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ORIGINAL ARTICLE

Emotional distress and unmet supportive care needs in survivors of breast cancer beyond the end of primary treatment

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Abstract

Purpose Cancer patient survival rates are rapidly growing, and further data are needed on the impact of the disease beyond diagnosis and treatment phases. The aims of this study were to analyze the prevalence and sociodemographic and medical risk factors of clinical distress. Additionally, we also explore the relationship between unmet psychosocial needs and both clinical distress and subgroups of survival periods.

Methods A cross-sectional study of 450 women who at least 1 month before had completed the primary treatment for breast cancer was conducted. The Brief Symptom Inventory 18 and the Cancer Survivors Unmet Needs measure were used.

Results One in four women showed clinical distress related to unmet psychosocial needs. None of the sociodemographic and medical predictors was associated with clinical distress. Needs focused on the possibility of recurrence and its cognitive-emotional impact were the most frequent. Needs tended to decrease through periods of survival; however, there was a considerable level of unmet needs even among long-term survivors.

Conclusions The findings highlight the relevance of extending psychosocial care beyond the breast cancer primary medical treatment. Early and regular screen for distress and unmet supportive needs permits to identify high-risk groups that likely benefit from targeted preventive interventions.

Keywords Breast cancer · Cancer Survivors Unmet Needs measure · Emotional distress · Psycho-oncology · Survivorship · Supportive care needs

Introduction

Cancer patient survival has increased steadily in recent years [1] as a result of earlier detection and improvements in medical treatments [2]. The impact of cancer extends beyond treatment and the routine of follow-up care. A disease-free status is not synonymous with freedom from the physical and psychosocial problems related to cancer and its treatment [3]. Furthermore, many cancer survivor challenges are not simply continuations of problems experienced during treatment. At least 50% of cancer survivors suffer from physical and psychological late treatment-related side effects [4].

The American National Cancer Institute (NCI) highlights that "survivorship research focuses on the health and life of a person with a history of cancer beyond the acute diagnosis and treatment phase" [5]. Despite the emphasis on what would be the principal target of the investigation, the empirical studies reflect the wide range of definitions of cancer survival proposed in the last three decades, in which an individual is defined as a survivor immediately after cancer diagnosis and not only after completing the primary treatment of the disease [6]. Thus, the studies often take as a reference the time from diagnosis rather than the time since the completion of primary treatment and address the study of heterogeneous samples that group together patients under active medical treatment with others who have already completed it [7–9]. Consequently, it is not easy to ascertain the difficulties in post-treatment survival and its phases [10, 11]. Moreover, even as psychosocial and behavioral experiences are more pronounced in some periods within the off-primary treatment survival phase than in others, some authors [11] have recently proposed to establish periods as a heuristic for considering variation along what can

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be a long course of survivorship. These periods, without sharp boundaries, are three: reentry, early survivorship, and long-term survivorship. The reentry period is the psychosocial transition from "cancer patient" to "person with a history of cancer" and typically spans the point from completion of major cancer treatments, which can vary from a few weeks to more than 1 year. The early survivorship period extends to approximately 5 years after diagnosis: treatment-related acute physical morbidities have subsided for the majority of survivors by this time. Long-term survivorship characterizes the experience beyond 5 years after diagnosis.

Distress has been termed the "sixth vital sign" within the cancer context and designates patient-reported psychosocial or physical suffering [12]. The National Comprehensive Cancer Network (NCCN) Guidelines for Survivorship report that because of the challenge they face, survivors of adult-onset cancer are at increased risk for psychological distress or psychological morbidity: anxiety and/or depression affect up to 29% of them [13]. Moreover, research suggests that younger age, lower education, being unmarried, lack of health insurance coverage, non-engagement in physical activity, and having other comorbid conditions are risk factors for psychological distress [14–16]. However, there is a lack of robust data on the prevalence of clinically significant distress in cancer off-primary treatment survivorship (the reported prevalence ranges from 5 to 43%). Although research studies do not always differentiate between short-term and long-term survivors [17, 18], lower levels of distress are often found in long-term survivors [14, 16, 19, 20] and the highest levels found in survivors less than 5 years from diagnosis [21, 22].

In addition to psychological distress, data on supportive care needs and how much these are met by current services would help us to obtain a more complete understanding of the cancer survivor experience [23, 24]. In the past decade, researchers have evaluated the unmet needs of adult cancer survivors. However, it is difficult to compare studies and generalize findings because of a lack of consistency in the measurement, classification, and reporting of unmet needs, the wide range of sample sizes and components, and differences in inclusion criteria. For example, differences in factors such as sex, age, and body image associated with different cancer sites highlight the need to evaluate homogeneous samples of survivors and conduct more detailed analysis of tumor-specific unmet needs [24, 25].

The aims of this study based on a group of survivors who had completed primary treatment for an specific tumor-site (breast cancer) were (i) to estimate the prevalence of clinical distress, (ii) to identify possible sociodemographic and medical predictors of distress, (iii) to analyze the relationship between distress and unmet psychosocial needs, and (iv) to explore the relationship between survival subgroups (reentry, early survivorship, and long-term survivorship) and unmet psychosocial needs.

Materials and methods

Participants and procedure

A total of 555 breast cancer survivors were approached in different medical institutions and cancer patient associations in Spain. The study was approved by the Ethics Committee of Institutions. Eligible participants were women (a) diagnosed with breast cancer and currently without any signs or symptoms of cancer, (b) who had completed primary treatment (surgery, chemotherapy, and/or radiotherapy) at least 1 month before the present study, and (c) with knowledge of the Spanish language. The final sample consisted of 450 (81%) women who provided their informed consent and completed the questionnaire package described below.

Measures

Sociodemographic and medical data

Using a self-report form developed for this study, we collected the following sociodemographic data: age, marital status, educational level, and employment status. Cancer-related details were completed by patients or obtained from medical histories.

Psychosocial distress

The Brief Symptom Inventory 18 (BSI-18) [26] is a self-report symptom checklist comprising 18 items rated on a 5-point Likert scale. The respondent is asked to rate each item in terms of "how they have been feeling during the previous week." The scale provides three symptom scores (anxiety, depression, and somatization) and an overall score that is a measure of psychological distress (Global Severity Index [GSI]).

According to Derogatis [27], scores were transformed into *T* scores to identify clinically significant distress using gender-specific normative data. Thus, subjects that achieve a $T \geq 63$ on the GSI or at least on two subscales of the BSI-18 are classified as "caseness" of psychological distress. The Spanish version of the BSI-18 has shown adequate psychometric properties in previous studies of cancer populations [28, 29]. In the present study, the GSI demonstrated satisfactory internal consistency (Cronbach's $\alpha_{GSI} = 0.88$).

Unmet psychosocial needs

The Cancer Survivors Unmet Needs (CaSUN) [30] assesses cancer-related needs experienced within the preceding month. It includes 35 items that explore needs related to different domains (information and medical care, quality of life, emotional and relationship issues, and life perspective) that respondents rate as not applicable, met, or unmet.

Exploratory factor analysis published by the authors of the scale identified five factors [30]: existential survivorship (14 items), comprehensive cancer care (6 items), information (3 items), relationships (3 items), and quality of life (2 items). For the present study, only the first factor, related to life perspective and emotional issues, was used because we consider that the provided information is especially useful for the design of really effective psychological interventions focused on this population. Responses were dichotomized following the suggestion of the authors of the scale: unmet needs ("weakly," "moderately," and "strongly") and no unmet needs ("no need or not applicable" and "have a need, but need is being met").

Statistical analyses

Descriptive statistics were calculated to summarize sociodemographic, medical, psychological distress and unmet psychosocial needs data and to estimate the prevalence of caseness of distress (BSI-18).

Logistic regression models were used to compare the prevalence of unmet needs on distress subgroups, and the estimated effects were expressed as odds ratios (OR) with 95% confidence intervals (CI) for needs of clinical participants (distressed) and needs of non-clinical participants (non-distressed group).

Chi-square tests were conducted to examine the association between caseness of distress and unmet needs, sociodemographic data (age, marital status, education level, and employment status), and medical data (menopausal status, primary treatment, chemotherapy, hormonotherapy) and explore the differences in psychosocial unmet needs among subgroups of survivors in different periods within the survival phase. The statistical significance level for analyses was $p \leq 0.05$. Data were analyzed using SPSS (Statistical Package for Social Sciences, version 22.0 for Windows).

Results

Sample characteristics

Table 1 shows sociodemographic and medical data for the 450 participants. The mean age was 54.90 years ($SD = 10.25$). Most participants were married or lived with a partner (74%) and had completed primary studies (typically through 12 years) (85%). Regarding employment status, 36% were working outside the home, 34% were housewives, 23% were retired or on sick leave, and 8% were unemployed.

Two thirds of the samples were between 46 and 65 years old and about half could be categorized as premenopausal [31]. The most frequently received treatment pack was surgery/chemotherapy/radiotherapy (65%), and more than two thirds (70%) of women received hormonotherapy. One fifth of the participants (20%) had completed their treatment more than 5 years ago (long-term survivorship subgroup, LTS); 42% had completed it no more than 12 months ago (reentry subgroup, RE), and 38% had exceeded 12 months but had not yet reached 5 years off-primary treatment (early survivorship subgroup, ES).

Prevalence and predictors of distress

Table 2 shows the descriptive results for distress and unmet psychosocial needs. The average GSI score was 14.52 ± 13.82 (range 0–59), and 28% of participants met the criteria for caseness of distress.

There were no significant differences in clinical versus non-clinical distress for the sociodemographic and medical variables (Table 1).

Unmet psychosocial needs and distress subgroups

The unmet psychosocial needs ranking observed in the total group was broadly replicated (with minor differences) in clinical versus non-clinical distress subgroups (Table 2).

The two least frequent needs are the same in both subgroups (items 4 and 13), and the six most frequent needs (items 1, 2, 3, 5, 9, 12) are also the same with only one exception: the need for help to move forward with life (item 8) is among the six most frequent in the clinical subgroup but not the need to talk to others (item 5). The differences are concentrated on the frequency which the needs are presented in both subgroups. Thus, a significantly higher percentage of women in the clinical distress subgroup expressed every one of psychosocial needs explored. The likelihood of needing help to cope with the physical and emotional impact of cancer was 17–27 times higher in the clinical subgroup: help to reduce stress (item 1), emotional support (item 3), to move on with life (item 8), to change beliefs about invulnerability (item 9), and to make life count (item 14). The need for help with social/work relationships was 9–13 times more likely in the clinical distress subgroup: new relationships (item 4), handling social/work situations (item 6), help to acknowledge the impact of cancer on people (item 10), and help to manage survivor expectations after cancer (item 11). The need for help with decision-making (item 12), body changes (item 7), and fear of cancer recurrence (item 2) obtained similar results (9–13 times more likewise in the clinical distress subgroup). Finally, the need for help with spiritual beliefs (item 13) and to talk to others who have had cancer (item 5) was six and four times, respectively, more likely among women with clinical distress.

Table 1 Statistical descriptive of the sociodemographic and medical variables ($N_{Total} = 450$; $N_{NonClinicalDistress} = 329$; $N_{ClinicalDistress} = 121$)

	Total group, *N* (%)	Non-clinical distress, *N* (%)	Clinical distress[a], *N* (%)	*p*
Age				0.337
≤ 45	86 (19.2)	55 (17.6)	25 (21.0)	
46–55	155 (34.5)	107 (34.2)	44 (37.0)	
56–65	134 (29.8)	95 (30.3)	37 (31.1)	
≥ 66	74 (16.5)	56 (17.9)	13 (10.9)	
M = 54.90; SD = 10.25; range = 27–85				
Marital status				0.731
Married/lived with partner	333 (74.0)	237 (76.0)	90 (74.4)	
Single/divorced/widowed	117 (26.0)	75 (24.0)	31 (25.6)	
Education level				0.933
Without studies	66 (14.9)	47 (15.3)	19 (16.1)	
Primary studies	191 (43.1)	131 (42.5)	53 (44.9)	
Secondary studies	89 (20.1)	62 (20.1)	23 (19.5)	
University	97 (21.9)	68 (22.1)	23 (19.5)	
Employment status				0.808
Working outside home	160 (35.6)	110 (35.1)	42 (35.0)	
Unemployed	35(7.8)	24 (7.7)	10 (8.3)	
Retired/on sick leave	104 (23.1)	67 (21.4)	30 (25.0)	
Housewife	151 (33.5)	112 (35.8)	38 (31.7)	
Menopausal status				0.246
< 55	241 (53.7)	162 (51.8)	69 (58.0)	
≥ 55	208 (46.3)	151 (48.2)	50 (42.0)	
Medical primary treatments (*N* = 394)				0.997
Surgery only	10 (2.4)	7 (2.4)	3 (2.8)	
Surgery, chemotherapy	42 (10.2)	28 (9.8)	11 (10.2)	
Surgery, radiotherapy	93 (22.6)	64 (22.4)	24 (22.2)	
Surgery, chemotherapy, radiotherapy	266 (64.7)	187 (65.4)	70 (64.8)	
Hormonotherapy (*N* = 412)				0.183
Yes	292 (70.9)	202 (70.6)	79 (72.5)	
No	120 (29.1)	84 (29.4)	30 (27.5)	
Time elapsed since the end of primary treatment		Non-clinical distress (*N* = 302)	Clinical distress (*N* = 115)	0.527
≤ 12 months (RE subgroup)	182(41.9)	127 (42.1)	51 (44.3)	
> 12 months–≥ 5 years (ES subgroup)	166 (38.2)	113 (37.4)	46 (40.0)	
> 5 years (LTS subgroup)	86 (19.8)	62 (20.5)	18 (15.7)	

[a] Case criteria obtained based on T ≥ 63 in GSI or at least in two subscales, using published norms for community female sample

Unmet psychosocial needs and survival subgroups

As Table 3 and Fig. 1 show, the more and less frequent needs in the three survival subgroups (RE, ES, and LTS) largely coincide with those previously described for the total sample and clinical and non-clinical distress subgroups. Again, the differences are found in the frequency which the needs are presented in the subgroups. Thus, for example, the most frequent needs are presented by 44–57% of survivors in the RE group, 32–51% in the ES group, and 28–43% in the LTS group.

The differences between the survival subgroups were statistically significant in five from the 14 needs (items 3, 4, 5, 10, 11) and showed marginal tendency to significance in other three (items 2, 6, and 12). All these needs (except item 4) exhibit a substantial decrease (between 16 and 20%) (also observed in item 14) through the three subgroups. The rest of the needs (items 1, 4, 7, 8, 9, 13) shows a less decrease (between 6 and 12%). Moreover, it can be observed that some of the needs display a progressive decrease through the three groups (items 2, 3, 6, 9, 11, 12, 14) while others show a decrease pattern less

Table 2 Statistical descriptive of the unmet psychosocial needs and odds ratio by the distress subgroups ($N_{Total} = 274$; $N_{NonClinicalDistress} = 193$; $N_{ClinicalDistress} = 64$)

	Total group, *N* (%)	Non-clinical distress, *N* (%)	Clinical distress, *N* (%)	Odds ratio	95% CI
Psychosocial unmet needs CaSUN					
1. Reduce stress in my life	136 (49.6)	70 (36.3)	58 (90.6)	16.99	6.97–41.37
2. Concerns about the cancer coming back	133 (48.5)	72 (37.3)	54 (84.4)	9.08	4.35–18.93
3. Emotional support for me	135 (49.3)	66 (34.2)	59 (92.2)	22.71	8.69–59.31
4. New relationship	51 (18.8)	15 (7.8)	33 (51.6)	12.98	6.30–26.74
5. Talk to others who have had cancer	123 (45.1)	74 (38.3)	46 (71.9)	4.04	2.20–7.56
6. Handle social/work situations	70 (25.7)	26 (13.5)	39 (60.9)	9.90	5.17–18.97
7. Changes to my body	85 (31.1)	37 (19.2)	44 (68.8)	9.22	4.87–17.46
8. Move on with my life	87 (31.8)	27 (14.0)	52 (81.3)	26.64	12.61–56.29
9. Help to cope with the belief that nothing bad will happen	117 (42.7)	51 (26.4)	56 (87.5)	19.49	8.70–43.68
10. Acknowledging the impact	80 (29.2)	31 (16.1)	44 (68.8)	11.50	5.98–22.10
11. Survivor expectations	88 (32.1)	37 (19.2)	44 (68.8)	9.28	4.90–17.57
12. Decisions about my life	99 (36.1)	43 (22.3)	50 (78.1)	12.46	6.29–24.66
13. Spiritual beliefs	44 (16.1)	17 (8.8)	24 (37.5)	6.21	3.05–12.63
14. Make my life count	71 (25.9)	20 (10.4)	47 (73.4)	23.92	11.61–49.25

monotonous. Thus, items 8 and 10 are more frequent in the RE subgroup and remain similar in the other two; items 1, 5, and 7 are only less frequent in the LTS subgroup; and items 4 and 13 are less frequent in the ES subgroup versus RE subgroup, but experience a rise in the LTS subgroup.

Discussion

This study investigated distress and psychosocial needs in breast cancer patients who had completed primary treatment and are relapse-free ($N = 450$). Our results showed that majority of women have resolved the cancer experience psychologically.

Table 3 Distress, unmet needs, and survival subgroups

Unmet psychosocial needs CaSUN	Reentry subgroup, $N = 70$ *N* (%)	Early survival subgroup, $N = 114$ *N* (%)	Long-term survival subgroup, $N = 74$ *N* (%)	X^2	*p*
1. Reduce stress in my life	37 (52.85)	58 (50.87)	32 (43.24)	1.553	0.460
2. Concerns about the cancer coming back	39 (55.71)	53 (46.49)	28 (37.83)	4.621	0.099
3. Emotional support for me	40 (57.1)	57 (50.0)	27 (36.48)	6.456	0.040*
4. New relationship	17 (24.28)	12 (10.52)	13 (17.56)	6.387	0.041*
5. Talk to others who have had cancer	35 (50.0)	55 (48.24)	24 (32.43)	5.866	0.053*
6. Handle social/work situations	23 (32.85)	29 (25.43)	12 (16.21)	5.626	0.060
7. Changes to my body	24 (34.28)	38 (33.33)	16 (21.62)	3.666	0.160
8. Move on with my life	26 (37.14)	32 (28.07)	21 (28.37)	1.926	0.382
9. Help to cope with the belief that nothing bad will happen	31 (44.28)	49 (42.98)	27 (36.48)	1.093	0.579
10. Acknowledging the impact	29 (41.42)	26 (22.80)	15 (20.27)	10.078	0.006**
11. Survivor expectations	30 (42.86)	33 (28.95)	15 (20.27)	8.861	0.012**
12. Decisions about my life	31 (44.28)	36 (31.57)	21 (28.37)	4.632	0.099
13. Spiritual beliefs	16 (22.85)	13 (11.40)	11 (14.86)	4.375	0.112
14. Make my life count	21 (30.0)	25 (21.92)	16 (14.03)	1.877	0.391

* $p \leq 0.05$

** $p \leq 0.01$

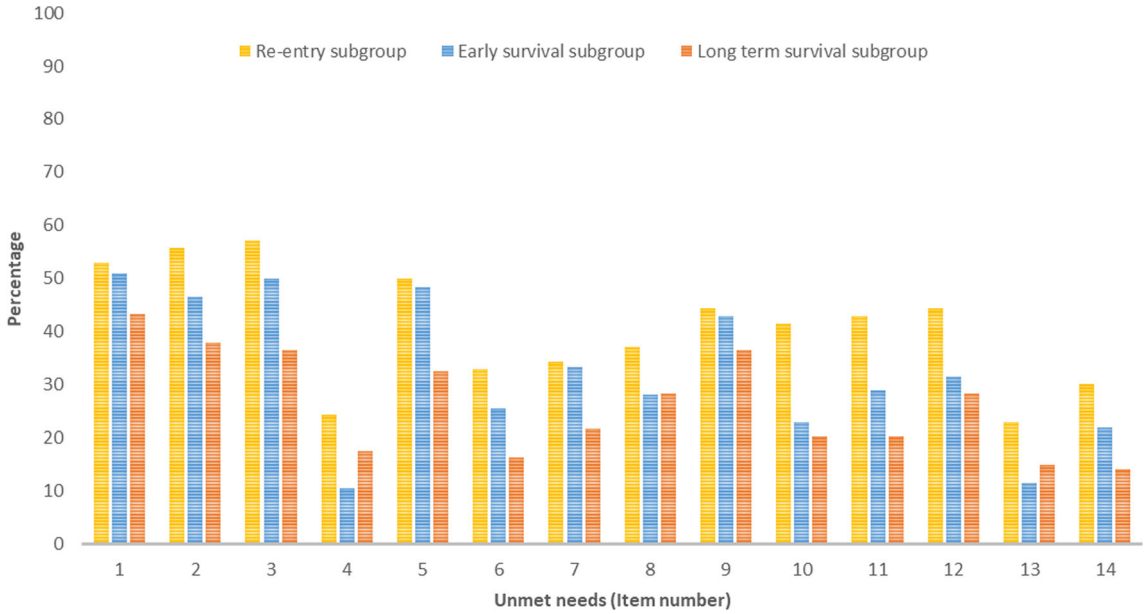

Fig. 1 Percentage of unmet needs in the three survival subgroups

However, one in four women experiences clinical distress after breast cancer diagnosis and treatment. Previous studies of distress in cancer survivors with different tumor sites have identified distress prevalence of 29% [13] with a percentage that ranges between 5 and 43% [14, 16, 19–22, 32]. Prevalence data from the present study, although similar to the total value informed by the NCCN, is somewhat lower than the 36% obtained by Ploos van Amstel et al. [21] for breast cancer survivors who had completed primary treatment.

Our examination of potential sociodemographic and medical predictors of distress showed that age, marital status, education level, employment status, menopausal status, aggressiveness of primary treatment, and presence of adjuvant hormone therapy were not associated with clinical distress in breast cancer survivors. Moreover, we found no significant differences in caseness of distress across survival subgroups (reentry, early survival, and long-term survival), although the prevalence of "caseness" of distress was lower for long-term survival (23%) than for the other periods (29% in both the first and the second periods). Previous research on the relationship between sociodemographic and medical variables and distress in cancer survivors beyond the primary treatment is scarce and/or inconsistent. The relationships between distress and age or time since diagnosis (non-active treatment) have been explored the most. Although some studies have found associations between these variables [17, 33], others have not [19, 21]. Different ways of operationalizing these variables may explain the contradictory results. Greater methodological consensus (particularly on how to view survival time) would clarify these associations.

Other objectives of this study were to explore the relationship between unmet supportive care needs and both clinical psychological distress and survival period of time. All evaluated needs were significantly associated with clinical distress. In accord with results obtained by Harrison et al. [19], the greatest differences between clinical and non-clinical distress subgroups were in frequency of unmet needs, which was highest in the clinical distress subgroup (range 38–92% vs. 8–38%, respectively). Thus, the needs of emotional support, talking to others and reducing stress, dealing with the fear of recurrence, handling change beliefs about invulnerability, and making decisions were the most frequent in clinical and non-clinical distress subgroups. Additionally, the need for help with new relationships and spiritual beliefs was the less frequent in both. It deserves special attention the widespread presence of the unmet assessed needs in the clinical distress subgroup. Thus, the six most frequent needs were manifested by at least four out of five women in the distress clinical subgroup (vs. one out of five in the non-clinical distress subgroup) and that even the two least frequent ones were reported by at least two out of five (vs. one out of ten in the non-clinical distress subgroup). According to survival period of time, the most and less frequent needs in three subgroups were broadly consistent with those found in the distress subgroups. The differences were again established not in the more or less prominent needs, but in the frequency which they were manifested in each survival subgroup. The frequency of needs was reduced, although not always significantly or following the same change pattern, through RE, ES, and LTS subgroups.

Consequently, it can be concluded that the most frequent needs among breast cancer women beyond the primary treatment are those focused on the possibility of recurrence and the impact that disease and the associated uncertainty entail in the level of perceived stress, making

decisions about the life and changes produced in the beliefs about invulnerability. However, despite the significant reduction in some, all of these needs showed a remarkable presence over time: they are manifested by approximately two out of five women in the LTS subgroup [34, 35].

The needs linked to interpersonal relationships (handle social/work situations, acknowledging the impact, survivor expectations), the physical impact of the disease, and the need to move forward with life and give it meaning ranked an intermediate position. All of them are expressed by approximately three out of five women in the clinical distress subgroup (vs. one or two out of ten women in non-clinical distress subgroup). On the other hand, they show a different pattern of change through the survival subgroups. As the survival time is longer, the meaning of life is being restored and social needs experience a considerable and progressive decrease. However, the need for help to move forward with life and to adjust to body changes decreases much less and not progressively.

In sum, (i) there was a significant number of women (28%) that showed clinical distress beyond the end of primary treatment for their breast cancer; (ii) the clinical distress was significantly associated with the presence of existential survivorship needs; (iii) although needs tend to decrease through periods of survival, there was a considerable level of unmet needs even among long-term survivors; (iv) the needs centered on fear of recurrence and its cognitive emotional impact were the most frequent and the most resistant to decline over time; (v) these psychosocial needs deserve special attention because of their apparent tendency to become chronic or persist over time. Early assessment of the distress and unmet needs of breast cancer survivors permits the detection of high-risk groups that likely benefit from targeted preventative interventions and facilitates the delivery of limited health care resources [30]. Moreover, a robust body of research is essential for developing the evidence base needed to generate care standards and clinical practice guidelines that can improve the quality of life of cancer survivors [36].

These results have several practical implications. The detailed analysis of the specific psychosocial needs in survivors of a particular cancer site (i.e., breast cancer) is key to guide the development of really effective supportive care interventions for survivors. An unmet need reflects the gap between the support services required or desired and an individual's experience of those services [37]. Thus, the strength of this approach is that it enables resources to be focused on those issues that survivors wish to be addressed to achieve optimal well-being [23].

This study has several strengths and limitations. Important strengths are the focus on survival as a specific phase of the cancer control continuum, sample homogeneity of cancer site, the consideration of different periods within the survival phase, the use of validated and comparable instruments to assess supportive care needs, and the analysis of specific items versus average scores on large domains. In contrast, the cross-sectional design used to explore periods within the survival phase, the partial study of distress predictors (sociodemographic and medical variables) and psychosocial needs (e.g., the lack of analysis of physical, practical, and informational needs), and the small sample size of several of the subgroups must be taken into account when considering these findings. Finally, we are aware that original authors' criteria used for the rated experience of needs (weakly, moderately, or strongly) increased the prevalence of unsatisfied needs in comparison with more restricted criteria (limited to moderately or strongly), but this would not have affected other associations explored here, such as the relationship between needs and distress. Future studies should examine psychosocial variables associated with distress and other types of supportive care needs in larger samples of breast cancer survivors. There is also a need for longitudinal studies to clarify the evolution of distress and unmet needs in relation to time since the completion of primary treatment.

The present findings show the relevance of extending psychosocial care to cancer survivors beyond the active treatment of the disease. Although it is associated with a high probability of survival, breast cancer has a significant long-term impact on an individual's life both during and after the diagnosis and treatment phases [38]. As some authors have pointed out [11, 39, 40], after treatment ends, patients must cope not only with treatment side effects, but also with long-term changes in body image, the fear of recurrence, and changes in their relationships with family and friends and have to assimilate all these aspects to the vital perspective.

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Compliance with ethical standards

The study was approved by the Ethics Committee of Institutions.

Conflict of interest The authors declare that they have no competing interests.

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