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ORIGINAL RESEARCH

Spiritual Needs and Influencing Factors of Postoperative Breast Cancer Women Undergoing Chemotherapy: A Cross-Sectional Study

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Purpose: The purpose of the study was to determine the status of spiritual needs and influencing factors of postoperative breast cancer (BC) women undergoing chemotherapy.

Participants and Methods: This study is a cross-sectional study. A total of 173 participants completed a general information questionnaire and a Chinese version of the Spiritual Needs Scale at the Guangxi Medical University Cancer Hospital. Data were collected by purposive sampling from December 2022 to April 2023. Data were analyzed by descriptive statistics, independent *t*-test, ANOVA, non-parametric test, and logistic regression analysis.

Results: The spiritual needs of postoperative BC women undergoing chemotherapy were at a high level (84.20 ± 12.86). The need for "hope and peace" was considered paramount and the need for a "relationship with transcendence" was considered the least important. Significant differences were found in the following: spiritual needs total score (P=0.040) and "hope and peace" (P=0.021) in education level; "love and connection" in disease stage (P=0.021); "meaning and purpose" in education level (P=0.013), household income (P=0.012), and payment method (P=0.015); "relationship with transcendence" in religion (P<0.001); and "acceptance of dying" in marital status (P=0.023). The level of education was the influencing factor of spiritual needs (OR=1.50, P=0.005), especially for "hope and peace" (OR=1.50, P=0.012).

Conclusion: The spiritual need of postoperative BC Chinese women undergoing chemotherapy is at a high level and should receive more attention. In clinical work, nurses should fully assess the spiritual needs of patients and meet their specific needs. Results may help nurses to develop targeted and comprehensive spiritual intervention strategies according to the characteristics of patients.

Keywords: breast neoplasms, spirituality, oncology nursing, nursing care, needs assessment

Introduction

According to GLOBOCAN 2020 global cancer statistics, breast cancer (BC) is the most common female cancer in the world. The number of new cases of BC in Chinese women was 416,371, accounting for 18.41% of the global BC cases and ranking first among female cancers.[1] Although the incidence of BC in Chinese women ($39.1/10^5$) and mortality rate ($10/10^5$) are lower than the world average, they are both on the rise and the average age at which Chinese women are diagnosed with BC is 45–55 years old, younger than western women.[2] With the continuous development of medical technology, the 5-year survival rate of patients with BC has significantly improved.[3] Therefore, the burden of BC in China, as a developing country, cannot be ignored.

Chemotherapy and surgery are still the most important methods for BC treatment. Patients with BC undergoing chemotherapy could experience stigma and inferiority complex due to their body image changes, resulting in excessive

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psychological burden.[4] The side effects of surgery and treatment could greatly pressure the physical and mental status, thereby affecting the quality of life (QoL) of patients.[5]

The World Health Organization defines health in four aspects, namely, physical, mental, social, and spiritual. Spiritual health should be emphasized as an important factor to improve the QoL and reduce the spiritual distress of cancer patients.[6,7] Spiritual needs refer to individuals with or without religious beliefs who have needs and expectations to discover the meaning, purpose, and value of life.[8] The largest study of spiritual needs to date include 26,678 Danes and found that 81.9% had at least one spiritual need, especially peace of mind.[9] Therefore, spiritual needs manifest themselves in a clear and direct way when patients with BC face a crisis such as cancer. A study by Riklikienė[10] found that patients experience several unmet spiritual needs, particularly needs for inner peace and giving. Spiritual distress and unmet spiritual needs are associated with anxiety, distress, and stress.[7,11] Nurses should comprehensively assess and use available resources to meet the spiritual needs of patients.[12]

Patients with BC crave discussion or attention to their spiritual needs[13,14] but are often ignored by healthcare providers.[15,16] An individual's spiritual needs can be felt at any stage and will be adjusted to circumstances. For example, Shi[17] found that the level of spiritual needs of patients with BC who did not undergo surgery was significantly lower than that of patients who underwent surgery. Another study showed that spiritual needs were stronger for female and religious patients than for male and non-religious patients.[10] Therefore, we can speculate that meeting the spiritual needs of patients and integrating them into spiritual care may help patients to reduce spiritual distress and symptom distress, thereby achieving a higher level of spiritual health and QoL.[7,10–12]

Many studies have been conducted on the spiritual needs of patients who have stroke,[18] cancer,[19] and heart failure[20] in China; however, few studies were done on postoperative BC women undergoing chemotherapy. Only one qualitative study was reported on the spiritual needs of BC patients undergoing oral chemotherapy.[21] The purpose of the present study was to determine the current state and influencing factors of the spiritual needs of postoperative BC women undergoing chemotherapy. We aimed to answer the following research questions: (1) What is the extent of the spiritual needs of postoperative BC women undergoing chemotherapy in China? (2) What are the influencing factors of spiritual needs?

Materials and Methods

Study Design

This study was a descriptive cross-sectional study, and it was part of a larger study.

Setting and Sample

This cross-sectional study was conducted at the Guangxi Medical University Cancer Hospital, the only national level 3A specialized hospital for cancer in the Guangxi Zhuang Autonomous Region. This hospital is in the center of Nanning city and has 1311 beds. Purposive sampling was used to recruit 173 postoperative BC women undergoing chemotherapy between December 2022 to April 2023. Purposive sampling is a type of non-probability sampling method that draws a purposive sample from a target population to understand the issues of a particular population group.[22,23] The inclusion criteria were as follows: a) diagnosis of BC by pathological examination and at any stage of BC, b) 18 years and above, and c) was able to communicate in oral and written Chinese. Patients with severe physical symptoms, self-declared mental disorder, or not undergoing breast surgery prior to chemotherapy were excluded.

Data Collection

The guidelines of the Declaration of Helsiki were followed. Eligible participants referred by the unit head nurses of the hospital were met. The researchers provided verbal explanations of the study's purposes, benefits, and importance and informed the participants of their rights. The investigation was started after obtaining written consent. Questionnaires were administered by the researchers. If participants miss any items in the question, then the researchers will remind them to complete the questionnaires. The researchers informed the participants that they have the right to participate or withdraw at any time, and their treatment would not be affected by their decision. Each participant was encouraged to fill

out the questionnaires honestly, and they were given enough time to think and was offered help if they had any emotional or stressful problems in this study. Each participants' information was kept confidential by the researchers and was not made publicly available unless disclosure is required by law. The Guangxi Medical University Cancer Hospital Institutional Review Board (Approval no. KY2022521) and the Universiti Sains Malaysia Institutional Review Board (Approval no. USM/JEPeM/22120819) approved this study.

Measurements

General Information Questionnaire

Patients' general information was collected by questionnaire. Data included age, religion, education level, marital status, vocational status, per capita monthly household income (RMB), payment method, disease stage, cycles of chemotherapy after surgery, and whether receive neoadjuvant chemotherapy.

Spiritual Needs Scale

The Spiritual Needs Scale (SNS) was designed in 2008 by Yong[24] and the researchers have obtained permission for this instrument from the original author. SNS includes 23 items and 5 dimensions, and the total score ranges from 23 to 115. A Likert 5-level scoring method (1 = not at all, 2 = seldom, 3 = sometimes, 4 = often, 5= a great deal) was used in each item. A higher score indicates a stronger need. SNS is more in line with the cultural background of this study because Korea and China belong to the eastern country. This study utilized the Chinese version of SNS (SNS-Ch) developed by Cheng,[25] it was suitable for evaluating the spiritual needs of Chinese patients with cancer and widely used in China.[17,26] SNS-Ch has good reliability and validity, with Cronbach's α of 0.908. The content validity index is 0.98, and the retesting coefficient is 0.902.

Data Analysis

SPSS 27.0 was used to analyze all data. Count data are described by frequencies and component ratios, and measurement data that are normally distributed are described by means and standard deviation (SD). We used *T*-test (self-perceived religiosity, payment method, receive neoadjuvant chemotherapy), ANOVA (marital status, vocational status), and non-parametric test (age, education level, per capita monthly household income, disease stage, cycles of chemotherapy after surgery) to analyze the relationships among general information about patients and their spiritual needs. We used logistic regression analysis to analyze the influencing factors of the spiritual needs of patients with BC. Significance was set at $p<0.05$.

Results

Demographic Characteristics

A total of 173 valid questionnaires were collected, with an effective recovery rate of 100%. The mean age of the sample was 49.11 years (SD = 9.91), with a range of 28 to 69. Approximately 87.86% of patients were married, and 94.22% were not religious. Approximately 31.21% of the patients had a university diploma or above, 43.93% were unemployed, and 51.45% chose to use employee medical insurance. About 23.70% of the patients have a monthly income of less than 1000 RMB. Almost two-third (59.54%) were diagnosed with early stage (stage I and II), 36.42% received more than six cycles of chemotherapy after surgery, 87.86% did not receive neoadjuvant chemotherapy before. Details characteristics are shown in Table 1.

Level of Spiritual Needs

The total score of spiritual needs was 84.20 ± 12.86, which was a relatively high level. After dividing the total score of each dimension by the corresponding number of entries, the result showed that among the five dimensions, the score of "hope and peace" ranked first (4.26 ± 0.77), and the score of "relationship with transcendence" ranked last (2.89 ± 0.92). The scores and ranking for spiritual needs are shown in Table 2. Among the 23 items, "to take responsibility for my life" (*mean*=4.62; *SD*=0.76) was considered to paramount and "to feel God with me during my struggle against disease" (*mean*=2.49; *SD*=1.23) was considered to least importance. The top five items with the highest and lowest scores are shown in Table 3.

Table 1 Socio-Demographic and Clinical Characteristics of Participants (*N*=173)

Variable	Category	*N*	Percentage (%)
Age	≤40	40	23.12
	41–50	56	32.37
	51–59	52	30.06
	≥60	25	14.45
Religion	No religious	163	94.22
	Buddhism	9	5.20
	Christianism	1	0.58
Education level	Primary school or below	33	19.07
	Middle school	43	24.86
	High school	43	24.86
	University or above	54	31.21
Marital status	Unmarried	4	2.31
	Married	152	87.86
	Divorced	7	4.05
	Widowed	10	5.78
Payment method	Rural medical insurance	84	48.55
	Employee medical insurance	89	51.45
Per capita monthly household income (RMB)	≤1000	41	23.70
	1001–3000	57	32.94
	3001–5000	43	24.86
	>5000	32	18.50
Vocational status	Unemployed	76	43.93
	Be on the job	46	26.59
	Retired	44	25.43
	Freelancer	7	4.05
Disease stage	I	25	14.45
	II	78	45.09
	III	26	15.03
	IV	44	25.43
Receive neoadjuvant chemotherapy	Yes	21	12.14
	No	152	87.86
Cycles of chemotherapy after surgery	The first	21	12.14
	The second	35	20.23
	The third	34	19.65
	The fourth	15	8.67
	The fifth	5	2.89
	The sixth courses or above	63	36.42

Table 2 Summary of Spiritual Needs (N = 173)

Dimension	Number of items	Minimum	Maximum	Total score(M±SD)	Item score (M±SD)	Rank
Hope and peace	4	8	20	17.03 ± 3.08	4.26 ± 0.77	1
Meaning and purpose	6	11	30	22.35 ± 4.24	3.73 ± 0.72	2
Acceptance of dying	5	10	24	18.48 ± 2.91	3.70 ± 0.58	3
Love and connection	5	7	25	17.66 ± 4.09	3.53 ± 0.82	4
Relationship with transcendence	3	3	15	8.68 ± 2.77	2.89 ± 0.92	5
Total	23	45	111	84.20 ± 12.86	/	/

Abbreviations: M, mean; SD, standard deviation.

Table 3 Rank of the Average Point Score Obtained for Each Need (*N* = 173)

Items	Total score (*M±SD*)	Rank	Items	Total score (*M±SD*)	Rank
To take responsibility for my life	4.62±0.76	1	To be prayed over by my family and important ones	3.01±1.42	19
To face death with a serene state of mind whenever it comes	4.53±0.87	2	To express fear and concern	2.84±1.35	20
To have hope despite my current pain	4.5±0.85	3	To look back and complete unfinished business	2.59±1.02	21
To live meaningfully	4.49±0.94	4	To pray and participate in religious rituals and services	2.55±1.18	22
To have hope about a life after death	4.47±0.87	5	To feel God with me during my struggle against disease	2.49±1.23	23

Note: Adapted from Yong J, Kim J, Han SS, Puchalski CM. Development and validation of a scale assessing spiritual needs for Korean patients with cancer. J Palliat Care. 24(4):240–246, Copyright © 2008 by SAGE Publications. Adapted by Permission of SAGE Publications.[24]

Relationships Among the General Characteristics of Participants and Their Spiritual Needs

Significant differences were found in the following: spiritual needs' total score and "hope and peace" in education level; "love and connection" in disease stage; "meaning and purpose" in education level, household income, and payment method; "relationship with transcendence" in religion; and "acceptance of dying" in marital status ($p<0.05$). The results are shown in Table 4.

Taking the spiritual needs as the dependent variable, we used the mean value as the cut-off point to divide the needs into high and low levels because of the lack of unified grading standard of SNS. Factors with statistical significance were used as independent variables, and binary logistic regression analysis was performed. The education level was the influencing factor of the spiritual needs, especially for "hope and peace" ($p<0.05$). The results are shown in Table 5.

Discussion

The purpose of the present study was to determine the status of spiritual needs of postoperative BC women undergoing chemotherapy in China. Most of these patients tend to be non-religious and did not receive neoadjuvant chemotherapy before. The total score of spiritual needs of postoperative BC women undergoing chemotherapy was 84.20 (*SD*, 12.86), which is higher than that of Chinese patients with BC, which was 75.93 (*SD*, 13.39).[27] One possible reason for this finding may be that the patients in this study included advanced cancer (stage IV). As previously reported, cancer patients at the end of life frequently have serious physical needs, poor functional status, and severe emotional distress, which may lead to strong spiritual needs.[27,28] In addition, the overall spiritual needs are slightly higher than the 84.07 (*SD*, 15.84) score for patients with advanced cancer.[26] One possible reason for this finding may be that the patients in this study were all women. Previous study reported that spiritual needs were stronger for female patients than for male.[10]

As an important element of holistic care, spiritual care is regarded as a criterion for measuring nursing quality.[29] Spiritual care is considered a multidisciplinary care that recognizes and addresses the spiritual needs of patients and includes nurses, chaplains, psychologists, therapists, and other healthcare providers.[30] Nurses play an irreplaceable role in spiritual care.[29] However, in China, few medical schools offer programs in spiritual care for nurses.[31] Nurses are the main providers of spiritual care in China, and the lack of nurses' ability to provide spiritual care may be a potential reason why patients' spiritual problems and needs are overlooked and underestimated.[32] The results of this study showed that the spiritual needs of BC women undergoing chemotherapy are at a high level, therefore, ways to improve nurses' competence in providing spiritual care to meet the spiritual needs of their patients are crucial for healthcare administrators.

The need for "hope and peace" was considered paramount, similar to a previous report of Cheng.[16] An earlier qualitative study also found that important spiritual needs reported by patients with BC in China were improved hope, facing death, and self-actualization.[21] Hope is a kind of inner strength, which is the potential ability of an individual

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Table 4 Result of Univariate Analysis

Variable	Category	Love and Connection			Hope and Peace			Meaning and Purpose			Relationship with Transcendence			Acceptance of Dying			Total Score		
		M±SD	t/F/Z	P	M±SD	t/F/Z	P	M±SD	t/F/Z	P	M±SD	t/F/Z	P	M±SD	t/F/Z	P	M±SD	t/F/Z	P
Religion	No religious	17.65±4.09	–0.19	852	17.04±3.09	0.14	887	22.28±4.29	–0.81	0.420	8.48±2.67	–3.95	<.001***	18.48±2.96	–0.02	982	83.93±12.98	–1.12	266
	Buddhism and Christianism	17.90±4.33			16.90±3.21			23.40±3.20			11.90±2.51			18.50±2.07			88.60±10.25		
Education level	Primary school and below	16.97±4.28	1.55	0.672	16.58±2.93	9.71	0.021*	20.76±3.75	10.81	0.013*	8.58 ±2.72	0.73	0.866	17.36 ±3.56	6.46	0.091	80.24±12.03	8.29	0.040*
	Middle school	17.74 ±4.28			16.44±2.98			21.65±4.28			8.60 ±2.46			18.26 ±3.19			82.70±12.71		
	High school	17.70±3.93			17.21±3.55			23.40±4.31			8.93 ±3.17			19.07 ±2.42			86.30±12.83		
	University or above	18.00±4.01			17.65±2.80			23.04 ±4.15			8.59 ±2.76			18.87±2.41			86.15±13.10		
Marital status	Unmarried	17.75±1.26	0.49	0.693	17.75±2.22	0.42	0.742	22.25±3.30	0.08	0.969	8.25 ±2.22	0.46	0.713	20.50±2.52	3.27	0.023*	86.50±6.14	0.26	0.857
	Married	17.72±2.85			17.07±3.10			22.39±4.32			8.61 ±2.78			18.59±2.84			84.39±13.16		
	Divorced	15.86±2.85			15.86±4.63			21.57±2.94			9.00±3.27			18.43±2.23			80.71±13.61		
	Widowed	18.00±3.83			17.00 ±1.83			22.30±4.55			9.60±2.63			16.00±3.43			82.90±10.07		
Per capita monthly household income (RMB)	≤1000	16.88±4.13	2.48	0.479	16.68±3.06	6.50	0.090	21.07±3.57	10.96	0.012*	8.63±2.59	2.58	0.461	17.76±3.57	3.50	0.320	81.02±12.07	6.49	0.090
	1001–3000	17.70±4.67			16.49±3.40			21.93±4.57			8.25±3.07			18.32±2.98			82.68±14.58		
	3001–5000	18.28±3.51			17.49±2.87			22.88±4.11			9.05±2.31			19.07±2.17			86.77±10.85		
	>5000	17.78±3.65			17.84±2.63			24.00±4.12			9.00±3.03			18.91±2.60			87.53±12.15		
Payment method	Rural medical insurance	17.51±4.43	–0.48	0.634	16.80±2.96	–0.98	0.327	21.55±4.29	–2.45	0.015*	8.74 ±2.80	0.28	0.777	18.14±3.23	–1.49	0.139	82.74±13.11	–1.46	0.146
	Employee medical insurance	17.81±3.76			17.26±3.20			23.10±4.07			8.62 ±2.76			18.80±2.55			85.58±12.53		
Disease stage	I	18.00±3.06	10.97	0.012*	17.24±3.32	7.66	0.054	22.16±4.01	2.83	0.419	8.32±3.16	1.07	0.785	18.52±2.77	0.46	0.928	84.24±12.31	3.87	0.276
	II	16.82±3.99			16.85±3.19			22.49±4.46			8.81±3.04			18.37±3.18			83.33±13.63		
	III	19.77±3.24			18.35±1.92			23.23±3.96			8.69 ±2.19			18.77±2.97			88.81±9.59		
	IV	17.73 ±4.80			16.48±3.17			21.68±4.14			8.64 ±2.39			18.48±2.51			83.00±13.23		
Age	≤40	16.93±4.77	1.12	0.773	17.43±2.81	1.11	0.774	22.43±4.90	4.04	0257	8.68±2.81	0.27	0.966	19.00±3.13	2.86	0.414	84.45±14.78	0.10	0.969
	41–50	18.09±3.99			16.82±3.31			21.75±3.83			8.57 ±2.77			18.38±2.83			83.61±12.91		
	51–59	17.87±3.70			16.88±3.07			22.29±4.03			8.87 ±2.81			18.52±2.65			84.42±11.29		
	≥60	17.48±3.98			17.20±3.12			23.68±4.34			8.52 ±2.80			17.80±3.23			84.68±13.25		
Vocational status	Unemployed	17.42±4.48	1.78	0.153	16.53±2.99	1.62	0.186	21.62±4.28	2.65	0.050	8.93 ±2.68	2.32	0.077	18.08±3.32	1.77	0.155	82.58±13.28	2.42	0.068
	Be on the job	18.52±3.35			17.78±2.93			22.98±3.83			8.50 ±2.60			19.07±2.19			86.85±11.19		
	Retired	17.61±3.85			17.14±3.35			23.32±4.21			8.82±2.96			18.77±2.65			85.66 ±12.89		
	Freelancer	15.00 ±4.90			17.00±2.89			20.00±5.07			6.14±2.91			17.14±3.34			75.29±14.49		

Cycles of chemo therapy after surgery	The first	18.38±3.46	2.97	0.705	16.62±3.57	10.50	0.062	22.81±4.94	3.24	0.663	9.19 ±2.46	0.92	0.926	17.81±3.59	1.38	0.847	84.81±14.74	2.91	0.714
	The second	17.34±3.39			17.69±2.93			23.06 ±4.50			8.69 ±2.85			18.51±2.89			85.29±11.29		
	The third	18.00±3.64			16.82±2.71			22.15±4.46			8.53±2.83			18.59±3.07			84.09±12.35		
	The fourth	18.47±3.85			17.80±3.32			22.93±3.85			8.40 ±3.72			18.93±2.74			86.53±13.65		
	The fifth	19.60 ±3.36			18.60±2.61			23.00 ±2.74			8.80±2.49			19.40±2.30			89.40±6.58		
	The sixth courses or above	17.08±4.90			16.62±3.14			21.71±3.94			8.63 ±2.65			18.44±2.72			82.49±13.61		
Receive neoadjuvant chemo therapy	Yes	16.95±4.99	–0.85	0.396	16.90±3.24	–0.21	0.838	22.05±4.35	–0.34	0.731	8.57±2.77	–0.18	0.854	18.62±1.99	0.23	0.816	83.10±14.65	–0.42	0.675
	No	17.76±3.96			17.05±3.07			22.39±4.23			8.69 ±2.78			18.46±3.02			84.36±12.64		

Note: *$P < 0.05$; ***$P < 0.001$.

Table 5 Result of Logistic Regression Analysis

Dependent variable	Independent variable	B	SE	Wald X^2	P	OR	95% CI
Love and connection	Disease stage	0.00	0.15	0.00	0.992	1.00	(0.75 to 1.34)
Hope and peace	Education level	0.36	0.14	6.29	0.012*	1.44	(1.08 to 1.90)
Meaning and purpose	Education level	0.28	0.18	2.48	0.115	1.32	(0.93 to 1.87)
	Per capita monthly household income	0.34	0.19	3.38	0.066	1.41	(0.98 to 2.02)
	Payment method	−0.21	0.42	0.25	0.618	0.81	(0.35 to 1.85)
Relationship with transcendence	Religion	1.94	1.07	3.31	0.069	6.95	(0.86 to 56.10)
Acceptance of dying	Marital status	−0.46	0.30	2.30	0.129	0.63	(0.35 to 1.14)
Spiritual needs total score	Education level	0.40	0.14	7.87	0.005*	1.50	(1.13 to 1.99)

Abbreviations: SE, standard error; CI, confidence interval; OR, odds ratio.

during life. When an individual was diagnosed with cancer, it inspired the patient to hope for survival and take action to cope with the disease and finally achieved inner peace. Hope has a direct positive effect on coping with illness and resisting stress and thus help patients to reduce their suffering.[33] Inner peace is positively correlated with improved self-rated health;[34] therefore, nurses should help patients build confidence to overcome the disease and achieve inner peace through positive guidance.

The need for “relationship with transcendence” seemed to be of the least importance, which is related to Chinese cultural background and easy to understand. In China, only 10% of people claimed to have a religious affiliation, and 6.75% of the respondents identified themselves as Buddhist, almost double the number of adherents of all other religions combined.[35] In other studies on Chinese patients, the proportion of religious patients is low, and religious needs are often rank as least important.[27] By contrast, in countries with specific religious beliefs, such as Iran, patients are more likely to seek association with religious groups for support[36] and reshape illness perception and enhance inner strength in that way.[37] Therefore, we should fully consider the religious and cultural background of patients when developing nursing strategies.

Regarding specific needs, “to take responsibility for my life” scored highly, which indicated that most patients with BC still maintain a strong sense of responsibility and are willing to actively cooperate with treatment. One possible reason may be that the survival rate of patients with BC increased, which greatly increased the confidence of patients to overcome the disease.[3] Therefore, in clinical work, patients should be encouraged to participate in the treatment of diseases by sharing decision-making with health care personnel.[38] “Feeling God presence with me in my battle with disease” and “prayer and participate in religious rituals and services” scored low, which imply that Chinese patients preferred sharing story with other people rather than God. We found that most of the patients (94.22%) in this study do not consider themselves to be religious, and therefore they did not feel that they could derive strength from God or religious behaviors, but instead showed a stronger need for support from family or friends.

With respect to specific sociodemographic data, patients with BC with higher education level had higher spiritual needs, especially for “hope and peace”, similar to a previous report of Du.[27] People with higher education levels have more health literacy and mental adaptability.[39,40] In addition, patients with higher education level have stronger learning ability, more rational view of the disease and death, and collect relevant knowledge through various ways to seek solutions and find hope of life, thereby helping them to accept the disease and death, change their mindset, and achieve inner peace.[33,41] Positive personal resources were seen as an important coping resource.[33] By contrast, patients with lower education level, especially in rural areas, found it difficult to learn more information through the internet or books, and their fear of death caused them to lose confidence in life. Therefore, in clinical work, healthcare professionals should pay attention to the spiritual needs of patients with low education level and provide them with more resources and ways coping with the disease.

Strengths and Limitations

To the best of our knowledge, this study is the first to use SNS-Ch to determine the spiritual needs of postoperative BC women undergoing chemotherapy in the mainland China. Considering the physical and mental harm caused by surgery and chemotherapy in female patients, this study can draw attention to the unmet needs of this particular group,

meanwhile, it also has significant implications for healthcare provider to provide spiritual support and develop spiritual strategies.

The study has several limitations that should be acknowledged. First, participants were informed about their condition and treatment, so we could not determine the spiritual needs of patients who did not know their condition. The needs of the two groups with large sample size may be different and knowing the truth about their illness made patients feel respected.[14] Second, a low score on a particular dimension or item does not mean that the patient is not concerned about these issues. For example, the dimension of "acceptance of death" had a low score, but two items in this dimension were among the highest scores. Future qualitative research is therefore necessary to further understand these points.

Conclusion

Spiritual needs are important for many patients with life-limiting illnesses. Understanding spiritual needs is the first step in developing a spiritual intervention strategy. Therefore, the current situation of spiritual needs of patients with BC in China should be evaluated, although the spiritual needs of patients with BC have been investigated in other countries because cultural background, especially religious background, varies greatly among different countries.

The spiritual needs of Chinese postoperative BC women undergoing chemotherapy were at a high level, especially the need for hope and peace, and influenced by education level. Therefore, we recommend further research on the spiritual needs of Chinese patients with BC undergoing chemotherapy. In clinical practice, targeted spiritual care interventions should be provided according to the specific needs and characteristics of patients to alleviate their spiritual distress and improve their spiritual health and QoL.

This study contributes to understanding the spiritual needs of Chinese postoperative BC women undergoing chemotherapy and provides a reference for nurses to formulate rational and effective spiritual intervention. Since there are fewer needs assessment tools that are culturally appropriate for China, future attention should be given to the development of spiritual assessment tools and procedures to ensure the effectiveness of spiritual intervention.

Ethical Approval

The study proposal was approved by the Guangxi Medical University Cancer Hospital Institutional Review Board (Approval no. KY2022521) and the Universiti Sains Malaysia Institutional Review Board (Approval no. USM/JEPeM/22120819).

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors declare no conflicts of interest in this work.

References

1. Cao W, Chen HD, Yu YW, Li N, Chen WQ. Changing profiles of cancer burden worldwide and in China: a secondary analysis of the global cancer statistics 2020. *Chin Med J*. 2021;134(7):783–791. doi:10.1097/CM9.0000000000001474

2. Liu Z, Li Z, Zhang Y, et al. Interpretation on the report of global cancer statistics 2020. *Electron J Integr Cancer Ther*. 2021;7(2):1–13. doi:10.12151/JMCM.2021.02-01
3. Chen L, Shi J, Liu Y, et al. Present situation of population-based prognostic parameters of breast cancer. *Chinese J Breast Dis Version)*. 2018;12 (6):370–372.
4. Amini-Tehrani M, Zamanian H, Daryaafzoon M, et al. Body image, internalized stigma and enacted stigma predict psychological distress in women with breast cancer: a serial mediation model. *J Adv Nurs*. 2021;77(8):3412–3423. doi:10.1111/jan.14881
5. Pereira I, Pereira M, Leite Â, Pereira MG. Quality of life in women with breast cancer receiving chemotherapy and the moderating role of cortisol. *Cancer Nurs*. 2022;45(6):E856–E864. doi:10.1097/NCC.0000000000001081
6. Mohebbifar R, Pakpour AH, Nahvijou A, Sadeghi A. Relationship between spiritual health and quality of life in patients with cancer. *Asian Pacific J Cancer Prev*. 2015;16(16):7321–7326. doi:10.7314/APJCP.2015.16.16.7321
7. Albusoul RM, Hasanien AA, Abdalrahim MS, Zeilani RS, Al-Maharma DY. The effect of spiritual well-being on symptom experience in patients with cancer. *Support Care Cancer*. 2022;30(8):6767–6774. doi:10.1007/s00520-022-07104-4
8. Büssing A, Pilchowska I, Surzykiewicz J. Spiritual needs of polish patients with chronic diseases. *J Relig Health*. 2015;54(5):1524–1542. doi:10.1007/s10943-014-9863-x
9. Stripp TA, Wehberg S, Büssing A, et al. Spiritual needs in Denmark: a population-based cross-sectional survey linked to Danish national registers. *Lancet Reg Heal*. 2023;28:100602. doi:10.1016/j.lanepe.2023.100602
10. Riklikienė O, Tomkevičiūtė J, Spirgienė L, Valiulienė Ž, Büssing A. Spiritual needs and their association with indicators of quality of life among non-terminally ill cancer patients: cross-sectional survey. *Eur J Oncol Nurs*. 2020;44:101681. doi:10.1016/j.ejon.2019.101681
11. Fradelos EC, Albani E, Papathanasiou IV, et al. Spiritual needs of lung cancer patients and their relation to psychological distress and quality of life. *Cureus*. 2021;13(12):6–13. doi:10.7759/cureus.20225
12. Zumstein-Shaha M, Ferrell B, Economou D. Nurses' response to spiritual needs of cancer patients. *Eur J Oncol Nurs*. 2020;48(June):101792. doi:10.1016/j.ejon.2020.101792
13. Devi MK, Fong KCK. Spiritual Experiences of Women with Breast Cancer in Singapore: a Qualitative Study. *Asia-Pacific J Oncol Nurs*. 2019;6 (2):145–150. doi:10.4103/apjon.apjon-77-18
14. Vilalta A, Valls J, Porta J, Viñas J. Evaluation of spiritual needs of patients with advanced cancer in a palliative care unit. *J Palliat Med*. 2014;17 (5):592–600. doi:10.1089/jpm.2013.0569
15. Astrow AB, Kwok G, Sharma RK, Fromer N, Sulmasy DP. Spiritual needs and perception of quality of care and satisfaction with care in hematology/ medical oncology patients: a multicultural assessment. *J Pain Symptom Manage*. 2018;55(1):56–64.e1. doi:10.1016/j.jpainsymman.2017.08.009
16. Cheng Q, Xu X, Liu X, Mao T, Chen Y. Spiritual needs and their associated factors among cancer patients in China: a cross-sectional study. *Support Care Cancer*. 2018;26(10):3405–3412. doi:10.1007/s00520-018-4119-z
17. Shi Y, Zhang H, Chen C, Xu X, Liu D. The level and influencing factors of spiritual needs of breast cancer patients. *Nurs J Chinese People's Lib Army*. 2019;36(10):25–28. doi:10.3969/j.issn.1008-9993.2019.10.007
18. Huang J, Yang X. Spiritual needs of the Chinese stroke survivors in holistic care. *Chinese Nurs Manag*. 2010;10(10):27–30. doi:10.3969/j.issn.1672-1756.2010
19. Wang X, Wang S, Jia Y, Xu Y, Guo Y. Status and influencing factors of spiritual needs of cancer patients: a survey study. *J Nurs Sci*. 2020;35 (3):74–76. doi:10.3870/j.issn.1001-4152.2020.03.074
20. Wang Z, Zhao H, Ye J, et al. Status quo of spiritual needs and its influence factors in elderly patients with chronic heart failure: a 321-case study. *J Nurs*. 2022;29(1):1–6. doi:10.16460/j.issn1008-9969.2022.01.001
21. Wei C, Fang Q, Yuan C. Real experiences of nursing practice and demand of spiritual care in breast cancer patients receiving oral chemotherapy. *Nurs J Chinese People's Lib Army*. 2015;32(11):1–5. doi:10.3969/j.issn.1008-9993.2015.11.001
22. Wang MJ, Lo YT. Improving patient health literacy in hospitals – a challenge for hospital health education programs. *Risk Manag Healthc Policy*. 2021;14:4415–4424. doi:10.2147/RMHP.S332220
23. Setia MS. Methodology series module 5: sampling strategies. *Indian J Dermatol*. 2016;61(5):505–509. doi:10.4103/0019-5154.190118
24. Yong J, Kim J, Han SS, Puchalski CM. Development and validation of a scale assessing spiritual needs for Korean patients with cancer. *J Palliat Care*. 2008;24(4):240–246. doi:10.1177/082585970802400403
25. Cheng Q, Liu X, Zhan Y, Wei D, Mao T. Reliability and validity of the Chinese version of spiritual needs scale. *J Nurs Sci*. 2018;33(3):16–19. doi:10.3870/j.issn.1001-4152.2018.03.016
26. Shi X, Wang F, Xue L, et al. Current status and influencing factors of spiritual needs of patients with advanced cancer: a cross-sectional study. *BMC Nurs*. 2023;22(1):1–12. doi:10.1186/s12912-023-01306-9
27. Du S, Li K, Wang C, et al. Spiritual needs and their associated psychosocial factors among women with breast cancer: a cross-sectional study. *J Adv Nurs*. 2022;78(12):4113–4122. doi:10.1111/jan.15416
28. Pearce MJ, Coan AD, Herndon JE, Koenig HG, Abernethy AP. Unmet spiritual care needs impact emotional and spiritual well-being in advanced cancer patients. *Support Care Cancer*. 2012;20(10):2269–2276. doi:10.1007/s00520-011-1335-1
29. Dos Santos FC, Macieira TGR, Yao Y, et al. Spiritual interventions delivered by nurses to address patients' needs in hospitals or long-term care facilities: a systematic review. *J Palliat Med*. 2022;25(4):662–677. doi:10.1089/jpm.2021.0578
30. Chen J, Lin Y, Yan J, Wu Y, Hu R. The effects of spiritual care on quality of life and spiritual well-being among patients with terminal illness: a systematic review. *Palliat Med*. 2018;32(7):1167–1179. doi:10.1177/0269216318772267
31. Yuan H, Porr C. Integrating Spiritual Care into a Baccalaureate Nursing Program in Mainland China. *J Holist Nurs*. 2014;32(3):240–243. doi:10.1177/0898010114524483
32. Cheng Q, Liu X, Li X, et al. Spiritual care competence and its relationship with self-efficacy: an online survey among nurses in mainland China. *J Nurs Manag*. 2021;29(2):326–332. doi:10.1111/jonm.13157
33. Chiesi F, Vizza D, Valente M, et al. Positive personal resources and psychological distress during the COVID-19 pandemic: resilience, optimism, hope, courage, trait mindfulness, and self-efficacy in breast cancer patients and survivors. *Support Care Cancer*. 2022;30(8):7005–7014. doi:10.1007/s00520-022-07123-1
34. García-Jimenez M, Santoyo-Olsson J, Ortiz C, Lahiff M, Sokal-Gutierrez K, Nápoles AM. Acculturation, inner peace, cancer self-efficacy, and self-rated health among latina breast cancer survivors. *J Health Care Poor Underserv*. 2014;25(4):1586–1602. doi:10.1353/hpu.2014.0158

35. Lu Y. Report on the state of religion in contemporary China – Based on CFPS (2012) survey data. *World Relig Cult*. 2014;1:11–25.
36. Nejat N, Rahbarian A, Shykhan R, Ebrahimpour S, Moslemi A, Khosravani M. Assessment of spiritual needs in cancer patients: a cross-sectional study. *J Fam Med Prim Care*. 2023;12(5):894-901. doi:10.4103/jfmpc.jfmpc_989_22
37. Davari S, Boogar IR, Talepasand S, Evazi MR. The effect of religious–spiritual psychotherapy on illness perception and inner strength among patients with breast cancer in Iran. *J Relig Health*. 2022;61(6):4302–4319. doi:10.1007/s10943-022-01594-6
38. Chang HL, Li FS, Lin CF. Factors influencing implementation of shared medical decision making in patients with cancer. *Patient Prefer Adherence*. 2019;13:1995–2005. doi:10.2147/PPA.S217561
39. Liu J, Yu Y, Ye Y, Li Y, Yuan H. Spiritual needs and influencing factors of paraquat poisoning patients. *Chinese J Gerontol*. 2020;40(1):206–211. doi:10.3969/j.issn.1005-9202.2020.01.061
40. Erci B. Meaning in life of patients with cancer. *Palliat Support Care*. 2015;13(1):3–10. doi:10.1017/S1478951513000254
41. Johns SA, Stutz PV, Talib TL, et al. Acceptance and commitment therapy for breast cancer survivors with fear of cancer recurrence: a 3-arm pilot randomized controlled trial. *Cancer*. 2020;126(1):211–218. doi:10.1002/cncr.32518

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