Journal of Multidisciplinary Healthcare

Dovepress
Taylor & Francis Group

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ORIGINAL RESEARCH

Determinants of Demoralization Syndrome and Social Support Among Patients with Breast Cancer: A Cross-Sectional Study

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Objective: This study aimed to assess the determinants of demoralization syndrome among patients with breast cancer (BC) in the southwestern region of China.

Methods: This investigation constituted a single-center cross-sectional study in which 176 patients with BC were surveyed through a questionnaire covering the current status of demoralization syndrome and social support.

Results: Majority of patients with BC developed moderate-to-severe levels of demoralization. The degree of demoralization among patients with BC was complex and influenced by a variety of factors. Among patients with BC, demographic variables such as age, education level, residential address, monthly income, occupation, and receipt of chemotherapy were the main influencing factors ($P < 0.05$), whereas factors such as current status of children, and surgical methods were not the main influencing factors ($P < 0.05$). Additionally, all patients with BC reported receiving social support exceeding moderate levels, with no statistically significant difference in demographic data observed among those reporting heightened levels of social support ($P > 0.05$).

Conclusion: There are many factors influencing the degree of demoralization among patients with BC. Nursing interventions play a pivotal role in minimizing demoralization among patients with BC. We should pay more attention to patients with determinants of commitment level. Positive communication with patients, involving attentive listening, guidance and encouragement, is essential for providing effective psychological care and social support, fostering trust between healthcare providers and patients.

Keywords: breast cancer, demoralization syndrome, social support

Introduction

Breast cancer (BC) is the most prevalent malignant tumor among women globally. Despite advancements in early detection and standardized treatment, patients generally have a favorable prognosis, with a 5-year survival rate of over 90%. BC remains a significant contributor to cancer-related mortality, ranking as the second-leading cause of cancer deaths among women.[1] Notably, the onset of BC occurs approximately a decade earlier in Chinese females compared to their counterparts in Western nations. In 2020, the incidence of new BC cases among females in China reached a staggering 416,000, accounting for 19.9% of all new cases of malignant tumors in women and 9.1% of total female cancer-related deaths. This places BC as the eighth leading cause of cancer-related mortality in Chinese women. Moreover, the incidence of BC in China demonstrates a noteworthy growth rate, outpacing the global average by twofold and ranking first in the world. Particularly, the incidence of BC in China has been on the rise in both urban and rural areas, with rural areas experiencing predominantly pronounced increases. Due to its high incidence and mortality rates among women, BC imposes a significant burden on society, with profound implications for both individual well-being and public health.[2]

Currently, surgery is an effective treatment for BC. With the advancement of medical technology and the development of treatment concepts, surgical procedures include classical radical mastectomy, modified radical mastectomy, breast-conserving surgery, and breast repair or reconstruction surgery after a modified radical mastectomy.[3–5] As BC affects women across

Received: 29 May 2024
Accepted: 9 November 2024
Published: 22 January 2025

diverse age groups, varying needs concerning fertility and aesthetic appearance arise. However, classical radical mastectomy can cause severe psychological distress, particularly among young women. Furthermore, BC with its accompanying surgical trauma, multiple postoperative radio-chemotherapy sessions, and subsequent complications, all these have become significant stressors affecting the physical and mental health and quality of life of patients.

These stressors lower the physical health and immune function of patients while resulting in serious psychological burdens and fostering disruptions in emotional regulation. Breasts are important for women of all ages, notably for those of marriageable age with aspirations for childbearing and breastfeeding. Serving as a distinctive secondary sexual characteristic and a manifestation of the curvature of the female body, breast-related surgical trauma leads to different degrees of physical and psychological trauma within families and individuals. This trauma often precipitates anxiety, depression, and sleep disorders, thereby reducing the quality of life and self-satisfaction of patients.[6,7]

Demoralization syndrome is a nonspecific state of psychological distress triggered by negative life events, characterized by feelings of helplessness, hopelessness, and a loss of existential meaning, often leading to a diminished will to live.[8–10] Demoralization syndrome often occurs in patients afflicted with cancer, a phenomenon attributed to the inherent characteristics of cancer, including its severity, propensity for recurrence, and prolonged treatment duration. In addition, once diagnosed with cancer, patients have a significant psychological burden due to the threat of malignancy, experiencing a spectrum of emotions such as depression, sadness, helplessness, frustration, and even loss of the will and hope to survive. The term "demoralization" was first introduced by Frank, an American psychiatrist, in 1996 and subsequently, Clarke, an Australian scholar, proposed a theoretical framework for demoralization syndrome based on the work of Frank in 2002.[11,12] By 2011, the concept of demoralization syndrome had gained widespread recognition and utilization among researchers and scholars globally.[13] Overseas investigations into the prevalence and determinants of demoralization syndrome in patients with cancer or critically ill individuals have achieved relative maturity.[14–16] The study by Reed et al suggests that emotional acceptance moderates the associations of cytokines with sickness symptoms in BC patients over time following diagnosis and treatment.[17] In addition, Sebri et al found that bodily-self focus acted as a distractor diminishing participants' commitment to long term outcomes or enhanced interoception promoted aversion to losses.[18] However, research on this phenomenon in China is still in the embryonic stage. Chinese Taiwan scholars Fang et al found that the prevalence of demoralization syndrome was 42% among cancer patients with cancer.[19] Existing research both domestically and internationally has predominantly focused on investigating demoralization syndrome among patients afflicted with lung cancer, gastrointestinal tumors, and chronic diseases, but rarely in patients with BC.[20–22]

While numerous foreign studies have explored the determinants of demoralization syndrome, the roles of individual influencing factors appear to vary inconsistently across different diseases and diverse demographic populations. Also, research exploring the connection between demoralization and social support in BC survivors post-mastectomy is limited. Therefore, in this study, we aimed to assess the degree of demoralization in BC survivors and explore its relationship with social support through a cross-sectional survey, specifically concentrating on individuals in southwestern China. We explored the effects of their demographic information and social support on the degree of demoralization, with the purpose of helping patients with BC build up confidence in overcoming the disease and reduce the extent of demoralization. The objective of this study was to analyze the prevalence and determinants of demoralization syndrome in patients with BC after a mastectomy.

Methods

Materials and Methods

We used a questionnaire-based cross-sectional study design to investigate patients from January to March 202. The inclusion criteria for patients were as follows: (1) patients who were diagnosed with BC and required surgical intervention; (2) patients who were aware of their physical condition, which was assessed by asking if they knew about their BC diagnosis and had a general understanding of their treatment process; (3) patients who had no cognitive or psychiatric disorders; and (4) patients who volunteered to participate in this study. The exclusion criteria for patients were as follows: (1) patients who were critically ill after admission and were unable to participate in the survey; or (2) patients who experienced other serious stress events or emotional instability during treatment.

A total of 190 questionnaires were distributed, out of which 8 had over 50% missing data and 6 survivors declined participation. Consequently, 176 survivors completed the questionnaire, and their data were analyzed. The participation rate was 92.6%.

Survey Tools

General Data Collection

The socio-demographic data of patients with BC were collected, including age, occupation, marital status, education level, home address, number of children born, monthly income, time of BC diagnosis, surgical method, and administration of chemotherapy.

Demoralization Scale (DS)

The DS was developed by Kissane et al, which contains 24 entries and covers five dimensions, namely loss of meaning, dysphoria, disheartenment, helplessness, and sense of failure.[23] Each entry was rated on a scale of 0–4, yielding a total score of 96 points. Higher scores represented a more severe demoralization syndrome. The mean ± standard deviation was used as the boundary to determine the degree of demoralization syndrome in patients with BC: mild demoralization syndrome, score < mean - standard deviation; moderate demoralization syndrome, mean - standard deviation ≤ score ≤ mean + standard deviation; severe demoralization syndrome, score > mean + standard deviation. Subsequently, scholars from Taiwan, Hong et al adapted the scale for Chinese culture and assessed the reliability and validity of the Mandarin version of the Demoralization Scale (DS-MV). The Cronbach's α coefficients of the total scale and its dimensions were 0.92, 0.84, 0.69, 0.88, 0.72, and 0.63, respectively, indicating high reliability and validity.

Social Support Rating Scale (SSRS)

The SSRS developed by Xiao et al was used, which contains 10 entries across three dimensions, namely objective support (3 entries), subjective support (4 entries), and utilization of social support (3 entries).[24] The rating method was as follows: (1) total score: the sum of the scores from all ten entries, with a maximum score of 66 points; (2) objective support score: the sum of the scores from entries 2, 6, and 7, with a maximum score of 22 points; (3) subjective support score: the sum of the scores from entries 1, 3, 4, and 5, with a maximum score of 32 points; (4) utilization of social support score: the sum of the scores from entries 8, 9, and 10, with a maximum score of 12 points. Higher scores in total and individual dimensions indicated greater levels of social support. The test-retest reliability of the scale was 0.92, and the consistency of the entries ranged from 0.89 to 0.94.

Statistical Analysis

Data were entered and analyzed using SPSS 23.0 statistical software. Analysis methods included descriptive statistics, independent samples *t*-tests, one-way analysis of variance (ANOVA), correlation analysis, and mediating effects tests.

1. Descriptive statistics report the number and percentage of middle-aged and elderly patients with BC. The measurement data for demoralization syndrome and social support scores were expressed as mean ± standard deviation.
2. Univariate analysis employed *t*-tests or one-way ANOVA for continuous independent variables adhering to a normal distribution.
3. Correlation Analysis Was Performed Using Pearson's Correlation Analysis
4. In the multiple linear regression analysis, the score was used as the dependent variable, and the statistically significant relevant variables were included as independent variables in the multiple linear regression equation.

Ethics Statement

The study complied with the Declaration of Helsinki and was approved by the Ethics Committees of the Affiliated Hospital of Zunyi Medical University. During the study, data were primarily acquired through observation and

interviews, ensuring that the participants' physical well-being remained uncompromised. Therefore, in this study, we focused on matters of voluntariness and confidentiality. After participants were fully informed about the study, they signed an informed consent form. To safeguard participant rights, all identifiable information, including names and locations in interview transcripts, underwent anonymization.

Results

Demographic Data Distribution Among Patients with BC

Table 1 outlines the frequency and percentage distribution of demographic data among the 176 patients with BC, including age, education level, marital status, residential address, occupation, monthly income, number of children born, time of BC diagnosis, surgical method, and chemotherapy utilization.

Status Quo of Demoralization Syndrome in Patients with BC

As displayed in Table 2, among the 176 patients with BC, 63 patients exhibited mild demoralization, 70 patients experienced moderate demoralization (39.8%), and 43 patients presented with severe demoralization (24.4%). The results demonstrated that patients with BC experienced varying degrees of demoralization in different programs, emphasizing the importance of addressing the psychological well-being of this population.

Table 1 Demographic Characteristics of the Participants

Profile Variable		**Frequency (n=176)**	**Percentage**
Age	≤39	29	16.4
	40–59	114	64.8
	≧60	33	18.8
Total		176	100
Education Level	Primary school	76	43.2
	Junior high school	66	37.5
	High School/Junior college	14	7.9
	Bachelor degree or above	20	11.4
Total		176	100
Civil status	Married	165	93.8
	Unmarried	4	2.3
	Separated	4	2.3
	Divorced or Widowed	3	1.7
Total		176	100
Family address	City	59	33.5
	The urban fringe	34	19.3
	Countryside	83	47.2
Total		176	100

(*Continued*)

Table 1 (Continued).

Profile Variable		Frequency (n=176)	Percentage
Occupation	Institution	25	14.2
	Enterprise	7	4
	Peasant	105	59.7
	Liberal Professions	39	22.2
Total		176	100
Monthly income	<1500	53	30.2
	1500–2400	40	22.7
	2401–3700	50	28.4
	3701–7200	26	14.8
	>7200	7	4.0
Total		176	100
Number of children	No children	8	4.5
	1 child	31	17.6
	2 children	96	54.5
	3 children or above	41	23.3
Total		176	100
Time to be diagnosed with breast cancer	<1 month	158	89.8
	1—3 month	10	5.7
	4—6 month	5	2.8
	>6 month	3	1.7
Total		176	100
The way of surgery	Mastectomy	23	13.1
	Radical mastectomy	111	63.1
	Breast-conserving surgery	30	17.0
	Pseudore construction	7	4.0
	Autologous reconstruction	4	2.8
Total		176	100
Whether to receive chemotherapy	Yes	117	66.5
	No	59	33.5
Total		176	100

https://doi.org/10.2147/JMDH.S480476

Table 2 Classification of Demoralization Syndrome Severity

The level of Demoralization syndrome status	Frequency (N=176)	Percentage
Mild	63	35.8%
Moderate	70	39.8%
Serious	43	24.4%
Total	176	100

Notes: The demoralization scale yields total scores ranging from 0 to 32, with scores of 0–9 representing mild demoralization, 10–19 scores indicating moderate demoralization, and 20 scores or above representing severe demoralization.

Assessment of Demoralization Severity Across Various Demographic Parameters in Patients with BC

A notable disparity was observed in the degree of demoralization among patients with BC across different age groups ($P < 0.001$). Specifically, individuals aged over 60 exhibited the highest demoralization scores. This trend may stem from societal attitudes that prioritize the young, thereby the elderly perceive themselves as having a lower social value than the young, disillusionment, and hopelessness among older patients who perceive BC as an incurable malignancy, unaware of the advancements in its therapeutic options compared to other cancers (refer to Table 3).

Significant differences were found in the degree of demoralization among patients with BC with varying education levels ($P < 0.001$). Patients with lower education levels often struggle to comprehend BC treatment independently,

Table 3 Relation Between Demoralization Scores and Demographic Data Among Patients with Breast Cancer

Profile Variable		The Demoralization Scores	F	P
Age	≤39	10.62 ± 6.94	19.921	<0.001
	40–59	11.97 ±7.38		
	≧60	20.82 ± 8.61		
Education Level	Primary school	16.76±8.03	8.671	<0.001
	Junior high school	10.20±7.20		
	High School/Junior college	12.57±8.72		
	Bachelor degree or above	11.85±8.39		
Civil status	Married	13.59±8.37	1.696	0.153
	Unmarried	6.25±2.63		
	Separated	12.25±8.54		
	Divorced or Widowed	10.00±2.65		
Family address	City	13.58±8.83	7.979	<0.001
	The Urban Fringe	8.71±7.64		
	Countryside	15.22±7.55		

(*Continued*)

Table 3 (Continued).

Profile Variable		The Demoralization Scores	F	P
Occupation	Institution	9.84±8.23	3.535	0.016
	Enterprise	9.86±6.62		
	Peasant	14.94±8.46		
	Liberal professions	12.23±7.43		
Monthly income	<1500	19.23±6.78	14.791	<0.001
	1500–2400	13.90±8.90		
	2401–3700	9.10±6.49		
	3701–7200	9.81±7.01		
	>7200	10.71±6.37		
Number of children	No children	8.75±4.27	1.505	0.215
	1 child	13.26±7.55		
	2 children	13.52±8.42		
	3 children or above	14.93±9.01		
Time to be diagnosed with breast cancer	<1 month	13.23±8.43	0.322	0.809
	1—3 month	14.30±7.56		
	4—6 month	15.20±6.38		
	>6 month	17.00±10.58		
The way of surgery	Mastectomy	14.74±8.87	1.896	0.113
	Radical mastectomy	14.10±7.49		
	Breast-conserving surgery	9.80±10.56		
	Pseudore construction	14.86±7.38		
	Autologous reconstruction	11.60±6.19		
Whether to receive chemotherapy	Yes	16.44±7.93	62.720	<0.001
	No	7.39±5.29		

relying instead on medical advice. Such individuals commonly perceive cancer as an incurable and terminal ailment, contributing to heightened demoralization levels.

The degree of demoralization was markedly different among patients with BC hailing from diverse residential locales ($P < 0.001$). Patients in rural areas encounter challenges in accessing medical services due to inadequate transportation infrastructure, necessitating lengthy journeys for medical consultations. Such patients are more likely to have negative emotions during repetitive treatment sessions.

Occupation, income level, and chemotherapy utilization status emerged as influential factors in the degree of demoralization. Patients with lower financial incomes were more likely to lose hope in life since they were reluctant to face such difficulties due to the burdensome cost associated with BC treatment.

Contrarily, factors such as the number of children, marital status, time of BC diagnosis, and surgical method did not exert a significant influence on demoralization severity in patients with BC. Surprisingly, the impact of the surgical approach was unexpected, as the authors initially hypothesized its psychological repercussions on patients. However, data analysis revealed

Table 4 Classification of Social Support Levels Among Patients with Breast Cancer (N = 176)

Social Support Level	Frequency (n=176)	Dimension score (x±S)	P-value
High social support	112	13.44±8.72	0.943
Secondary social support	63	13.3492±8.33	
Low social support	0	/	

that about 76% of the 176 patients with BC did not receive breast-conserving treatment, and merely 12 patients opted for such an approach. Although these 12 cases had lower scores, the statistical results of the data remained reliable and reasonable given the small sample size, and the differences in the analysis were not statistically significant.

Influence of Social Support on Demoralization in Patients with BC

In this study, the level of social support of patients with BC was above moderate, reflecting societal advancements and enhanced quality of life. Therefore, our results exhibited no statistically significant relationship between the degree of demoralization and higher levels of social support among patients with BC (refer to Table 4).

Discussion

The present study showed that a majority of patients with BC developed moderate-to-severe levels of demoralization. The degree of demoralization among patients with BC was complex and influenced by a variety of factors, such as age, education level, residential address, monthly income, occupation, and receipt of chemotherapy. In addition, all patients with BC reported receiving social support exceeding moderate levels, with no statistically significant difference in demographic data observed among those reporting heightened levels of social support.

Factors Related to the Development of Demoralization Syndrome in Patients with BC

Age: The analysis of age distribution in our study indicated a heightened susceptibility to BC among women aged over 40 years. A study conducted by Chinese researcher Min, who analyzed the changing trends of female BC, revealed that the incidence of BC peaked for the 50–54 year-old age group, with a gradual decline in BC incidence after the peak at 65–69 years old.[25] Therefore, in the clinic, doctors recommend that women aged over 40 years should receive examinations, including breast examinations and routine examinations for early detection and treatment.

Education Level: Our study results identified a predominance of patients with BC having primary and junior high school education levels. This observation may be attributed to the geographic origin of the study participants, situated in Zunyi, Guizhou, characterized as a third-tier city in China with comparatively lower educational standards. Additionally, it is plausible that patients with BC who have higher education seek treatment in more developed places such as Beijing, Shanghai, and Guangzhou.

Marital Status: In our study, a substantial proportion of patients were married, a trend often associated with the high incidence of BC. Notably, a significant subset of women aged over 40 years were married; however, it is noteworthy that four patients initiated divorce proceedings from their spouses, citing concerns about their physical disabilities resulting from BC.

Home Address, Occupation, and Monthly Income: Our results displayed that participants were predominantly from Guizhou's rural areas. Specifically, the majority of patients resided in rural areas and were local farmers with relatively modest monthly incomes. This socioeconomic profile may introduce a degree of bias in the treatment and understanding of certain patients. Moreover, a considerable number of patients reported having two or more children, potentially influenced by China's two-child policy implementation.

Surgical Intervention: Analysis of our surgical data highlighted surgery as the primary treatment for BC. In addition to surgery, BC treatments include neoadjuvant chemotherapy, targeted therapy, endocrine therapy, and radiotherapy. Our data indicate that the majority of patients opted for radical mastectomy, a choice primarily driven by the advanced stage of BC prevalent in this region. Nonetheless, with advancements in BC management, an increasing number of patients are electing breast-conserving surgery, which has been shown to enhance patient quality of life.

Use of Chemotherapy: In our study, two-thirds of the patients received chemotherapy. This distribution may be attributed to the fact that most patients with BC are diagnosed in economically underdeveloped areas at an advanced stage and require adjuvant chemotherapy based on surgical treatment to effectively kill tumor cells. However, chemotherapy is associated with the risk of recurrence and reduces the quality of life of patients.[26,27]

In conclusion, factors such as age, education level, residential address, occupation, monthly income, and chemotherapy utilization influenced the extent of demoralization among patients with BC. These findings underscore the differential impact of demographic characteristics on demoralization in patients with BC. Although we may not be able to change some demographic characteristics of patients with BC, there are still some controllable factors that deserve our attention, such as the psychological barriers of elderly patients, love and support for patients in rural areas, unemployment, low income, or targeted treatment and nursing care for patients undergoing chemotherapy. It is imperative for patients, healthcare providers, and family members to collaborate in offering comprehensive support, thereby fostering a sense of purpose and self-worth among patients.

Relationship Between the Degree of Demoralization and Social Support in Patients with BC

In this study, the mean social support score of patients with BC was calculated as 60.40 ± 12.31, similar to the findings reported by scholars Ye et al[28] and Mubarak et al.[29] Social support is an immensely important health-promoting factor, and favorable social support can provide patients with a multi-level and favorable experience in physical, mental, and spiritual aspects, which is conducive to the treatment of diseases. The results of our study exhibited high social support scores across all dimensions among patients with BC. Medical caregivers should not only establish the concept of social support for patients with BC but also actively seek social support from family members and friends. This proactive approach aids in reconstructing the patient's social support network, enhancing their societal value, providing spiritual sustenance, and bolstering resilience and post-illness confidence.

However, there was some limitations in the present study. First, our study was only a single-center cross-sectional survey with a limited sample size. Therefore, further studies with a larger sample size are warranted to validate our results. Second, although the current study excluded patients clinically diagnosed with mental health issues, we did not employ standardized measures to evaluate symptoms and anxiety levels, nor were these parameters considered as potential covariates. Subsequent research endeavors should incorporate the assessment of these covariates and mental health parameters during participant selection and recruitment phases.

Conclusion

There are varying degrees of demoralization among patients with BC, which may be related to female personality traits. Impairment of a vital bodily organ often precipitates a cascade of adverse emotions such as sadness, fear, anxiety, and depression, which may persist over extended periods, potentially culminating in demoralization. The commitment for women with BC should focus more on those who are paid and educated, and patients who receive chemotherapy. Consequently, nursing professionals should intensify their focus on the psychological state of such patients and strengthen communication with them to effectively alleviate their demoralization. In light of these findings, future research should explore the specific factors contributing to demoralization, particularly among women with different educational backgrounds, employment statuses, and those undergoing chemotherapy. Additionally, longitudinal studies could investigate the long-term psychological effects of mastectomy and other treatments, as well as the role of tailored interventions in mitigating demoralization over time.

Abbreviations

DS, Demoralization Scale; DS-MV, Demoralization scale-Mandar in Version; SSRS, Social Support Rating Scale.

Funding

This study was supported by Zunyi City Science and Technology Plan Project (HZ [2022] No.216).

Disclosure

The authors have no conflict of interest.

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