



Distress and the religious and spiritual coping of Brazilians living with cancer: A cross-sectional study

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ABSTRACT

Purpose: To analyze the relationship between the subjective experience of distress and the use of religious and/or spiritual coping by adult chemotherapy patients.

Method: A cross-sectional study conducted in 2018, with 100 patients undergoing chemotherapy. The data were collected through three tools: a characterization form, the Inventory of Subjective Distress Experiences in Illness, and the Brief Religious/Spiritual Coping Scale. The analysis was based on descriptive and inferential statistics, using the Spearman correlation test ($p < 0.05$), ANOVA, the Kruskal-Wallis test, and negative binomial regression.

Results: A low level of overall, physical, existential, psychological and sociorelational distress was observed. The dimension of positive distress experiences, however, was above the intermediate level in the scale. With respect to coping, use of positive and negative facets was moderate and low, respectively. Very weak positive correlations were noted between negative coping and physical, existential, and overall distress. The regression analysis indicated a higher risk of distress with increasing age and greater negative religious coping.

Conclusions: In this sample, higher means were found in the dimension of positive distress experiences; negative coping, although utilized less, had greater potential to exacerbate distress after adjustment for age, in contrast to that expected for positive coping, which did not manifest significant effects in alleviating it.

1. Introduction

Cancer is a highly prevalent disease globally. In 2018, 18.1 million new cases and 9.6 million deaths due to malignant neoplasms were reported (Bray et al., 2018). In Brazil, where cancer is the second leading cause of death, it is estimated that there were 600,000 new cases in 2018 and 2019 and 3,753,950 deaths (Barbosa et al., 2015; Santos, 2018). Although advances in science have boosted the survival rate, a cancer diagnosis is still considered a tragic event. Apart from the physical burden related to the symptoms and side effects of treatment, the disease also unleashes psychological distress that can worsen the overall state of patients (Cuttillo et al., 2017; Xing et al., 2018).

Distress is a state of severe discomfort caused by a real or perceived

threat to a person's physical integrity and continued existence (Cassell, 1999). It is characterized by a prolonged afflictive feeling that engenders a sense of lacking personal resources and of facing devastating adverse conditions, such as pain, illness, and psychological stress (Yunta, 2000).

In the case of chemotherapy patients, distress is due to a combination of factors. Feelings of loss, pessimism, the threat of death, guilt, shame, and defeat can emerge after the diagnosis, limiting life projects and, in more extreme cases of distress, engendering a desire for life to end (Ebright and Lyon, 2002; Liao et al., 2018; Montoro et al., 2012; Santos, 2017).

These emotional reactions generally trigger dubious thoughts about religion and spirituality: on the one hand, the unhappiness experienced leads to feelings that distress is unjustly distributed in the world, which

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leads to a loss of belief; on the other, the tension generated by this combination of feelings causes patients to hold even more tightly to their beliefs, trusting that their faith will bring about healing (Ebright and Lyon, 2002; Liao et al., 2018; Montoro et al., 2012; Santos, 2017).

It is hoped that cancer patients undergoing chemotherapy will mobilize psychosocial and spiritual resources to deal with the distress and adverse effects of this experience (Filho and Khoury, 2018; Mesquita et al., 2013; Sousa et al., 2017). This process is referred to as coping, a concept understood as the constant adaptation of an individual's cognitive and behavioral efforts, used for managing stressors (Lazarus and Folkman, 1986). Coping strategies seek resources in the religious and/or spiritual dimension, referred to as religious and spiritual coping (RSC), which can be positive (PRSC), when a partnership is established with God, or negative (NRSC), characterized by spiritual conflicts and feelings of divine punishment (Pargament et al., 2000, 2011).

Among cancer patients, there is evidence that associates PRSC with better emotional and interpersonal functioning, enhanced quality of life, and lower perception of pain (Agarwal et al., 2010; Goudarzi et al., 2018; Matos et al., 2017; Tarakeshwar et al., 2006), whereas NRSC has been linked with symptoms of depression, increased risk of suicide ideation, and lower levels of physical and psychological well-being, quality of life, and satisfaction (Hebert et al., 2009; Tarakeshwar et al., 2006; Trevino et al., 2014). In contrast, PRSC was also associated with more physical symptoms in patients with advanced cancer (Tarakeshwar et al., 2006) or was not associated with any clinical benefit or well-being (Hebert et al., 2009; Zwingmann et al., 2006).

These findings may reflect a mobilization of coping styles not clarified thus far in previous studies, pointing to the need for further research that could address hidden dimensions of the experience. Such discoveries would have a major impact on nursing care, since distress and NRSC can have serious repercussions during chemotherapy, such as impaired treatment adherence, low quality of life, increased incidence of collateral effects, and higher hospital and outpatient care costs (Langford et al., 2015; Sousa et al., 2013).

Thereby, the hypotheses adopted were as follows: (a) total RSC and PRSC use are negatively correlated with levels of physical, psychological, existential, sociorelational, and overall distress, and positively with positive distress experiences; and (b) NRSC use and the NRSC/PRSC ratio are positively correlated with levels of distress and negatively with positive experiences.

To date, systematic reviews have shown that the distress experienced by cancer patients has been studied primarily in Europe (including the United Kingdom), North America, and Australia (Mitchell et al., 2011; Nathoo et al., 2018; Salsman et al., 2015), mainly among Catholics and patients without any therapeutic possibilities (Bovero et al., 2019; Krikorian et al., 2014; Mitchell et al., 2011; Nathoo et al., 2018). Therefore, the current results reveal an important gap in the knowledge of the factors that affect the distress experience in other religious and cultural contexts, especially in countries like Brazil, where contact between indigenous peoples, African descendants, and European colonizers has given rise to a significant but complex cultural and religious universe. In view of this reality, the present study seeks to assess the relationship between distress and religious/spiritual coping among cancer patients in the Brazilian context.

2. Method

2.1. Study design and subjects

This was a cross-sectional study conducted in the chemotherapy outpatient clinic of a national reference hospital for teaching, research, prevention, and control of cancer in Brazil. Based on the mean population that received care in the outpatient clinic in the previous 12 months, the sample size was calculated using G-power software, adopting a power of the test of 80% and a level of significance of 5%, resulting in a sample of 100 patients.

2.2. Data collection procedure

The participants were recruited consecutively after completing their periodic individual nursing consultation, at which time adherence to the eligibility criteria was checked and the study objectives were presented. Those who agreed to participate were given a free and informed consent form to sign, and the data collection instruments were administered. To deal with observation bias, the participants answered the questionnaire without the researcher being present, and selection bias was controlled with consecutive sampling.

The sample included patients of both sexes, 18 years of age or older, with a confirmed diagnosis of neoplasm, indication of outpatient chemotherapy, good spatial-temporal orientation, no diagnosis of psychiatric pathology, and good cognitive capacity. The exclusion criteria were as follows: individuals with a performance status (PS) greater than or equal to 3 on the Eastern Cooperative Oncology Group (ECOG) scale, which measures impairment of daily life activities (Oken et al., 1982), or those who had acute toxicity that prevented them from filling out the data collection instruments.

2.3. Instruments

The data were gathered in June and July 2018, via five instruments: a sociodemographic and clinical characterization form, based on information obtained from medical records and patients; the Inventory of Subjective Distress Experiences in Illness (ISDEI) (Gameiro, 2000); the ECOG scale; the Visual Analog Scale for Pain (VAS); and the Brief Religious/Spiritual Coping Scale (RSC-Brief) (Panzini et al., 2011; Panzini and Bandeira, 2005). All the data collection procedures, including recruiting and application of scales, were carried out by the main researcher, a specialist in cancer nursing and a master's degree student in nursing assistance. Cognitive capacity was assessed by means of an anamnesis, containing questions regarding spatial-temporal orientation, memory and language. The Mini-Mental State Examination, which was used in the detection of cognitive impairment, guided the question script (Brucki et al., 2003).

The ISDEI assesses the distress experience and considers its intensity and multifactorial nature, within the context of overall illness and in five dimensions: *psychological distress*, related to imbalances that threaten the self, resulting in psychic and emotional changes; *physical distress*, experienced in the bodily or biological dimension, related to discomfort, weakness, and physical incapacity; *existential distress*, which affects the meaning of life, the meaning of the distress experience, and one's existential path; *sociorelational distress*, caused by the loss of roles, others, and social relationships; and *positive distress experiences*, represented by the positive and creative potential that may emerge in the face of distress (Gameiro, 2000).

The 44 items from the ISESI require responses based on a five-point Likert-type scale: (1) does not correspond at all to what is happening with me/is totally false; (2) does not correspond much; (3) corresponds a little; (4) corresponds a lot; (5) totally corresponds to what is happening with me/is totally true. The analysis involved adding up the response scores and calculating the weighted average of each dimension and the total points, based on the inversion of the five-item responses for denoting feelings of hope and optimism. There were no cutoff points, and the author of the inventory established 44 as minimum distress and 220 as maximum distress (Gameiro, 2000). However, to determine the intensity of the phenomenon, the following scores suggested by a study that used the inventory with cancer patients were adopted: low (44–132), medium (133–176), and high (177–220) distress (Alves et al., 2012). With respect to psychometric properties, the instrument yielded high internal consistency in previous studies, with Cronbach's alpha ranging from 0.934 to 0.936 (Alves et al., 2012; Gameiro, 2000).

The RSC-Brief corresponds to a shortened version of the RCOPE scale, a North American instrument composed of 92 items, which was culturally adapted to the Brazilian context (Pargament et al., 2000).

Comprising 49 items, the RSC-Brief is divided into two dimensions: positive (34 items) and negative (15 items), with responses based on a five-point Likert-type scale. The scale had good psychometric properties in the Brazilian context, with an internal consistency of $\alpha = 0.93$ (PRSC $\alpha = 0.95$; NRSC $\alpha = 0.79$) (Panzini et al., 2011; Panzini and Bandeira, 2005).

PRSC and NRSC levels were measured through the mean of the sum of the points in each of these dimensions, and the total RSC (TRSC) was obtained through adding together the mean PRSC and the mean obtained through inversion of the values for NRSC. RSC use was indicated through the following scores: none or negligible (1–1.5), low (1.51–2.50), medium (2.51–3.50), high (3.51–4.50), or very high (4.51–5.0). Afterwards, the fraction of NRSC used in relation to PRSC was obtained by calculating the NRSC/PRSC ratio, which can vary from 0.20 to 5.0: the higher its value, the greater the use of NRSC in relation to PRSC (Mesquita et al., 2013).

2.4. Ethical considerations

In accordance with the ethical precepts set forth in CNS/MS Resolution No. 466/2012, the study design was submitted to and approved by the Research Ethics Committee of INCA, under Opinion No. 2.701.391 of June 2018.

2.5. Statistical analysis

The data obtained were entered into a Microsoft Excel® spreadsheet and checked using double entry. Following this, data analysis was performed in three stages: descriptive analysis, univariate analysis, and multiple analysis, using SPSS version 20 and R version 3.2.1. The significance level adopted was 5%.

In the descriptive analysis, the nominal or ordinal qualitative variables were described in absolute numbers (n) and percentages (%), and the quantitative variables through their respective means and standard deviations. The relationship between the independent classificatory variables and distress score was obtained using Pearson's chi-square test, a likelihood ratio, or Fisher's exact test, according to the best adjustment of the data. The analysis of the relationships between the independent, continuous variables and aforementioned score was tested using the Student t-test, ANOVA, and the U Mann-Whitney and Kruskal-Wallis tests, depending on the normality of the variables under analysis. To assess the correlations between the overall distress score, its dimensions, and the quantitative variables, the Spearman correlation coefficient was calculated.

The factors associated with the overall distress score were assessed through negative binomial regression, step by step, with inclusion in the final model of the variables that remained significant at a level of 5% after adjusting the other variables. The variables with a value of $p \leq 0.20$ in the univariate analysis were selected to remain in the final model.

After simultaneous inclusion of all the main effects, the plausible interactions were tested. First, multiple linear regression was tested since they were continuous variables. However, even after the logarithmic transformation of the dependent variable, the assumptions of linearity, normality, and homoscedasticity were not satisfied. Therefore, they were tested through negative binomial regression, because the response variable is a discrete quantitative variable with overdispersion (variance greater than the mean). The negative binomial regression was done through the MASS library of R version 3.2.1. The selection of the final model took into consideration the analysis of the residuals by graphic observation and clinical and epidemiological significance.

3. Results

The target population of the study in the data collection period consisted of 400 patients diagnosed with cancer and indicated for antineoplastic treatment. Of these, 106 met the inclusion criteria and

were invited to participate in the study. None declined the invitation, and six were excluded for not filling out the applied form completely, resulting in a total of 100 participants actually analyzed.

The data from Table 1 show that 53% of the study participants were male, 89% were 40 years of age or older, 60% had a low level of education, 89% were not working and 31% had their wife/partner as the main caregiver. It was also found that the main topographies of the neoplasm were hematological (32%) and gastrointestinal (30%) and that the predominant diagnoses were adenocarcinoma colorectal (20%) and multiple myeloma (15%). The stagings with the highest prevalence were III and IV (79%), with 67% of patients in palliative treatment. With respect to religious characterization, 89% of the participants reported having a religion and belonging to a Catholic (44%) or evangelical (33%) denomination.

In relation to the overall distress score, Table 1 indicates that 75% of the participants were classified as low distress. Table 2 shows a mean score of 106.2 and a weighted average (WA) of 2.42, lower than the intermediate value of the scale (3.0). Similar behavior was noted in the realm of physical (2.33), existential (2.27) and sociorelational (2.4) distress, as well as psychological distress (2.44), which had the highest weighted average. As for the dimension of *positive distress experiences*, the mean score was higher than the intermediate value of the scale (3.72). There was large variability in the sample in relation to the overall distress score and its dimensions, as seen by the mean and standard deviation values.

The results of the RSC-Brief scale indicate that 65% of the patients were classified with medium religious/spiritual coping (Table 1), and high variability was observed in relation to the PRSC (2.93; SD = 0.74) and NRSC (1.82; SD = 0.59) dimensions (Table 3).

Table 4 shows that there were no significant differences in the distribution of the distress scores for most of the sociodemographic, religious, and clinical variables. There was a significant difference only in the behavior of the distress means.

The analysis of the correlation between the ISESI and RSC-Brief scale scores indicate that overall distress had a positive correlation with NRSC ($r_s = 0.24$; $p = 0.01$), which was also very weakly and positively correlated with the dimensions of existential ($r_s = 0.29$; $p = 0.004$) and physical ($r_s = 0.22$; $p = 0.03$) distress. The existential distress dimension was also positively correlated with the NRSC/PRSC ratio ($r_s = 0.20$; $p = 0.05$). Similar results were noted between the ISESI scores and the intensity of pain measured by the visual analog scale: overall distress ($r_s = 0.30$; $p = 0.02$), physical distress ($r_s = 0.31$; $p = 0.001$), and existential distress ($r_s = 0.24$; $p = 0.01$) (Table 5).

The dimension of positive distress experiences, in turn, was weakly correlated with the NRSC/PRSC ratio, in a negative way ($p = 0.00$; $r_s = -0.30$), and with total RSC, in a positive way ($r_s = -0.27$; $p = 0.01$). There was no significant correlation between PRSC and the dimensions of distress.

The regression test showed an increased risk of distress among individuals in the age groups of 40–59 years old (RR = 1.14) and 60 years old or more (RR = 1.15) in relation to younger individuals (18–24 years old). It was also found that a one-point increase in the NRSC score heightens the risk of an increased distress score by 0.003 (RR = 1.003) (Table 6).

4. Discussion

The psychosocial experience of cancer, including the religious perspective, has been widely discussed in the specialized literature, suggesting a growing awareness and interest in understanding the role of spirituality in the lives of people with cancer, in terms of mental health and physical repercussions (Eulen et al., 2018).

In the present study, there was a positive, albeit weak, correlation between NRSC and the physical, existential, and overall distress scores. There was also a small association between these dimensions and pain intensity. In addition, a statistically significant difference in the means

Table 1

Distribution of the sociodemographic, clinical, and spiritual variables of the chemotherapy patient sample. Rio de Janeiro, RJ, Brazil, 2018 (n = 100).

Variable	N	%
Sociodemographic		
Sex		
Female	47	47.0
Male	53	53.0
Age group		
18-24	3	3.0
25-39	8	8.0
40-59	42	42.0
60 or more	47	47.0
Education		
Elementary incomplete	1	1.0
Elementary	36	36.0
Secondary	24	24.0
University	22	22.0
Postgraduate	17	17.0
Is employed		
Did not answer	3	3.0
1-Yes	18	18.0
2- No	79	79.0
Lives alone		
Did not answer	1	1.0
1-Yes	10	10.0
2- No	89	89.0
Caregiver		
Did not answer	18	18.0
Mother	11	11.0
Father	3	3.0
Sibling	4	4.0
Partner/spouse	31	31.0
Friend	1	1.0
Son/daughter	14	14.0
Other	3	3.0
Does not have anyone	15	15.0
Clinical		
Grouped diagnosis		
Head and neck	8	8.0
Gastrointestinal	30	30.0
Leukemia	3	3.0
Lymphoma	14	14.0
Multiple myeloma	15	15.0
Pancreas/gall bladder	5	5.0
Prostate	4	4.0
Lung	16	16.0
Central nervous system	2	2.0
Other topographies	3	3.0
Staging		
Not defined	19	19.0
I	1	1.0
II	1	1.0
III	21	21.0
IV	58	58.0
Type of treatment		
Curative	13	13.0
Adjuvant	12	12.0
Neoadjuvant	8	8.0
Palliative	67	67.0
Performance Status		
PS0	10	10.0
PS1	62	62.0
PS2	28	28.0
Number of treatment lines		
0	56	56.0
1	14	14.0
2	21	21.0
3 or more	9	9.0
Pain intensity		
No pain	66	66.0
Mild (1-3)	17	17.0
Moderate (4-6)	11	11.0
Intense (7-10)	6	6.0
Coping score		
Low	4	4.0
Average	65	65.0

Table 1 (continued)

Variable	N	%
High	29	29.0
Very high	2	2.0
Distress score		
Low	75	75.0
Average	24	24.0
High	1	1.0

for distress was only noted for the PS categories. The regression model detected the risk of a higher distress score with increasing age and greater NRSC.

In general, the results indicated that the level of overall distress was considered low, similar to the findings of the author of the inventory of patients hospitalized with chronic disease (Gameiro, 2000), as opposed to the results of other studies, which identified intermediate distress in people with cancer (Alves et al., 2012; Ferreira, 2009).

Among the dimensions indicative of distress, the weighted averages were higher for psychological distress (2.44), directly associated with psychological and emotional imbalances, such as depression, fear, and anxiety (Tang et al., 2018; Wen et al., 2019). In the case of cancer, a disease commonly perceived as incurable and painful, distress may be manifested more intensely due to the possibility of imminent death (Zebrack et al., 2016, 2017).

In contrast, the existential dimension (WA = 2.27) had the lowest mean score, indicative of low distress in relation to the future and the meaning of life. In the view of Frankl (1963), what destroys individuals is not distress but meaningless distress. Based on his experience in a concentration camp, the author theorized that even in the most adverse situations, distress can be overcome if individuals find meaning for their existence. This finding is consistent with overall distress means well below the intermediate value (106.1) and a low mean score (WA = 1.65) for item 40, *I've had a hard time finding meaning in life since I got sick* (Fig. 1).

Aligned with low existential distress, the score for the dimension of positive distress experiences (WA = 3.72) was higher in the study, as well as for the following items from the subscale: *I think I'm going to get better* (WA = 4.44), *I'm hopeful that I will still be able to achieve my dreams* (WA = 4.10), and *I feel that I'll recover my strength* (WA = 3.89). In view of the analyses, it is postulated that palliative chemotherapy can promote feelings of optimism and hope in patients with advanced cancer, and, even though they have to deal with numerous toxic effects, over the course of treatment they gain a sense that it is worth the sacrifice.

On the other hand, some authors reported greater distress among patients who had not received chemotherapy, probably due to the belief that their disease was not treatable (Paiva et al., 2014). A systematic literature review found that positive feelings can also be attributed, among other factors, to physical well-being caused by relief from symptoms through antineoplastic therapies (Delevatti et al., 2018). These reasons, combined with the fact that the sample comprised patients with therapeutic possibilities, whose pain was under control and who, for the most part, had a religion, may have contributed to the results obtained.

The higher means in the dimension of positive distress experiences and low existential distress suggest a possible association between the constructs of hope and meaning, which coincides with the conclusions of a metasynthesis that explored the experience of hope among older people with serious diseases in various countries and populations. It was discovered that finding meaning for an event causing distress and an optimistic reevaluation of the situation are important strategies for maintaining hope and coping with distress (Duggleby et al., 2012).

The experiences of lung cancer patients in another study revealed that levels of hope can also be shaped by the belief in one's potential to cope with problems and emotions. It was suggested that one way to deal with fear is to not manifest negative thoughts (Liao et al., 2018), thereby

Table 2

Summary of results from the Inventory of Subjective Distress Experiences in Illness administered to chemotherapy patients. Rio de Janeiro, RJ, Brazil, 2018 (n = 100).

Dimensions assessed	Mean	Standard deviation	Minimum	Median	Maximum	WA ^a
Psychological distress	31.7	11.6	13	30	61	2.44
Sociorelational distress	20.5	7.5	7	21	34	2.40
Existential distress	36.3	11.6	20	35	67	2.27
Positive distress experiences	18.6	5.0	5	19	25	3.72
Physical distress	14.0	6.1	6	13	30	2.33
Overall distress	106.2	31.9	44	105	192	2.42

^a Weighted average.**Table 3**

Summary of the results from the Brief RSC Scale administered to chemotherapy patients. Rio de Janeiro, RJ, Brazil, 2018 (n = 100).

Minimum/Maximum	Mean (SD)	Median
TRSC		
2.0/5.0	3.32 (0.46)	3.0
PRSC		
1.0/5.0	2.93 (0.74)	3.0
NRSC		
1.0/4.0	1.82 (0.59)	2.0
NRSC/PRSC ratio		
0.1/0.67	0.62 (0.2)	1

masking the distress.

This may also explain, up to a certain point, the means obtained for the dimensions of distress, considered low in comparison to studies that found that distress was considerable in this population (Bergerot et al., 2015; Knott et al., 2012). In addition, the experience can be negated and the psychological damage of the treatment minimized when patients are requested to report distress. Such findings have been expressed by other authors, who stated that not considering oneself as being sick is a coping strategy for overcoming adversity and controlling levels of distress, by underestimating the symptoms of the disease and chemotherapy (Buetto and Zago, 2015; Lannia and Peelo-Kilroe, 2019).

However, it is difficult to determine to what extent coping styles, such as denial and avoidance, may have contributed to the results found in the present study. Even though not directly assessed, their use cannot be ruled out, since it is expected that in situations of severe stress, individuals will mobilize other strategies apart from religious and spiritual ones (Gibbons and Groarke, 2018). When there is no control over the results of a situation, people may be more inclined to adopt strategies that focus on emotions (avoidance, denial, and some RSC styles). However, if people are well adapted and active, they may prefer coping styles that focus on the problem, characterized by decision-making or direct action (Lashbrook et al., 2018).

Based on this premise, a significant number (51%) of the participants assigned a score of 4 or 5 on the Likert scale for the item *I knew I couldn't handle the situation, so I just waited for God to take control*. A small percentage (27%) gave a score of 4 or 5 for the item *I did not try to deal with the situation but just waited for God to take my burdens away*. This finding indicates that a reasonable proportion of patients deal with distress by leaving it up to God to solve all the problems. As a result, self-care activities required to prevent adverse effects may be at risk.

Pargment (2000) proposed that a collaborative style is positive, where responsibility is shared between the individual and God to solve problems. However, this coping strategy should be viewed with caution, since it does not cover only one defensive style in the Christian religion. Based on the biblical concept of forsaking, it can support a sacrificial effort of surrendering to God's will, as opposed to mere disinterest in managing factors that cause stress (Wong-McDonald and Gorsuch, 2000). Although characterized as an inadequate adjustment (NRSC), this coping style can be soothing. According to DeAngelis and Ellison (2017), the belief that God controls the course and direction of people's lives can reduce the negative impact of how they deal with and reassess

distress, which helps explain the weak associations observed between NRSC and the dimensions of distress.

In terms of the causes of greater distress identified in the inventory, concern for family members was highlighted the most. The statement with the greatest weight was item 43, *I wish my family wouldn't have to suffer so much because I'm sick*, with a frequency of 59% for a score of 5 on the Likert scale, and a WA of 4.01. Items 22 and 25 were another cause of significant distress in the sociorelational dimension (Fig. 1).

It was demonstrated that patients experience greater emotional distress from the possibility of seeing their loved ones suffer than from the physical manifestations of the disease. In this aspect, the disease can be a source of intense distress, because it is perceived as a potential threat to the family. Along with the fear of leaving behind those they love the most was concern about how their loved ones would fare if they themselves were no longer there. Although the presence of family members and friends can provide comfort during chemotherapy, it can induce anguish when patients see them suffer, as they closely witness the toxic effects of the treatment on their body and the consumptive nature of the disease.

In regard to the effects of clinical variables on the distribution of the means for distress, it was found that they were significantly different for the PS factor and that the groups with the worst performance on the ECOG and VAS scales had the highest overall distress scores (Table 4). Similar behavior in the distribution of the means for distress in relation to the clinical variables suggests that the presence of more severe distress in cancer patients may be due to a diversity of other nonbiological factors inherent to the treatment.

It was expected that distress might vary substantially according to treatment staging and modality and that the group of patients with more chemotherapy lines could exceed the limits of the scale. However, Table 4 indicates that distress was only influenced significantly by the ability to carry out daily activities (PS). This finding shows that extension of the disease does not probably represent a threat until the emergence of signs and symptoms of physical impairment. In this aspect, PS can be considered a specific marker of distress. In fact, the literature points out that patients with worse PS on the ECOG scale tend to tolerate treatment less, evolve with a low response to chemotherapy, and have shortened survival after diagnosis (Nyrop et al., 2019; Treat et al., 2004).

In reference to the pain variable, although no constant and predictable association with distress can be traced, a considerable number of studies have indicated a positive association (Hong et al., 2014; Mejdahl et al., 2015; Mertz et al., 2017; Sorel et al., 2019). Despite the fact that closely related, it is important to emphasize that pain and distress are not one and the same. Whereas pain involves a complex neurophysiological response, resulting from a real or potential injury to tissues (Bonica, 1979), distress encompasses something larger, and pain is only one of its possible causes.

In this regard, a bidirectional and complementary relationship explains the presence of more severe distress among patients with intense pain in Table 5, but without statistical significance. Weak correlations with the dimensions of distress (Table 5) show that experiencing a painful sensation (each person's distress) is not necessarily proportional to the intensity of the stimulus but is modulated by a reassessment of the situation, a sense of control, and one's adaptive capacity. However,

Table 4
Sociodemographic, clinical, and religious factors associated with variability in the Overall Distress score. Rio de Janeiro, RJ, Brazil, 2018 (n = 100).

Variable	Mean	Standard deviation	p-value	
Age group				
18-24	86.00	7.94	0.13*	
25-39	105.00	27.88		
40-59	109.69	31.66		
60 or more	108.66	32.80		
Sex				
Female	106.87	28.47	0.42**	
Male	109.23	34.08		
Education				
Elementary incomplete	103.00	–	0.12*	
Elementary complete	117.03	34.92		
Secondary	103.83	29.14		
University	102.86	25.55		
Postgraduate	102.41	32.99		
Is employed				
Did not answer	108.67	38.02	0.75*	
1-Yes	107.78	25.40		
2- No	108.18	32.81		
Lives alone				
Did not answer	146.00	–	0.22***	
1-Yes	119.70	33.11		
2- No	106.39	31.06		
Caregiver				
Did not answer	109.83	29.20	0.67*	
Mother	98.00	30.94		
Father	114.67	50.34		
Sibling	133.25	47.68		
Partner/spouse	107.61	29.91		
Friend	129.00	–		
Other	94.67	20.79		
Does not have anyone	107.40	26.62		
Son/daughter	108.57	38.64		
Previous treatment lines				
0	109.0	32.87	0.69*	
1	106.29	34.83		
2	110.52	28.65		
3	99.89	25.87		
Staging				
Indeterminate	103.84	28.76	0.63*	
I	110.00	–		
II	102.00	–		
III	104.52	27.46		
IV	110.90	34.21		
Performance Status				
PS0	92.90	21.73	0.05***	
PS1	105.77	33.72		
PS2	118.75	26.10		
Type of treatment				
Curative	103.15	25.99	0.10*	
Adjuvant	90.83	30.95		
Neoadjuvant	114.88	25.22		
Palliative	111.37	32.50		
Concomitant treatment (chemotherapy + radiation)				
Yes	105.82	35.236	0.52**	
No	108.40	31.138		
Pain intensity				
No pain	104.12	28.59	0.13*	
Mild	109.12	25.28		
Moderate	115.00	49.27		
Intense	136.67	27.20		
Belongs to a religion				
Yes	106.11	31.05	0.07***	
No	124.36	31.16		
Religion				
Did not say	80.00	32.263	0.17*	
Catholic	109.74	28.207		
Evangelical	101.30	32.840		
Spiritist	120.86	–		
Umbanda/Candomblé	52.00	32.045		
No religion	122.30	–		
Messianic	110.00	–		
Attends a religious institution				
Yes	105.64	31.003		

Table 4 (continued)

Variable	Mean	Standard deviation	p-value
No	113.65	32.183	
Frequency of attending a religious institution			
Did not say	114.75	34.72	0.28*
Zero	116.19	30.84	
Rarely goes to church	109.88	31.60	
1 to 2 times a week	101.77	30.54	
3 to 4 times a week	94.42	32.00	
More than 4 times a week	145.00	1.41	

Type of test: * Kruskal-Wallis **Mann-Whitney U test *** ANOVA.

Table 5

Variables associated with the distress scores from the ISDEI Inventory according to distress dimensions. Rio de Janeiro, RJ, Brazil, 2018 (n = 100).

Overall distress		
Variable	R	p-value
PAIN	0.30	0.02*
TRSC	0.32	0.75*
PRSC	0.11	0.21*
NRSC	0.24	0.01*
NRSC/PRSC ratio	0.11	0.28*
Psychological distress		
Variable	R	p-value
PAIN	0.17	0.09*
TRSC	0.08	0.40*
PRSC	0.13	0.20*
NRSC	0.18	0.07*
NRSC/PRSC ratio	0.09	0.37*
Physical distress		
Variable	R	p-value
PAIN	0.31	0.001*
TRSC	0.029	0.77*
PRSC	0.08	0.38*
NRSC	0.22	0.03*
NRSC/PRSC ratio	0.11	0.29*
Existential distress		
Variable	r	p-value
PAIN	0.24	0.01*
TRSC	0.07	0.50*
PRSC	0.16	0.12*
NRSC	0.29	0.004*
NRSC/PRSC ratio	0.20	0.05*
Socio-relational distress		
Variable	r	p-value
PAIN	0.16	0.12*
TRSC	0.17	0.10*
PRSC	0.18	0.07*
NRSC	0.06	0.53*
NRSC/PRSC ratio	0.10	0.31*
Positive distress experiences		
Variable	r	p-value
PAIN	–0.11	0.28 ^a
TRSC	0.27	0.007 ^a
PRSC	0.19	0.06 ^a
NRSC	–0.10	0.34 ^a
NRSC/PRSC ratio	–0.3	0.00 ^a

^a Spearman correlation coefficient.

based on the possibility of coexistence, treatment of pain requires a mutual approach toward physical, existential, and psychosocial factors that contribute to dangerous feedback with distress. In view of the interface between the phenomena, the concept of pain has been revised and currently includes the term “distress” in the experience (Williams and Craig, 2016).

Table 6

Negative binomial regression analysis: effects of NRSC adjusted by age in the distress of chemotherapy patients. Rio de Janeiro, RJ, Brazil, 2018 (n = 100).

Variable	Unadjusted RR (CI 95%)	p-value	Adjusted RR (CI 95%)	p-value
Age				
18–24	1	–	1	–
25–39	1.16 (1.08–1.33)	0.02	1.13 (0.99–1.30)	0.06
40–59	1.17 (1.03–1.31)	0.01	1.14 (1.01–1.30)	0.03
60 or more	1.18 (1.04–1.33)	0.007	1.15 (1.02–1.29)	0.02
NRSC	1.003 (1.002–1.006)	0.001	1.003 (1.001–1.005)	0.003

With respect to coping, use of total RSC and PRSC was average, similar to the findings of previous studies (Matos et al., 2017; Veit and Castro, 2013) (Table 3). Unlike the results from the present sample, a study that assessed coping measures in chemotherapy patients in Minas Gerais obtained a higher mean for TRSC (3.67) and lower means for NRSC (1.19), PRSC (2.58), and the NRSC/PRSC ratio (0.21) (Mesquita et al., 2013). These differences may have been due to the timing of the data collection. In the aforementioned study, the collection was done during the chemotherapy sessions: the participants were interviewed with their arm punctured and in the presence of the researcher. In this study, the participants answered the questions while waiting for the procedure in a waiting room, without help from the researcher to read the questions, because it was felt that disclosing spiritual information is highly sensitive to the presence of the researcher (de Oliveira Maraldi, 2020) and could influence the participants' responses.

As for comparing level of distress with PRSC, the correlation hypotheses were not confirmed. Although no correlations were found between PRSC and the dimensions of distress, the WA was high for items 30 (4.63), 2 (4.43), and 6 (4.43), and insignificant for items 17 (1.78), 37 (1.64), 19 (1.54), 32 (1.37), and 43 (1.30) on the RSC scale (Fig. 2). This demonstrates that the study participants believed in God, felt cared for by him, and sought his protection, suggesting possible benefits from believing in a divine power, for relief from distress during times of uncertainty.

In contrast, the item *I blame God for letting this happen* received the lowest scores on the RSC scale (WA = 1.08 and frequency of 97% for a score of 1 on the Likert scale). This result indicates that holding God responsible for the disease is not a coping style characteristic of Brazilians living with cancer. However, a low percentage undergoing anti-neoplastic treatment (17% assigned a score of 4 and 5 to item 9, *I wonder if God allowed this to happen to me because of my mistakes*) may feel guilty for the disease, attributing its cause to past mistakes. On the other hand, a large proportion of the participants asked God to help them make fewer mistakes (WA = 3.87, and a 71% frequency for scores 4 and 5 on item 20).

Consciously or not, this discrepancy may likely reflect the search for redemption, since asking God to err less requires recognizing that a mistake was committed. In fact, similar weighted averages were obtained for items 8 (*I asked God to help me find a new purpose in life*, WA = 3.65), 47 (*I tried to change my lifestyle and go down a new path – God's path*, 3.11), and 16 (*I turned to God to find a new direction in life*, 3.77), attesting to a desire to start over again. Belief in the need for reformed behavior is a coping style that has not been addressed much in previous studies and leads to the recognition of a dimension rarely broached by therapists and analysts: God's forgiveness (Uecker et al., 2016).

When faced with the prospect of death, people may review their lives. To envision a more hopeful future, they wait for God's forgiveness, believing that the current turmoil will pass and they will be able to once again move forward.

The moral representation of cancer as a punitive disease found in many studies (Aquino and Zago, 2007; Licqurish et al., 2017) reaffirms the need for divine forgiveness for a transformation, a second chance desired by participants, as expressed in item 47. It is possible that this

coping style may control levels of distress, when the disease is viewed as the fruit of sin or human vice, reducing the strength of the correlation between NRSC and distress. As Pargament (2011) argues, the same aspect of religion may be beneficial or detrimental to mental health. The outcome depends on beliefs and the clinical, social, and cultural context.

In reference to the negative coping analysis, although previous studies have shown good spiritual and religiosity scores among chemotherapy patients, a small percentage may have high scores in this subscale, indicating possible risks of stress, despair, and spiritual distress (Silva et al., 2019).

The magnitude of the correlation between NRSC and distress, coupled with a lack of association with PRSC, demonstrates that proving the effects of religious coping on the perception of distress is not a simple task, since even a negative style can induce other coping strategies capable of mitigating or intensifying the state of anguish.

An example is the moderating effect of divine forgiveness when feelings of guilt emerge (WA = 3.54 for item 35 in Fig. 2). Uecker et al. (2016) analyzed the relationship between psychiatric symptoms, perception of human sin, and divine forgiveness. The authors showed that feeling forgiven neutralizes the negative consequences of viewing oneself as a sinner, annulling the harmful effect of this negative coping style.

Positive psychological changes also arise from other negative coping styles, such as reflecting on one's mistakes and the reasons that lead one to believe that God has turned away. It is plausible that seeing God's mercy as infinite, limited, or conditional, depending on human action, influences the outcome of spiritual conflicts involving feelings of guilt, self-forgiveness, and God's forgiveness (items 9, 20, 35, 47, and 49).

Based on these data, it is necessary to recognize the limitations of making suppositions about what is positive and negative for a person's adaptation to a stressful situation (Thuné-Boyle et al., 2012). Due to the influence of multiple factors in the perception of distress (Linden et al., 2012; McMullen et al., 2018; Mitchell et al., 2011; Zabora et al., 2001) and complex interactions between the constructs examined, a regression test was used to obtain more reliable results.

According to the model, increments in the predictor variables (age and NRSC) are related to the risk of an increase in the values of the outcome variables (distress score). For age, this result diverged from other studies that showed that being younger was a risk factor for distress. The authors argued that this is related to the different responsibilities assumed at each stage of life. The trajectory of younger patients is interrupted during a fully upward stage, thus defining who they will be professionally. In addition, they are undertaking multiple responsibilities, such as working outside the home, taking care of children, or studying. The literature indicates that they not only report distress more frequently but also have the worst spiritual scores and tend to view life from a more materialistic and less resilient perspective (Areesantichai et al., 2010; Cardoso et al., 2016; Kornblith et al., 2010; Linden et al., 2012; Mesquita et al., 2013; Vodermaier et al., 2011).

The authors of the present study believe that the fact that many of the older people in the sample had no caregiver, lived alone, and felt more dependent counterbalanced the protective effects of age noted in other studies. Another point to be considered is that, overall, older people are more vulnerable to the adverse effects of treatment and, unlike a younger population, deal with a wide spectrum of comorbidities.

In relation to the NRSC/PRSC ratio, a mean of 0.64 (the proportion of 2 PRSC to 1 NRSC) is close to that recommended for better quality of life (Panzini and Bandeira, 2005). This result is consistent with low means for overall distress. When the Spearman test was performed, a negative correlation was observed in the dimension of positive distress experiences. This finding suggests that the use of more negative coping strategies, rather than positive ones, is associated with a lower expectation of improvement. This inference is reinforced by the literature, which associates NRSC with various types of harm to health (Sherman et al., 2009). In a national sample of American adults, there was a positive correlation between religious conflicts and symptoms of psychological

Items	Mean	Standard Deviation	Likert Scale				
			1	2	3	4	5
1 - I've been feeling more tired since I got ill	2.45	1.29	27	32	22	7	12
2 - I think a lot about the severity and consequences of my disease	3.07	1.38	15	26	16	23	20
3 - I'm worried about what could happen to me	3.06	1.38	18	19	21	23	19
4 - I feel that the disease will strip my time to do the things I like	3.24	1.54	22	12	16	20	30
5 - It's difficult to endure the state of tension that the disease causes in me	2.55	1.30	26	28	21	15	10
6- I've been feeling sad since I got ill	2.45	1.41	33	27	17	8	15
7 - I worry that my illness will cause me to lose my job	1.79	1.37	71	5	7	8	9
8 - The disease has forced me to set aside certain important projects I had in mind	3.19	1.54	21	17	14	18	30
9 - I've felt very desperate at times since I got ill	2.00	1.21	47	26	12	10	5
10 - I've missed my family more since getting sick	1.99	1.42	59	13	9	8	11
11 - I worry that my disease is turning me into a burden for my family	2.62	1.48	33	19	18	13	17
12 - The thought of leaving behind the people I love distresses me	3.08	1.68	29	13	13	9	35
13 - I don't understand what is causing my disease	2.79	1.53	30	18	16	15	21
14 - I've lost a lot of energy and physical strength because of my disease	3.14	1.41	14	26	16	20	24
15 - My disease has discouraged me in terms of what I expected from life	2.52	1.40	34	18	23	12	13
16 - Since getting sick, I'm finding it hard to control myself and I react aggressively	1.83	1.16	56	21	12	6	5
17 - I worry about the pain that I may have in the future	2.70	1.44	27	25	15	17	16
18 - It's hard for me to stop thinking about the things that could happen to me	2.34	1.36	35	30	12	12	11
19 - I'm bitter about being sick	1.60	1.04	68	14	12	2	4
20 - I can't find a comfortable position	2.26	1.32	39	25	16	11	9
21 - I feel that the disease has taken away my freedom to make decisions about my life	2.33	1.40	39	23	17	8	13
22 - The disease makes me worry about the future of the people I love	3.24	1.55	21	14	18	14	33
23 - I have pain that is difficult to endure	2.00	1.31	54	15	16	7	8
24 - Despite being ill, I feel peaceful	2.97	1.53	24	19	19	12	26
25 - I worry about not being able to help my family like I did before getting ill	3.18	1.55	22	17	11	21	29
26 - Despite my disease, I haven't stopped making plans for the future	3.20	1.56	22	14	18	14	32
27 - I feel that I can't do the same things I was able to do before getting sick	2.93	1.45	20	24	23	9	24
28 - Being ill makes me feel sorry for myself	1.52	1.07	74	13	5	3	5
29 - I feel it's no longer worth thinking about the future	1.59	1.14	74	8	7	7	4
30 - The disease has made me feel less as a person	1.52	1.11	75	13	3	3	6
31 - I feel that my poor physical condition prevents me from resting	2.10	1.39	49	23	8	9	11
32 - I'm afraid of becoming physically disabled in some way	2.15	1.43	53	12	11	15	9
33 - My disease causes me distress	2.50	1.45	33	28	10	14	15
34 - I worry about the possibility of no longer being able to support my family	2.65	1.69	43	11	9	12	25
35 - Being dependent on others has been difficult for me to bear	2.55	1.60	42	12	16	9	21
36 - Since getting ill, I haven't been able to avoid certain behaviors that I don't like	1.96	1.29	52	23	11	5	9
37 - I feel that I can't expect much from my future	1.97	1.37	56	19	7	8	10
38 - I feel that I'll recover my strength	3.89	1.41	13	3	18	14	52
39 - I've been very fearful since I got ill	2.25	1.38	41	25	14	8	12
40 - I've had a hard time finding meaning in life since I got sick	1.65	1.07	67	11	15	4	3
41 - I have pain that prevents me from resting	2.04	1.39	54	18	8	10	10
42 - I'm hopeful that I will still be able to achieve my dreams	4.10	1.32	10	4	10	18	58
43- I wish my family wouldn't have to suffer so much because I'm sick.	4.01	1.42	12	5	12	12	59
44 - I think I'm going to get better	4.44	1.06	6	-	7	18	69

Source: Data from the study.

Fig. 1. Descriptive analysis table of the items from the ISDEI Inventory. Rio de Janeiro, 2018. Source: Data from the study.

distress (Abu-Raiya et al., 2015).

From this perspective and considering that hope often stems from religious coping, the use of NRSC can be a predictor of increased emotional anguish, as identified in a systematic review of the subject (Veit and Castro, 2013). Other cancer studies have pointed out that viewing God as severe, a characteristic of NRSC, was also strongly correlated with worse mental health, as opposed to faith and prayer, typical of PRSC, which did not produce significant effects (Meisenhelder et al., 2013) or were not correlated with overall quality of life

(Assimakopoulos et al., 2009).

In contrast, Brazilian women undergoing chemotherapy who used RSC as their main coping strategy manifested signs of anxiety (Silva et al., 2017), considered an important component of distress. Divergent results in regard to the effects of RSC indicate that differences in culture, ethnicity, and religious beliefs may have a bearing on the outcomes of physical and mental health, making comparisons difficult. It is also important to emphasize that inferring the consequences of coping strategies in the perception of distress requires care, especially if this

Items	Mean	Standard Deviation	Likert Scale				
			1	2	3	4	5
1 I prayed for other people's well-being	3.83	1.28	7	10	19	21	43
2 I sought God's love and protection	4.43	1.05	3	5	9	12	71
3 I didn't do much, other than wait on God to solve my problems for me	2.81	1.50	33	9	17	26	15
4 I sought social well-being	2.99	1.40	20	20	19	23	18
5 I sought or did spiritual treatments	2.36	1.57	49	11	11	13	16
6 I sought strength, support and protection in God	4.42	1.04	3	5	8	15	69
7 I felt dissatisfied with the religious representatives of my institution	1.69	1.34	75	5	6	4	10
8 I asked God to help me find a new purpose in life	3.65	1.51	18	6	11	23	42
9 I wondered if God allowed this to happen to me because of my mistakes	1.98	1.33	56	15	12	9	8
10 I engaged in spiritual acts or rituals	1.76	1.32	71	6	5	12	6
11 I had difficulty finding comfort in my religious beliefs	1.91	1.42	63	13	5	8	11
12 I did the best I could and surrendered the situation to God	4.19	1.20	7	5	7	24	57
13 I convinced myself that the forces of evil had orchestrated this to happen	1.69	1.26	72	8	5	9	6
14 I engaged in acts of moral and/or material charity	2.72	1.34	28	13	28	21	10
15 I sought counsel from my spiritual guide (guardian angel, mentor)	2.43	1.60	49	9	8	18	16
16 I turned to God to find a new direction in life	3.77	1.47	16	6	7	27	44
17 I tried to cope with my feelings, without asking God for help	1.79	1.41	73	2	9	5	11
18 I tried to give other people spiritual comfort	3.14	1.40	20	11	24	25	20
19 I wondered whether God had abandoned me	1.54	1.14	76	10	4	4	6
20 I asked God to help me be a better person and make fewer mistakes	3.87	1.35	11	7	11	26	45
21 I thought that what happened might draw me closer to God	3.57	1.51	20	4	12	27	37
22 I did not try to deal with the situation but just waited for God to take my burdens away	2.45	1.53	45	8	20	11	16
23 I felt that the disease was trying to separate me from God	2.03	1.55	65	5	6	10	14
24 I surrendered the situation to God after doing everything that I could	3.15	1.68	33	4	9	23	31
25 I prayed to discover the purpose of my life	3.53	1.53	19	8	12	23	38
26 I went to a religious temple	3.11	1.63	31	6	12	23	28
27 I sought protection and guidance from spiritual beings (saints, spirits, orixas)	1.78	1.40	73	4	5	8	10
28 I wondered if my religious institution had abandoned me	1.29	0.88	88	3	4	2	3
29 I sought a spiritual reawakening	2.29	1.55	52	10	9	15	14
30 I trusted that God was with me	4.63	0.97	4	3	2	8	83
31 I bought or subscribed to magazines that talked about God and spiritual issues	1.58	1.25	80	2	5	6	7
32 I thought God did not exist	1.37	1.09	88	2	2	1	7
33 I questioned if even God has no limits	1.48	1.17	82	5	4	1	8
34 I sought help and comfort in religious literature	2.54	1.62	45	11	6	21	17
35 I asked forgiveness for my mistakes	3.54	1.42	13	13	17	21	36
36 I participated in spiritual healing sessions	1.87	1.36	64	9	10	7	9
37 I questioned whether God really cared	1.64	1.31	77	5	4	5	9
38 I tried to do the best I could and let God do the rest	3.68	1.45	15	6	17	20	42
39 I voluntarily got involved in activities for the good of others	2.56	1.47	36	16	18	16	14
40 I listened to and/or sang religious songs	3.04	1.64	30	12	11	18	29
41 I knew I couldn't handle the situation, so I just waited for God to take control	3.17	1.68	31	6	12	17	34
42 I received help through laying on of hands blessings, prayers, reiki, magnetism, etc.)	2.23	1.61	59	5	5	16	15
43 I tried to cope with the situation my own way, without God's help	1.30	0.77	84	6	7	2	1
44 I felt that my religious group was rejecting or ignoring me	1.19	0.71	91	4	2	1	2
45 I participated in religious or spiritual practices, activities or festivals	1.84	1.35	65	12	6	8	9
46 I sought help in sacred books	2.81	1.71	40	10	5	19	26
47 I tried to change my lifestyle and go down a new path God's path	3.11	1.65	32	5	12	22	29
48 I blamed God for letting this happen	1.08	0.51	97	1	-	1	1
49 I reflected on whether I was breaking God's laws and tried to change my attitude	2.27	1.56	52	13	6	14	15

Source: Data from the study.

Fig. 2. Descriptive analysis of the items from the Coping Scale. Rio de Janeiro, 2018.

Source: Data from the study.

interpretation is dependent on a score-based assessment. Therefore, certain positive coping strategies result in greater closeness to God, but they can also increase tension if patients feel that they have violated God's laws or not engaged in acts of love and charity.

In light of this, understanding how patients view distress and how religion and spirituality give meaning to the experience of having cancer has become vital in clinical nursing practices. While the disease and its treatment affect control over the body, mind, and routine of people distressed from cancer, they also cause a burden of existential distress, leading patients to question the meaning of life and their personal identity (Sousa et al., 2017).

Feelings of guilt may emerge during the review of what they've done in life and how they have behaved. Religious believers may acknowledge that they were created and are still loved by God. Other times, however, they may feel they have disappointed him and need help to reconnect to their faith. Patients with a full and healthy spiritual life feel valued as they recall important achievements and perceive that their families and friends continue to love them, even when they are dependent (Peteet and Balboni, 2013). From this angle, religion and spirituality can be protective or exacerbating factors of distress, and their effects cannot be over- or underestimated.

Based on these data, it can be deduced that the way in which patients experience this dimension defines the different tones for reassessing meaning to distress. Since distress is a highly personal experience, with multiple causal agents—spiritual, religious, sociodemographic, clinical, and cultural—it becomes difficult to predict which patients will be at greater risk, which leads the authors to believe that this phenomenon should be assessed in all situations.

4.1. Practical implications

The National Comprehensive Cancer Network (NCCN)—a nonprofit organization formed by an alliance of the main cancer-fighting centers in the United States—recommends that all patients with a cancer diagnosis be screened for distress using the Distress Thermometer (NCCN, 2018). On the other hand, in Brazil, INCA (the National Cancer Institute), an organization responsible for developing national integrated actions for the prevention and control of cancer in the country, does not yet have specific recommendations or instruments to assess distress.

The ISESI is a promising tool, since it enables a multidimensional assessment of the experience. An advantage of this tool is its ability to reveal dimensions of distress to the assessor that may not be apparent to the person being assessed, including positive experiences. Other aspects that give credibility to the ISESI are its capacity to obtain an overall value, which enables drawing a line of improvement, deterioration, or stagnation along a continuum; and the identification of factors that cause greater distress to patients from a range of possibilities presented in 49 items.

With respect to the impact of NRSC on distress, nurses need to find strategies aimed at identifying spiritual needs, in terms of planning and carrying out interventions that are conducive to healthy spirituality. Given the nature of their work and their closeness to patients, nurses have the potential to use spiritual methods of counseling that promote reflection on good and bad use of religion and that instill faith and hope (Mendonça et al., 2018).

In the face of the identification of patients experiencing spiritual conflicts and disappointments, religiously-integrated psychotherapy can improve psychological functioning and RSC standards (Captari et al., 2018). Similarly, interventions like logotherapy and existential analysis, which are understood as psychotherapy centered in the meaning of life, have shown promising results in diseases that waken not only the fear of death, but also the desire to find answers to deep existential issues (Breitbart et al., 2018; Mamashli and Aloustani, 2020). In order to increase the power of coping, the authors suggest the integration of the following spiritual care actions into psychotherapy: recalling positive spiritual beliefs that have been important to overcome losses; guiding

the practice of praying, mindfulness and reading of sacred texts (Captari et al., 2018; Mendonça et al., 2018); and shifting the focus from causes of becoming ill, to a purpose of life aimed at regaining physical and spiritual health.

In the light of the aforementioned, this study makes important contributions to the advancement of oncology in that it sheds light on hidden dimensions of the experience of distress, revealed through an analysis of the items on the RSC scale and in the ISESI inventory. The lack of association between positive coping and distress and a positive correlation, albeit weak, between distress and NRSC suggest another important practical result. To understand the influence of specific coping styles on the perception of distress, it is not enough to look at their positive and negative facets on the RSC scale. An analysis of their consequences should take into consideration the cultural context, religious views of God, and personal beliefs of what constitutes distress and what it represents in the lives of those who experience it. Furthermore, what is considered negative in one context may not be the case in another. Therefore, it is necessary to categorize coping strategies to predict consequences on mental health, but this does not eliminate the need to examine how they are actually experienced in the religious sphere.

5. Conclusions

This unique study was undertaken to determine whether the levels of distress in the ISESI inventory of cancer patients are correlated with the use of RSC. Low levels of overall, physical, existential, sociorelational, and psychological distress were noted. The highest mean score, exceeding the intermediate level of the scale, was obtained in the dimension of positive distress experiences. The findings indicate that palliative chemotherapy can promote feelings of optimism and hope in patients with advanced cancer.

With respect to coping, there was moderate and low use of its positive and negative facets, respectively. Positive correlations were detected between NRSC and the dimensions of existential, physical, and overall distress. The dimension of positive distress experiences was, in turn, positively correlated with total RSC and negatively with the NRSC/PRSC ratio. Although these correlations were weak, they attest to the hypotheses adopted for NRSC. The highest mean in this sample was found in the dimension of positive distress experiences; NRSC, even though utilized less, was significantly associated with distress when controlled for confounding variables, in contrast to what was expected for positive distress, where there was no significant association with relief.

The analysis of the items with the highest scores in the dimensions that denote distress revealed that the fear of causing family members pain was the biggest cause of distress for the participants. These results expose distress often masked by the physical sequelae of the disease. This leads the authors to believe that professionals should be more attentive to problems of an emotional nature that afflict cancer patients, since the experience of coping with cancer is not an isolated personal experience but should be approached in its social and family context.

Since this was a cross-sectional study, the ability to make conclusive inferences in relation to the effect of NRC on distress is limited, since both may vary in the same individual at different times. Another limitation of the study is the fact that few studies have been conducted with the ISESI inventory, making comparisons difficult. Future studies based on longitudinal approaches could overcome the limitations of this study and supply information that could be used to understand and/or reduce the factors that precipitate and exacerbate distress, as well as provide effective, patient-centered nursing care.

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CRediT authorship contribution statement

Angelo Braga Mendonça: Conceptualization, Methodology, Investigation, Data curation, Writing - original draft. **Eliane Ramos Pereira:** Supervision, Visualization, Methodology. **Carinne Magnago:** Formal analysis, Writing - review & editing. **Rose Mary Costa Rosa Andrade Silva:** Data curation. **Karina Cardoso Meira:** Formal analysis, Software. **Adriana de Oliveira Martins:** Resources, Writing - original draft.

Declaration of competing interest

The authors have no conflicts of interest to declare.

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