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Functional and physical well-being and concerns of breast cancer survivors

Bem-estar funcional e físico e preocupações de sobreviventes de câncer de mama

Bienestar funcional y físico y preocupaciones de supervivientes de cáncer de mama

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ABSTRACT

Objectives: To compare levels of functional and physical well-being and specific concerns of breast cancer survivors. **Method**: This cross-sectional, correlational, multicenter study was conducted in a public health facility and a complementary health facility, both located in the city of São Paulo, Brazil. Data were collected between March and November 2021. We included women diagnosed with breast cancer of any etiology and staging, free of disease, with or without endocrine therapy. The Sociodemographic and Clinical Questionnaire and the Functional Assessment of Cancer Therapy—Breast instruments were used. Descriptive and analytical analyses were performed. **Results**: A total of 90 women participated in the study (mean age = 57.6 years); most of them were diagnosed between 2017 and 2020. In the public system, regarding education, most were between illiterate and incomplete high school, while in the complementary health group, the majority had completed higher education. In the area of additional concerns—breast cancer domain, the public group had a higher score than the supplemental health group; in the sum of both groups, age was positively and negatively correlated with survival time. Functional well-being scores were lowest in both groups. **Conclusions**: The study highlights that breast cancer survivors, regardless of the health care system, share similar concerns related to the disease. These concerns, particularly among older women and in the Brazilian Unified Health System, have a significant impact on quality of life. Care plans should address these concerns individually and provide support and education after treatment.

Descriptors: Breast Neoplasms; Cancer Survivors; Quality of Life; Disease Impact Profile; Oncology.

RESUMO

***Objetivo**: Comparar os níveis de bem-estar funcional e físico e as preocupações específicas entre mulheres sobreviventes de câncer de mama. **Método**: Estudo transversal, correlacional e multicêntrico foi conduzida numa instituição de saúde pública e em outra suplementar, ambas na cidade de São Paulo, Brasil. A coleta foi realizada entre março e novembro de 2021. Incluímos mulheres diagnosticadas com câncer de mama de qualquer etiologia e estadiamento, livres da doença, com ou sem terapia endócrina. Foram utilizados os instrumentos Questionário Sociodemográfico e Clínico e Functional Assessment of Cancer Therapy—Breast. Análises descritivas e analíticas foram conduzidas. **Resultados:** 90 mulheres participaram do estudo (idade média = 57,6 anos); a maior parte delas foi diagnosticada entre 2017 e 2020. No sistema público, quanto à escolaridade, a maioria encontrava-se entre não alfabetizadas e com ensino médio incompleto, enquanto no grupo da saúde complementar, a maioria possuía ensino superior completo. No domínio preocupações adicionais-câncer de mama, o grupo público apresentou maior escore em relação à saúde complementar; na soma dos dois grupos, a idade correlacionou-se positivamente e negativamente com o tempo de sobrevivência. Os escores de bem-estar funcional foram os mais baixos em ambos. **Conclusão:** Mulheres sobreviventes de câncer de mama, independentemente do sistema de saúde, compartilham preocupações similares relacionadas à doença. Essas preocupações, especialmente evidentes em mulheres mais velhas e no Sistema Único de Saúde, têm um impacto significativo na qualidade de vida. É crucial que os planos de assistência considerem essas preocupações de forma individualizada, oferecendo suporte e educação após o tratamento.*

***Descritores:** Neoplasias da Mama; Sobrevivente de câncer; Qualidade de Vida; Perfil de Impacto da Doença; Oncologia.*

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RESUMEN

***Objetivos**: Comparar los niveles de bienestar funcional y físico y las preocupaciones específicas de supervivientes de cáncer de mama. **Método**: Estudio transversal, correlacional, multicéntrico se llevó a cabo en una instalación de salud pública y una instalación de salud complementaria, ambas ubicadas en la ciudad de São Paulo, Brasil. Los datos se recopilaron entre marzo y noviembre de 2021. Se incluyeron mujeres diagnosticadas con cáncer de mama de cualquier etiología y estadificación, libres de enfermedad, con o sin terapia endocrina. Se utilizaron el Cuestionario Sociodemográfico y Clínico y los instrumentos de Evaluación Funcional de la Terapia contra el Cáncer—Mama. Se realizaron análisis descriptivos y analíticos. **Resultados**: 90 mujeres participaron en el estudio (edad media = 57.6 años); la mayoría de ellas fueron diagnosticadas entre 2017 y 2020. En el sistema público, con respecto a la educación, la mayoría estaban entre analfabetas e incompletas en la educación secundaria, mientras que, en el grupo de salud complementaria, la mayoría había completado la educación superior. En el área de preocupaciones adicionales-dominio del cáncer de mama, el grupo público tuvo una puntuación más alta que el grupo de salud complementaria; en la suma de ambos grupos, la edad se correlacionó positiva y negativamente con el tiempo de supervivencia. Las puntuaciones de bienestar funcional fueron más bajas en ambos grupos. **Conclusiones**: Las supervivientes de cáncer de mama, independientemente del sistema de atención médica, comparten preocupaciones similares relacionadas con la enfermedad. Estas preocupaciones, particularmente entre las mujeres mayores y en el Sistema Único de Salud brasileño, tienen un impacto significativo en la calidad de vida. Los planes de atención deben abordar estas preocupaciones individualmente y proporcionar apoyo y educación después del tratamiento.*

***Descriptores:** Neoplasias de la Mama; Supervivientes de Cáncer; Calidad de Vida; Perfil de Impacto de Enfermedad; Oncología.*

INTRODUCTION

In Brazil, excluding nonmelanoma skin cancers, breast cancer is the most common cancer among women in all regions, with higher rates in the South and Southeast. It is estimated that approximately 73,610 new cases will occur annually between 2023 and 2025, resulting in an adjusted incidence rate of 41.89 cases per 100,000 women(1).

Overall survival for breast cancer varies from 65–87% over five years, with regional variations related to socioeconomic conditions. More developed regions generally have better survival rates despite higher incidence rates. Factors such as stage of disease, time to treatment initiation, quality of therapy, and patient adherence to follow-up care influence survival and are influenced by social factors such as education, income, and access to healthcare services(2,3).

The term “cancer survivor” was introduced in 1985 by Fitzhugh Mullan, who was both a physician and a cancer patient. The definition was adopted by institutions in the United States of America in 1986 and encompasses the period from diagnosis to the end of initial treatment, whether curative or palliative. It includes those living with chronic disease, those with disease-free periods, and those with active disease. Some people with slowly progressing cancer maintain a good quality of life, similar to chronic diseases such as cardiovascular disease. Those who remain disease free for many years are considered cured and are called long-term survivors. Even as they resume their normal lives, these survivors remain at risk for medical, rehabilitation, and psychosocial challenges(4,5). The debate over the definition of “cancer survivorship” illustrates the complexity of the concept. Initially focused on the five-year survival period after diagnosis, the state of survivorship begins at the moment of diagnosis and encompasses adjustment to immediate and future life. Being a survivor transcends dichotomies, with no clear boundaries, and the effects of breast cancer last a lifetime(6,7).

To be a survivor does not necessarily mean to be cured, but rather to be in a state of being disease free or chronic. Both situations create uncertainty and fear of recurrence. In addition to side effects and late complications, women face psychosocial challenges related to survivorship. Multidisciplinary teams play a crucial role in comprehensive care, going beyond technical guidelines to address subjective aspects such as the woman’s life history, the meaning of survival, and its impact on daily life(3,7).

Notwithstanding advances in the treatment for cancer, cancer survivors face psychosocial and physical challenges such as pain, lymphedema, and mobility changes. The quality of life of these survivors, especially those with breast cancer, has been extensively studied internationally, with proposals for multidimensional interventions. In Brazil, there is a scarcity of publications on breast cancer survivors, both in the Unified Health System (SUS) and in the Supplementary Health System (SHS), which indicates the lack of information on private and philanthropic care(“8,9,10,11).

This evidence gap limits the planning of personalized and quality care for cancer survivors, and in addition, some variables may also affect the quality of survival. In this sense, the present investigation is proposed with the following study questions: i) “What are the levels of functional, physical well-being, and additional concerns of breast cancer survivors?” ii) “What are the correlations of these groups with the variables of education, emotional support, age, and time elapsed since treatment?”.

Therefore, the present study aims to compare levels of functional and physical well-being and specific concerns of breast cancer survivors.

METHOD

The present cross-sectional study was conducted at the breast outpatient clinics of Hospital São Paulo (HSP), a university hospital of the Universidade Federal de São Paulo (UNIFESP), and at the A.C.Camargo Cancer Center.

Inclusion criteria were women over 18 years of age, diagnosed with breast cancer of any etiology, who had completed clinical or surgical treatment, regardless of whether they were receiving endocrine therapy during follow-up, and who were disease free at the time of data collection. Exclusion criteria were women who could not answer questions because of a validated alopecia disorder documented in the medical record.

Data were collected from March to November 2021 in the mastology outpatient clinics of both institutions. The selection of these institutions is justified because they provide care to patients from the SUS (i.e., HSP, UNIFESP) and the SHS (i.e., A.C.Camargo Cancer Center).

Patients were invited either in person or by telephone. Upon acceptance, patients received the Informed Consent Form (ICF), the sociodemographic questionnaire, and part of the Functional Assessment of Cancer Therapy—Breast (FACT-B+4) via the Google Forms® platform. Patients could respond independently or request assistance from the researcher and were also given the option to complete the questionnaire in parts, save the form, and continue later.

In terms of instruments, clinical data were collected from the patient’s medical records, and the other instruments used included 1) a sociodemographic questionnaire covering age, level of formal education, and number of people in the household; 2) 24 questions from three domains of the FACT-B+4: functional well-being (7 items), physical well-being (7 items), and additional concerns—breast cancer (10 items). The breast cancer concerns domain includes questions about shortness of breath, insecurity about clothing worn, swelling or pain in one or both arms, not feeling sexually attractive, hair loss, possibility of other family members having breast cancer, effect of stress on disease, weight changes, feeling like a woman, and pain in any part of the body. FACT-B+4 system presents responses on a five-point Likert scale (ranging from 0 to 4 for the sum of the items), with a higher score indicating a higher quality of life for the patient(12).

Significance level was set at 5% ($p \leq 0.05$). 26.0 SPSS Statistics software (IBM Corp., Armonk, NY, USA) was used for analysis. The theoretical framework for the statistical analysis presented in this report is described in detail by Field(13). The independent samples t-test was used to compare groups. A parametric test was chosen for group comparison because both groups had sufficient sample size due to the central limit theorem. In all cases, no violation of the assumption of homoscedasticity was observed ($p > 0.05$, Levene’s test). The effect size of the difference between groups was measured by the d coefficient(14).

For analyses involving the variables of level of formal education and years since diagnosis, the Spearman correlation test was used to calculate correlation coefficients and p-values. This nonparametric test was chosen because of the ordinal qualitative nature of these variables. For analyses involving age and number of people living in the household, the Pearson correlation test was used to calculate the correlation coefficient and p-value. The choice of this parametric test is due to the sample size.

The study was approved by the research ethics committee of the UNIFESP under approval number 4357791 and by the A.C.Camargo Cancer Center under approval number 4841251.

RESULTS

A total of 90 women participated in the study, 37 from the SHS group and 53 from the SUS group, with an overall mean age of 57.6 years (range 25–85 years; SD = 12.4 years), with the SHS group having a lower mean age (51.9 years). On average, participants lived with 2.9 people (SD = 1.2 years) in the same household (Table I).

Table I. Description of the age of the survivors and the number of people they live with. São Paulo, Brazil, 2024.

Subscale	Group	n	Mean	SD	Median	Min.	Max.
Age (years)	SHS	37	51.94	12.07	49.00	36.00	78.00
	SUS	53	61.53	11.20	60.00	25.00	85.00
	Total	90	57.65	12.42	58.00	25.00	85.00
Number of people you live with	SHS	31	2.87	1.06	3.00	1.00	5.00
	SUS	40	2.88	1.36	3.00	1.00	9.00
	Total	71	2.87	1.23	3.00	1.00	9.00

Caption: SD: Standard Deviation; Min.: Minimum; Max.: Maximum.
Source: Prepared by the authors.

Most women (51%) were diagnosed between 2017 and 2020. The educational level of women treated in the SUS group ranged mostly between illiteracy and incomplete high school education (52.4%). Of the women in the SHS group, 54.3% reported having completed higher education, with 17.1% having completed postgraduate studies (stricto sensu).

Table II. Distribution by year of diagnosis and level of formal education of cancer survivors. São Paulo, Brazil, 2024.

Variable	Categories	Group					
		SHS		SUS		Total	
		n	%	n	%	n	%
Year of diagnosis	1998	0	0.00	1	1.92	1	1.14
	1999	0	0.00	1	1.92	1	1.14
	2001	0	0.00	1	1.92	1	1.14
	2002	0	0.00	1	1.92	1	1.14
	2003	0	0.00	1	1.92	1	1.14
	2005	0	0.00	1	1.92	1	1.14
	2006	0	0.00	1	1.92	1	1.14
	2007	0	0.00	2	3.85	2	2.27
	2008	0	0.00	2	3.85	2	2.27
	2009	1	2.78	2	3.85	3	3.41
	2010	0	0.00	1	1.92	1	1.14
	2011	2	5.56	0	0.00	2	2.27
	2012	0	0.00	2	3.85	2	2.27
	2014	0	0.00	5	9.62	5	5.68
	2015	1	2.78	4	7.69	5	5.68
	2016	0	0.00	8	15.38	8	9.09
	2017	0	0.00	7	13.46	7	7.95
	2018	1	2.78	2	3.85	3	3.41
	2019	9	25.00	6	11.54	15	17.05
	2020	22	61.11	4	7.69	26	29.55
Level of formal education	Nonliterate	1	2.86	1	2.38	2	2.60
	Incomplete PE	0	0.00	15	35.71	15	19.48
	Complete PE	2	5.71	4	9.52	6	7.79
	Incomplete SE	0	0.00	2	4.76	2	2.60
	Complete SE	7	20.00	13	30.95	20	25.97
	Complete HE	19	54.29	7	16.67	26	33.77
	Masters	4	11.43	0	0.00	4	5.19
	Doctorate	2	5.71	0	0.00	2	2.60

Caption: PE: Primary education; SE: Secondary education; HE: Higher education.
Source: Prepared by the authors.

A statistically significant relationship is observed in both groups for the score on the additional concerns subscale, with higher scores in both groups. The other subscales did not show statistically significant differences between the groups. The mean scores of the functional well-being domain were low for both groups, less than 20 (maximum range 28) (Table III).

Table III. Descriptive values and comparative analysis of the SUS and SHS groups in terms of FACT—B+4 subscale scores. São Paulo, Brazil, 2024.

Subscale	Group	n	Mean	SD	Mediana	Min.	Max.	p-value	ES
Physical well-being	SHS	37	22.86	3.99	23.00	10.00	29.17	0.644	0.099
	SUS	53	23.29	4.53	25.00	9.00	28.00		
	Total	90	23.11	4.30	24.00	9.00	29.17	—	—
Functional well-being	SHS	37	18.65	4.55	18.00	6.00	28.00	0.530	0.135
	SUS	53	19.27	4.61	20.00	6.00	26.00		
	Total	90	19.01	4.57	19.00	6.00	28.00	—	—
Additional concerns	SHS	37	23.27	6.07	23.00	13.00	36.00	**0.028***	0.480
	SUS	53	26.28	6.39	27.00	10.00	38.25		
	Total	90	25.04	6.40	25.94	10.00	38.25	—	—

Student's t-test for independent samples.
Legend: SD: Standard deviation; Min: Minimum; Max: Maximum; ES: Effect size; *Statistically significant at the 5% level (p ≤ 0.05).
Source: Prepared by the authors.

Table IV presents the data from the correlation analysis between the scores on the FACT—B+4 subscales and the study variables. A statistically significant, positive correlation was observed between age and the additional concerns subscale. A statistically significant, negative correlation was observed between year of diagnosis and the additional concerns subscale.

Table IV. Correlation analysis between FACT—B+4 subscale scores and year of diagnosis, age, level of formal education, and number of people living with cancer survivors according to SUS or SHS group. São Paulo, Brazil, 2024.

Group	Variable	Physical well-being		Functional well-being		Additional concerns	
		Coef.	p	Coef.	p	Coef.	p
SHS	Age	0.110	0.552[a]	0.006	0.971[a]	0.318	0.058[a]
	Number of people living in the house	-0.290	0.114[a]	-0.326	0.074[a]	-0.327	0.073[a]
	Year of diagnosis	0.094	0.584[b]	0.197	0.249[b]	0.076	0.658[b]
	Level of formal education	-0.155	0.373[b]	-0.067	0.704[b]	-0.007	0.968[b]
SUS	Age	-0.056	0.688[a]	-0.231	0.096[a]	0.114	0.418[a]
	Number of people living in the house	0.180	0.266[a]	0.163	0.315[a]	-0.013	0.938[a]
	Year of diagnosis	-0.150	0.289[b]	-0.120	0.398[b]	-0.253	0.070[b]
	Level of formal education	0.082	0.606[b]	0.246	0.117[b]	0.200	0.204[b]
Total	Age	0.076	0.477	-0.049	0.651	**0.315**	**0.003***
	Number of people living in the house	-0.083	0.490	-0.075	0.533	-0.199	0.096
	Year of diagnosis	-0.128	0.236	-0.097	0.370	**-0.243**	**0.023***
	Level of formal education	-0.048	0.676	0.013	0.911	-0.116	0.315

Spearman (a) and Pearson (b) correlation tests.
Caption: Coef.: Coefficient. *: statistically significant value at the 5% significance level (p ≤ 0.05).
Source: Prepared by the authors.

DISCUSSION

Data obtained in the present study delineated a quality of life profile of breast cancer survivors that showed positive results in the physical and emotional well-being domains in survivors treated in both the public (i.e., SUS) and complementary health care (i.e., SHS) settings.

However, the physical well-being domain showed slightly lower scores for both groups of survivors, which indicates quality of life is not fully complete in terms of organic functionalities.

Some of the most important findings were that the domain related to additional concerns is the one that most affects the quality of life since it encompasses different aspects (e.g., self-image, personal satisfaction, self-confidence, pain, feminine awareness, etc.), including concerns about the family, which assume extreme importance in the care plan of a breast cancer survivor. Providing multidimensional care to breast cancer survivors is a challenge in both health care systems in Brazil. The vital relationship between breast cancer survivors' quality of life and health promotion is highlighted by several interrelated aspects. Health promotion programs prioritize support for physical recovery and include interventions such as adapted activities to minimize side effects and promote physical recovery(15,16).

Psychosocial support is also a dimension of quality of life and can be promoted through initiatives that provide counseling and support groups that contribute to the emotional well-being of survivors. From the perspective of a healthy lifestyle (e.g., a balanced diet and regular exercise), health promotion programs play a central role, leading to an overall improvement in quality of life(17).

Education and awareness emphasize the importance of early detection and healthy habits to prevent complications and maintain survivors' health. Active participation in one's own health empowers survivors to take an active role in making decisions about their well-being(18,17).

Supportive environments created through health promotion include flexible work policies and supportive communities that create a context conducive to quality of life. Engaging in community activities through health promotion creates social support networks that provide a sense of belonging and additional support(3,15).

Access to quality health care, a cornerstone of health promotion, seeks to ensure equity of access and to positively impact survivors' quality of life(10,16). In summary, health promotion plays a fundamental role in optimizing the quality of life of breast cancer survivors by providing resources, support, and strategies for a healthy living after treatment.

Sociodemographic analysis of the population studied reveals the educational disparity present in this group. The two most common levels of formal education were higher education (54.29%) in the SHS group and incomplete primary education (35.71%) in the SUS group, reflecting an important characteristic of Brazilian society(19).

The close relationship between education and socioeconomic status is evident, with level of formal education recognized as one of the main drivers of quality of life. More time spent in education correlates with more promising job opportunities and, consequently, higher incomes. Less favorable socioeconomic conditions are associated with higher mortality and poorer health outcomes, and stand out as primary barriers to access to quality care and key health indicators(19,16).

In addition, education from an early age promotes healthy habits, encourages self-care, and empowers individuals to solve problems and better understand self-care guidelines(20,15,17). Therefore, there is also a perceived need to strengthen health education for this population with lower levels of formal education, aiming at promoting education in disease self-management and overcoming complications arising from all phases, from diagnosis to follow-up(4,8).

As this study was conducted in the context of the COVID-19 pandemic and its significant global health implications, many of which are still not fully understood, a significant number of diagnoses were observed compared to previous years.

Data from the present study does not provide clinical staging of our patients. Another study conducted at an imaging department of a hospital in the state of São Paulo showed a striking 78.9% reduction in imaging studies and breast procedures during the first 90 days of social isolation (March 24 to June 21, 2020) compared to the previous year.

These findings are consistent with the existing literature, which already reports a decrease in healthcare utilization, including emergency services, in the initial stages of the pandemic. The most significant decrease in imaging tests was observed in outpatient procedures (88%), affecting all modalities, particularly mammograms (with 94% fewer compared to 2019). In early 2020, there is evidence of a higher prevalence of BI-RADS® categories 4 and 5 compared to BI-RADS® 1 and 2 as well as a decrease in the average age of patients undergoing mammography. This scenario, coupled with a significant increase in the breast cancer rate per 1,000 patients, suggests that during this period, screening was primarily targeted to patients who truly needed it(21).

Regarding the FACT-B+4 domains included in the present study, patients of SUS group showed higher additional concerns-breast cancer than women in the SHS group. This domain includes items such as shortness of breath, insecurity when dressing, swelling, or pain in one or both limbs, concerns about the hereditary nature of cancer, stress negatively affecting the disease, discomfort with weight changes, and feeling like a woman.

Several publications with the national population indicate that women with breast cancer in the SUS group have several disadvantages compared to those in the SHS group, ranging from access, both quantitative and qualitative, to the national cancer screening program to technological availability, including surgical, pharmacological, radiotherapeutic, and rehabilitation procedures of various levels of sophistication. In addition, socioeconomic and educational factors also characterize this gap between the two groups of women, which certainly worsen or even prevent coping responses and resilience that affect both the quality of life and the prognosis of vulnerable women(22,23,24).

Regarding the established relationship between age and the same domain, the older the age, the greater the concern for both groups. It is justifiable that older women accumulate more concerns because of the greater number of social roles they hold, as well as the perception that in certain social contexts, changes in the female experience tend to be more gradual and less likely to be reversed from a biological and social perspective that examines all relationships, behaviors, attitudes, and experiences such as self-esteem, self-image, motherhood, work, aging, and sexuality(25). For example, a woman may already have adult children and the possibility of hereditary cancer is in real time. There are also concerns about changing body image and aging, which add to weight gain and reduced lung adaptive capacity. These are legitimate situations of greater concern related to the life cycle they are in(9,25).

Body image involves physical aspects and the perception of oneself as a person. This creation includes representations and emotions about oneself and others that are built throughout life and experiences. Therefore, traumatic situations (e.g., physical changes because of illness and treatment, fear of the future, mood swings, and perceptions of others) cause changes that may be permanent or temporary(26). Societal pressure to conform, especially for women, is a deeply rooted reality in different cultures and social contexts. This pressure manifests itself in a variety of ways, from expectations about physical appearance to predetermined norms of behavior and gender roles. The social system often contributes to these pressures by perpetuating unattainable ideals of beauty and restrictive gender stereotypes.

The system that oppresses women's bodies is multifaceted and includes influences from the media, advertising, fashion, and entertainment industries, etc. These influences promote unrealistic standards of beauty and reinforce the idea that a woman's worth is directly tied to her physical appearance. This can lead to intense psychological distress, including low self-esteem, eating disorders, anxiety, depression, and a dysfunctional relationship with one's own body.

Health promotion and care perspectives seek to move away from these harmful views by promoting body acceptance, diversity, and inclusion. This includes awareness campaigns, body positivity movements, and initiatives that challenge gender stereotypes and promote equal rights and opportunities for all genders. These efforts are essential to creating a healthier and more inclusive environment where all people, regardless of their appearance or gender identity, can feel valued and respected(27).

In terms of functional well-being, SHS and SUS groups do not show significant differences, but both have low scores. The items that make up this domain include the ability to work, enjoyment of life, acceptance of the disease, sleeping well, enjoying what one does, and satisfaction with the quality of life. Regarding the analysis of functional well-being, most participants were diagnosed between the years of 2017 and 2020, which shows that many of them may still be experiencing critical periods of survival because of persistent signs and symptoms or even permanent sequelae, together with a critical epidemiological context of COVID-19(21).

Over the years, women have gained ground in the labor market and have become heads of households, often the sole breadwinners. In addition to working outside the home, women are responsible for raising and educating children and managing the household with all its physical, material, and psychological demands. Being well informed about the disease, treatment, and prognosis is essential to ensure quality of life for these women and to reduce the suffering caused by uncertainty, stigma, and prejudice associated with cancer(10,20).

The longer time elapsed since diagnosis indicated fewer concerns related to breast cancer. Years of cancer survival can mitigate the limitations acutely perceived in the early stages of survival, during treatment, and up to 2 years after treatment. Individualized and detailed attention to the main limitations is essential in the follow-up of survivors to help them overcome them. Interprofessionalism of the team, comprehensive care, and consideration of the different levels of health care also influence the well-being of survivors throughout the survival process(28,13). A review conducted in 2005, at a time when breast cancer survivorship research was not widely discussed, analyzed 10 studies on quality of life among survivors with more than 5 years of survival; factors such as no need for chemotherapy, absence of comorbidities, adequate emotional support, relatively high income, and other personal conditions were associated with a better quality of life. Although some factors (e.g., age, education, marital status, and disease stage) had different predictive values for quality of life in different studies, common problems reported by survivors included sexual problems and arm discomfort. As the number of breast cancer survivors increases due to increased longevity and advances in treatment, it is critical to monitor for potential long-term adverse effects and to implement support strategies, including psychosocial interventions. Thus, although there is room for more research to clarify these aspects, it is essential to apply existing knowledge to improve the care and quality of life of these survivors(29).

The limitations of this study lie in the partial analysis of the domains of the FACT—B+4 instrument, as well as in the selection of variables that could certainly be expanded to better characterize the sociodemographic profile of cancer survivors. Another limitation is the inclusion of women from the SUS group with a longer time since diagnosis compared to those from the SHS group.

CONCLUSION

Our results showed female survivors, both from SUS and SHS groups, have remarkably similar scores in the areas of physical well-being, functional well-being, and additional concerns, especially those related to breast cancer.

Notably, the domain of additional concerns—breast cancer was the domain that most influenced perceptions of quality of life. Older age and belonging to the SUS group were associated with higher scores in this domain, while longer time since diagnosis correlated with lower levels of additional concerns. These results not only highlight the existence of differences between survivors from SUS and SHS groups but also suggest that quality of life may be influenced by similar aspects in both groups.

Given the multidimensional nature of breast cancer, it is critical that health care plans address functional well-being and additional concerns in an individualized, interprofessional, comprehensive manner. Such plans should provide information about disease progression, promote self-management, and facilitate the transition of care for survivors and their families during posttreatment follow-up.

In the future, it will be important for our results to guide the development of health care practices, particularly in the care of women who have survived breast cancer. More personalized care strategies tailored to individual needs can be developed, considering not only clinical characteristics but also socioeconomic and demographic factors that influence quality of life perceptions. In addition, the integration of information and communication technologies can facilitate ongoing posttreatment patient monitoring, providing remote support and educational resources.

However, ensuring that such advances are implemented equitably, with equal access to care and resources regardless of a patient's health status, is critical. The hope is that these initiatives will not only improve short-term health outcomes but also promote better long-term quality of life and well-being for all breast cancer survivors.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

CONTRIBUTIONS FROM THE AUTHORS

Maria Eunice de Carvalho Moreira and **Edvane Birelo Lopes de Domenico** contributed to the design and conceptualization of the study; acquisition, analysis, and interpretation of data; and drafting and revision of the manuscript. **Getúlio Yuzo Okuma** contributed to the design and conceptualization of the study; acquisition, analysis, and interpretation of data. **Pedro Henrique Domingues Mingueto** contributed to the acquisition, analysis, and interpretation of data.

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REFERENCES

1. Instituto Nacional de Câncer. Coordenação de Prevenção e Vigilância. Divisão de Detecção Precoce e Apoio à Organização de Rede. Dados e Números sobre Câncer de Mama: Relatório Anual 2023 [Internet]. Rio de Janeiro: INCA; 2023 [acesso em 2024 mar 20]. Disponível em: https://www.inca.gov.br/sites/ufu.sti.inca.local/files//media/image//capa-relatorio-mama.png
2. Simon SD, Bines J, Barrios CH, et al. Clinical characteristics and outcome of treatment of Brazilian women with breast cancer treated at public and private institutions: the AMAZONE project of the Brazilian breast cancer study group (GBECAM). Cancer Research [Internet]. 2009 [acesso em 2024 mar 20];69(24, Suppl. 3):3082. Disponível em: http://cancerres.aacrjournals.org/cgi/content/abstract/69/24_MeetingAbstracts/3082
3. Viana SFS, Souza IEO, Paiva ACPC, Chagas MC, Amorim TV, Pacheco ZML, Nascimento RCN. Conceito vivido de sobrevivente ao câncer de mama: direcionamentos para cuidados de enfermagem e saúde. Rev Gaúcha Enferm [Internet]. 2022 [acesso em 2024 mar 20];43:e20220095. Disponível em: https://doi.org/10.1590/1983-1447.2022.20220095.pt
4. Surbone A, Tralongo P. Categorization of Cancer Survivors: Why We Need It. JCO [Internet]. 2016 [acesso em 2021 ago 20];34(28):3372–4. Disponível em: https://doi.org/10.1200/jco.2016.68.3870.
5. American Cancer Society. Cancer Treatment & Survivorship: Facts & Figures 2019-2021 [Internet]. Atlanta: American Cancer Society; 2019 [acesso em 2024 mar 20]. Disponível em: https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2019.html
6. Siegel RL, Miller KD, Fuchs HE, Jemal A. Cancer Statistics, 2021. CA: A Cancer Journal for Clinicians [Internet]. 2021 [acesso em 2021 dez 5];71(1):7–33. Disponível em: https://doi.org/10.3322/caac.21654
7. Luo Z, Chen C, Xu W, Wang P, Wang Y. A qualitative study on the experience of empowerment from the perspectives of breast cancer survivors. Nursing Open [Internet]. 2021 [acesso em 2021 dez 5];8(5):2429–38. Disponível em: https://doi.org/10.1002/nop2.1000
8. Barbosa LSFM, Baquião APSS, Grincenkov FRS. Variáveis psicológicas associadas ao crescimento pós-traumático após a vivência do câncer de mama: uma revisão sistemática. HU Rev [Internet]. 2019 [acesso em 2021 ago 30];45(3):304–11. Disponível em: https://doi.org/10.34019/1982-8047.2019.v45.28761
9. Davis C, Tami P, Ramsay D, Melanson L, MacLean L, Nersesian S, et al. Body image in older breast cancer survivors: A systematic review. Psycho-Oncology [Internet]. 2020 [acesso em 2021 dez 05];29(5):823–32. Disponível em: https://doi.org/10.1002/pon.5359
10. Lopes JV, Bergerot CD, Barbosa LR, Calux NMCT, Elias S, Ashing KT, et al. Impacto do câncer de mama e qualidade de vida de mulheres sobreviventes. Rev Bras Enferm [Internet]. 2018 [acesso em 2021 ago 19];71:2916–21. Disponível em: https://doi.org/10.1590/0034-7167-2018-0081
11. Barros AES, Conde CR, Lemos TMR, Kunz JA, Ferreira MLSM. Sentimentos vivenciados por mulheres ao receberem o diagnóstico de câncer de mama. Rev. enferm. UFPE [Internet]. 2018 [acesso em 201 dez 04];12(1):102-111. Disponível em: https://doi.org/10.5205/1981-8963-v12i01a22800p1453-1467-2018
12. Michels FAS, Latorre MRDO, Maciel MS. Validação e reprodutibilidade do questionário FACT-B+4 de qualidade de vida específico para câncer de mama e comparação dos questionários IBCSG, EORTC-BR23 e FACT-B+4. Cad. Saúde Colet. [Internet]. 2012 [acesso em 2024 mar 20];20(3):321-8. Disponível em: http://www.dominiopublico.gov.br/pesquisa/DetalheObraForm.do?select_action=&co_obra=119771
13. Ashing-Giwa KT. The contextual model of HRQoL: a paradigm for expanding the HRQoL framework. Qual Life Res. [Internet]. 2005 [acesso em 2024 mar 20];14(2):297–307. Disponível em: https://doi.org/10.1007/s11136-004-0729-7
14. Cohen J. Statistical Power Analysis. Current Directions in Psychological Science.1992;1:98-101.
15. Yi H, Jiang H, Wang A, Zong W, Dong Y, Li Y. Research on the relationship between self-management efficacy and quality of life for breast cancer patients receiving endocrine therapy. Research Square [Preprint]. 2022 [acesso em 2024 mar 20]. Disponível em: https://europepmc.org/article/ppr/ppr438584

16. Kluthcovsky ACGC, Urbanetz AAL. Quality of life in breast cancer survivors compared to healthy women. Rev Bras Ginecol Obstet [Internet]. 2012 [acesso 2021 dez 05];34(10):453-8. Disponível em: https://doi.org/10.1590/S0100-72032012001000004
17. Teixeira LA, Araújo LA Neto. Breast cancer in Brazil: medicine and public health in 20th century. Saúde Soc [Internet]. 2020 [acesso em 2021 dez 05];29(3):e180753. Disponível em: https://doi.org/10.1590/S0104-12902020180753
18. Guimarães KFA, Brambatti LP. Becoming a Woman with Cancer: Repercussions of Breast Cancer on the Role of Woman. Revista Psicologia e Saúde [Internet]. 2022 [acesso em 2024 mar 2024];14(3):147–162. Disponível em: http://dx.doi.org/10.20435/pssa.v14i3.1947
19. Couto AC, Silva C. Pobreza, escolaridade e formas de inserção no mercado de trabalho: uma análise para o brasil nos anos de 2012 e 2019. Orbis Latina. 2022;12(1):62-82
20. Field A. Discovering Statistics Using IBM SPSS Statistics. 5th ed. New York: SAGE; 2017.
21. Tachibana BM, Ribeiro RL, Federicci EE, Feres R, Lupinacci FA, Yonekura I, Racy AC. The delay of breast cancer diagnosis during the COVID-19 pandemic in São Paulo, Brazil. Einstein [Internet]. 2021 [acesso em 2021 dez 05];19:1-7. Disponível em: https://doi.org/10.31744/einstein_journal/2021AO6721
22. Franco RCS, Parreiras FC, Rosembarque SV, Lasmar GB, Vidal HM, Chaves NOR. Percepção sobre prevenção primária do câncer de mama entre mulheres atendidas no Sistema Único de Saúde. Research, Society and Development [Internet]. 2021 [acesso em 2024 mar 20];10(7):e56010716856. Disponível em: https://doi.org/10.33448/rsd-v10i7.16856
23. Rodrigues GM, Carmo CN, Bergmann A, Mattos IE. Desigualdades raciais no estadiamento clínico avançado em mulheres com câncer de mama atendidas em um hospital de referência no Rio de Janeiro, Brasil. Saude soc [Internet]. 2021 [acesso em 2021 dez 05];30(3):1-12. Disponível em: https://doi.org/10.1590/S0104-12902021200813
24. Souza MCS, Barbosa LNF, Bezerra FGLO. Mulheres diagnosticadas com câncer de mama: índices de estresse durante tratamento quimioterápico. Rev. SBPH [Internet]. 2021 [acesso em 2021 dez 05]; 24(1):16-27. Disponível em: http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1516-08582021000100003&lng=pt
25. Renna ME, Rosie SM, Madison AA, Lustberg M, Povoski SP, Agnese DM, et al. Worry and rumination in breast cancer patients: perseveration worsens self-rated health. J Behav Med [Internet]. 2021 [acesso em 2021 dez 05];44(2):253–9. Disponível em: https://doi.org/10.1007/s10865-020-00192-9
26. Monteiro FHS. Repercussões na sexualidade da paciente com câncer de mama e o uso de escalas de autoimagem: uma proposta de revisão integrativa [Internet]. Porto Alegre: [editor desconhecido]; 2020 [acesso em 2021 set 05]. Disponível em: https://pesquisa.bvsalud.org/portal/resource/pt/biblio-1342130
27. Castro VHA, Catib NOM. Corpo e beleza: como anda a saúde na busca pela perfeição estética? Rev Eletr Educ Cienc [Internet]. 2014 [acesso 2021 dez 05];4(1):37. Disponível em: http://www.fira.edu.br/revista/2014_vol1_num1_pag37.pdf.
28. Bjerkeset E, Röhrl K, Schou-Bredal I. Symptom cluster of pain, fatigue, and psychological distress in breast cancer survivors: prevalence and characteristics. Breast Cancer Res Treat [Internet]. 2020 [acesso em 2021 dez 05];180(1):63–71. Disponível em: https://doi.org/10.1007/s10549-020-05522-8
29. Mols F, Vingerhoets AJJM, Coebergh JW, Poll-Franse LV. Qualidade de vida entre sobreviventes de câncer de mama a longo prazo: uma revisão sistemática. Eur J Cancer [Internet]. 2005 [acesso em 2021 dez 05];41(17):2613–2619. Disponível em: https://doi.org/10.1016/j.ejca.2005.05.017

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