilience and RCOPE-Total (religious-spiritual coping - total)

T-test Variables	Groups		Differences	Hypothesis		
	Resilience (20 Smallest)	Resilience (20 Biggest)	Difference (Dif)	Ah: Dif < 0	Ah: Dif ≠ 0	Ah: Dif > 0
RCOPE Total	1.402549	1.772059	- 0.3695098	0.06*	0.13	0.94
	RCOPE Total (20 Smallest)	RCOPE Total (20 Biggest)	Difference (Dif)	Ah: Dif < 0	Ah: Dif ≠ 0	Ah: Dif > 0
Resilience	144.45	152.4	- 7.95	0.08*	0.17	0.92

* 10% statistical significance. Ah: alternative hypothesis.

An individual's capacity for affective self-regulation positively influences their coping with problems, as there is a greater focus on problems, sociability, and spiritual rites/fantasy. Emotion-focused coping tends to make the individual less adaptive; hence, the individual's ability to manage problems from various angles, achieve goals, and/or cope with stressful moments will be lessened (Tables 2 and 3).

Table 2. Pearson's correlation analysis between the means of the factors of the Ways of Coping Checklist as a function of the variables

Variables	F1 Mean	F2 Mean	F3 Mean	F4 Mean	RCOPE - Total	Resilience
F1 Mean	1.00	0.11	0.50	0.44	0.49	0.58
F2 Mean	0.11	1.00	0.36	0.31	-0.06	-0.08
F3 Mean	0.50	0.36	1.00	0.40	0.42	0.18
F4 Mean	0.44	0.31	0.40	1.00	0.22	0.38
RCOPE - Total	0.49	-0.06	0.42	0.22	1.00	0.30
Resilience	0.58	-0.08	0.18	0.38	0.30	1.00

Factor 1: Problem-focused coping strategies. Factor 2: Emotion-focused coping strategies. Factor 3: Religious practices/Wishful thinking. Factor 4: Seeking social support. RCOPE-Total (religious-spiritual coping - total): is a directly proportional variable, that is, higher values are considered more positive.

Table 3. Analysis of effect sizes using Cohen's test (D) for the means of the factors of the Ways of Coping Checklist as a function of the variables Resilience and RCOPE-Total (religious-spiritual coping - total)

(Continua)

Cohen's D	Estimate	95% Confidence Interval	
Resilience - RCOPE - Total	- 0.44*	- 1.07	0.19
F1 Mean - Resilience	- 0.70 **	- 1.34	- 0.06
F1 Mean - RCOPE - Total	- 0.70 **	- 1.33	- 0.05
F2 Mean - Resilience	- 0.31*	- 0.93	0.32

(Conclusão)

Cohen's D		Estimate		95% Confidence Interval	
F2 Mean - RCOPE - Total	-	0.11	-	0.73	0.51
F3 Mean - Resilience	-	0.12	-	0.74	0.50
F3 Mean - RCOPE - Total	-	0.63**	-	1.26	0.01
F4 Mean - Resilience	-	0.31*	-	0.93	0.32
F4 Mean - RCOPE - Total	-	0.11	-	0.73	0.51

Factor 1: Problem-focused coping strategies. Factor 2: Emotion-focused coping strategies. Factor 3: Religious practices/Wishful thinking. Factor 4: Seeking social support. RCOPE-Total (religious-spiritual coping - total) Family measures of effect size (D): Small effect ≥ 0.20; medium effect ≥ 0.50; large effect ≥ 0.80.

It is interesting to point out that age interferes in the way of coping (Tables 4, 5, 6, and 7) being a negative variable when related to the emotional focus and the focus on spiritual rites/fantasy, since, in the context of neurocognitive reappraisal, older adults tend to attenuate negative emotions and/or increase positive emotions. Thus, ways of coping strategies in this context become more efficient beyond the additional systems recruited to generate affective regulation support not used by younger individuals [31].

Furthermore, women with breast cancer undergoing chemotherapy with a longer breast cancer diagnosis time, or underwent surgery, and/or had sequelae tended not to face problems in a more socially-focused way; and those who relapsed or underwent radiotherapy treatment tended to cope in a more emotion-focused way (Tables 4, 5, 6, and 7), becoming less affectively self-regulated.

Table 4. Ways of Coping Checklist factor means focusing on problem (F1) as a function of the variables

(Continua)

Variables	F1 Mean	F1 Mean	F1 Mean	F1 Mean	F1 Mean	F1 Mean
RCOPE Total	0.243**	0.238**	0.269**	0.242*	0.253**	0.178
	(2.54)	(2.52)	(2.59)	(2.02)	(2.06)	(1.39)
Resilience	0.014***	0.013***	0.014***	0.014***	0.013***	0.014***
	(4.67)	(4.49)	(3.89)	(3.38)	(3.38)	(3.29)
Age		-0.008	-0.007	-0.006	-0.005	-0.004
		(-1.42)	(-1.07)	(-0.77)	(-0.67)	(-0.49)
Time since diagnosis			-0.011	-0.010	-0.007	-0.006
			(-0.67)	(-0.61)	(-0.33)	(-0.38)
Surgery				-0.076	-0.138	-0.099
				(-0.46)	(-0.76)	(-0.49)
Sequelae				0.139	0.206	0.131
				(0.93)	(1.08)	(0.66)
Relapse					0.063	-0.039
					(0.38)	(-0.21)

(Conclusão)

Variables	F1 Mean	F1 Mean	F1 Mean	F1 Mean	F1 Mean	F1 Mean
Chemoterapy						0.376
						(1.23)
Radiotherapy						0.172
						(1.13)
Constant	1.638***	2.272***	2.168***	2.154***	2.189***	1.700**
	(3.30)	(3.78)	(3.29)	(3.15)	(3.00)	(2.25)
Observations	40	40	37	36	34	34
Square - R	0.4442	0.4660	0.4686	0.4833	0.4893	0.5367

*** 1%, ** 5%, and * 10% statistical significance.

Table 5. Ways of Coping Checklist factor means focusing on emotion (F2) as a function of the variables

Variables	F2 Mean	F2 Mean	F2 Mean	F2 Mean	F2 Mean	F2 Mean
RCOPE Total	-0.022	-0.033	-0.006	0.069	0.056	-0.015
	(-0.22)	(-0.35)	(-0.06)	(0.69)	(0.55)	(-0.13)
Resilience	-0.002	-0.004	-0.005	-0.008**	-0.007**	-0.005
	(-0.44)	(-1.08)	(-1.43)	(-2.34)	(-2.11)	(-1.39)
Age		-0.016***	-0.015**	-0.017**	-0.013*	-0.011
		(-2.90)	(-2.37)	(-2.49)	(-1.97)	(-1.48)
Time since diagnosis			-0.001	0.002	0.012	0.007
			(-0.09)	(0.16)	(0.74)	(0.58)
Surgery				0.150	0.119	0.089
				(1.05)	(0.80)	(0.57)
Sequelae				0.029	0.103	-0.010
				(0.18)	(0.58)	(-0.06)
Relapse					0.209	0.114
					(1.42)	(0.78)
Chemoterapy						0.155
						(0.71)
Radiotherapy						0.295*
						(1.81)
Constant	2.027***	3.326***	3.471***	3.731***	3.258***	2.801***
	(4.27)	(6.16)	(6.29)	(7.36)	(6.54)	(4.26)
Observations	40	40	37	36	34	34
Square - R	0.0085	0.1668	0.1639	0.2447	0.2793	0.3848

*** 1%, ** 5%, and * 10% statistical significance.

Table 6. Ways of Coping Checklist factor means focusing on religious practices/wishful thinking (F3) as a function of the variables

Variables	F3 Mean	F3 Mean	F3 Mean	F3 Mean	F3 Mean	F3 Mean
RCOPE Total	0.375**	0.362**	0.431**	0.455**	0.487**	0.537**
	(2.60)	(2.60)	(2.64)	(2.19)	(2.27)	(2.20)
Resilience	0.002	-0.000	-0.002	-0.001	-0.002	-0.004
	(0.38)	(-0.10)	(-0.31)	(-0.13)	(-0.25)	(-0.49)
Age		-0.022**	-0.018*	-0.022**	-0.020*	-0.022*
		(-2.38)	(-1.73)	(-2.21)	(-1.81)	(-2.00)
Time since diagnosis			-0.012	-0.014	-0.008	-0.001
			(-0.62)	(-0.80)	(-0.38)	(-0.04)
Surgery				0.299	0.216	0.284
				(1.12)	(0.75)	(0.94)
Sequelae				-0.171	-0.012	0.096
				(-0.76)	(-0.04)	(0.33)
Relapse					0.021	0.086
					(0.07)	(0.28)
Chemoterapy						0.030
						(0.08)
Radiotherapy						-0.296
						(-1.21)
Constant	2.695***	4.431***	4.436***	4.382***	4.333***	4.648***
	(3.05)	(4.24)	(4.04)	(3.54)	(3.08)	(3.47)
Observations	40	40	37	36	34	34
Square - R	0.1805	0.2752	0.2831	0.3090	0.3254	0.3529

*** 1%, ** 5%, and * 10% statistical significance.

Table 7. Ways of Coping Checklist factor means focusing on seeking social support (F4) as a function of the variables

(Continua)

Variables	F4 Mean	F4 Mean	F4 Mean	F4 Mean	F4 Mean	F4 Mean
RCOPE Total	0.146	0.128	0.360*	0.266	0.249	0.193
	(0.81)	(0.74)	(1.96)	(1.51)	(1.35)	(0.90)
Resilience	0.018**	0.015*	0.011	0.017*	0.017*	0.021**
	(2.16)	(2.00)	(1.21)	(1.93)	(2.02)	(2.18)
Age		-0.028**	-0.017	-0.014	-0.018	-0.014
		(-2.05)	(-1.16)	(-0.87)	(-1.08)	(-0.88)
Time since diagnosis			-0.046	-0.053	-0.067**	-0.080**
			(-1.48)	(-1.69)	(-2.13)	(-2.56)
Surgery				-0.439	-0.293	-0.430
				(-1.48)	(-0.93)	(-1.15)

(Conclusão)

Variables	F4 Mean	F4 Mean	F4 Mean	F4 Mean	F4 Mean	F4 Mean
Sequelae				-0.428	-0.643	-0.801**
				(-1.33)	(-1.67)	(-2.24)
Relapse					-0.268	-0.338
					(-0.83)	(-0.92)
Chemoterapy						-0.219
						(-0.46)
Radiotherapy						0.449
						(1.32)
Constant	0.563	2.808*	2.861*	2.394	2.731*	2.387
	(0.46)	(1.86)	(1.82)	(1.65)	(1.88)	(1.46)
Observations	40	40	37	36	34	34
Square - R	0.1607	0.2486	0.2653	0.3881	0.4146	0.4609

***1%, **5%, and *10% statistical significance.

DISCUSSION

The capacity for affective self-regulation is affected by many interferences depending on the context and changes in the life of the individual; thus, the integral search for empowering the sick with positive coping skills is extremely important [32,33,34,35,36,37,38].

The constructs of resilience and spirituality compose the protective factors along with self-esteem, social support, flexibility, positive emotional relationships, positive self-image, pro-social behavior, life project, problem-solving skills, cohesion, good social relationships, and availability of external supports [39,40]. Such factors steer the individual toward coping in a way which is positively adaptive and more focused on the problem, sociability, and in spiritual/fantasy rites.

The first way, problem-focused coping, indicates a proactive attitude toward a stressful situation, with the intention to manage and modify the stressor originating from the problem [41,42,43,44,45,46,35,47,48,49,50].

The second way, coping directed toward sociability, helps in personal rebalancing when faced with adverse situations, since it tends to cause quick recovery and lower rates of medical complications, lower hospital costs, lower mortality rates, and better coping in terminal cases. There is an active coping, positive resignification, humor, acceptance, optimism, engagement in leisure activities, feelings of security, belonging, and grounding in reality, as well as reinforcement of hope and will to live, which provides better quality of life [51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71].

The third way, coping directed toward spiritual/fantasy rites, can reduce the sense of loss of control and hopelessness in the process of becoming ill, promoting a cognitive structure that aims to reduce suffering and increase the sense of meaning. This strategy shows a positive correlation with better mental health, spiritual growth, and cooperativity; thus, there is a mutual control between external control, coming from

transcendent forces; and internal control, exercised by the individuals themselves [72,73,74,75,76,77,78,79,80,81,82,83].

Thus, the way of coping focused on emotions is associated with worse quality of life compared to the coping styles of active confrontation, since it is a response of emotional regulation resulting from avoidance attitudes, moving away from the stressor and, in turn, not modifying/managing the possibilities of coping. Its function is to reduce the unpleasant sensation of the state of stress through indirect cognitive reevaluations; it includes the release of negative emotional reactions such as anger, tension, self-blame, and blaming others. This coping style is related to low resilience, hyperemotivity, negative affection, dissatisfaction with life, and psychopathology [84,85,86,87,42,43,44,88,89,90,91,92,93,94, 48,95,45,49,96,24,97,98,99,100,101,102].

The method chosen here allowed the survey of important aspects about affective self-regulation. However, research with qualitative models, using semi-structured interviews, for example, could better explain such dimensions in the process of coping with the disease in such a way that it could be a guideline for actions and practices not only for other women with the same conditions, but also for the health team involved in the treatment of these women.

CONCLUSION

It is concluded that there is a great need to encompass the emotional aspects during the process of illness to minimize the negative symbolisms and develop the capacity for affective self-regulation. A positive and active adaptation is sought through spiritual and resilient experiences, given that coping strategies can be used simultaneously. Thus, the greater the ability for self-regulation, the greater the constructive thinking, so that the effectiveness of the individual's characteristic coping strategies increases.

The individual tends toward an adaptively descending intensity of use of the coping strategies: ways of coping focused on spiritual rites/fantasy; ways of coping focused on the problem; ways of coping focused on sociability; and ways of coping focused on emotion.

We conclude our reasoning by emphasizing that affective self-regulation can interfere with the physical, mental, and social well-being of breast cancer patients undergoing chemotherapy, as well as their coping strategies. There is a significant positive relationship between affective self-regulation and better ways of coping, that is, the higher the level of resilience and spirituality of an individual, the better his/her way of coping in adverse and stressful situations. In this way, coping strategies focused on the problem, sociability, and spiritual/fantasy rites interfere positively in the reevaluation of the situation and consequent action of the individual.

The present study provides subsidies for women with breast cancer, family members, health professionals, and the population with an interest in the theme to consider new possibilities of apprehension and understanding of emotional and behavioral manifestations linked to coping strategies. Thus, this public can incorporate into their practices care models that contribute to the minimization of suffering, not restricted to interventions of biological nature, but favoring affective self-regulation and, consequently, greater adherence to treatment. Thus, the importance of humanized and sensitive listening to women with breast cancer stands out. It is necessary to consider all the services offered during the treatment, from the diagnostic process to the prognosis, chemotherapeutic or radiotherapeutic conditions, whether in health care units or in hospitals, with the implementation of

receptivity and interprofessional care, promoting comprehensive care centered on the person and on those involved contextually in the process of becoming ill.

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