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Original Research Article

A STUDY TO EVALUATE MENTAL HEALTH STATUS AND COPING STRATEGIES AMONG BREAST CANCER SURVIVORS

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Abstract: *Breast cancer survivors often experience significant stress due to the physical, emotional, and social challenges associated with their diagnosis and treatment. Understanding their stress levels and the coping strategies they employ is critical for developing effective interventions to improve their psychological well-being.* ***Objective:*** *The objective of the study was to assess the level of stress experienced by breast cancer survivors and to assess the most used coping strategies among breast cancer survivors. Analytical Cross-sectional study design was used. Data was collected at a single time to analyze the relationship between variables. Data was collected by using a validated scale (PCL-S) for assessing post-traumatic stress and the BRIEF COPE Inventory, a validated scale for measuring coping strategies. The study conducted at NIMRA Hospital Jamshoro aimed to determine the stress and coping strategies of 191 breast cancer survivors. Data collected during the period of 1st June 2024 to 30 June 2024.* ***Methods:*** *Data was gathered through purposive sampling techniques, specifically selecting individuals who meet the inclusion criteria for the study. Well-validated tools were utilized for data collection.* ***Results:*** *The results showed that of the total respondents, 12.6% suffered from Minimal to Negligible Stress, 17.8% from Mild Stress, 16.8% from Moderate Stress, and 52.9% from Severe Stress. At different levels of stress, other coping mechanisms were used. For these, the average scores were 15.54 with an SD of 5.16, 23.10 for Emotion-Focused Coping, and 23.52 for Dysfunctional Coping. Total scores were 2969.00, 4412.00, and 4492.00. The most popular was Dysfunctional Coping, particularly among the stressed segment of people.* ***Conclusion:*** *As observed in this study, nearly two-thirds of the respondents experienced severe stress. The strategies most frequently used to handle or cope with their stress by these subjects were Dysfunctional Coping, Emotion-Focused Coping, and Problem-Focused Coping. The high use of dysfunctional coping may reflect a serious need for interventions that would change maladaptive ways of coping with stress and give particular and more appropriate strategies for better coping, specifically for those highly stressed individuals.*

Keywords: Mental Health, Stress, Coping strategies, Breast Cancer, Survivors

Introduction

Cancer is considered a challenge to global health, given that breast cancer remains the most common cancer among women and has shown a significant contribution to the burden of mortality from cancer worldwide. In fact, according to the most recent statistics, breast cancer accounts for about 30% of all newly diagnosed cancer cases in women annually, and the estimated number of new cases is projected at 2.3 million this year (1, 2). This condition affects not only a person's physical health but also their mental well-being. Survivors manifested heightened levels of anxiety, depression, and psychological distress (3). The situation in Pakistan is still the worst, with the country recording the highest incidence rates in Asia and related deaths running into thousands every year (4, 5). The intricate nature of stressors—from diagnosis and treatment to fears of recurrence—further compounds the psychological impact on these women (6).

Recent findings outline the complex nature of the psychological problems breast cancer survivors go through. It was further demonstrated that successful coping does help reduce these problems, increasing the quality of life and psychological well-being. Coping mechanisms are broadly classified into problem-focused and emotion-focused strategies, although some of these measures are more beneficial than others (7, 8). For example, positive coping strategies like seeking social support and positive reframing are related to a lower level of distress. In contrast, avoidant strategies like denial may increase the level of stress and lead to poor psychological outcomes (9, 10). Although the literature is available on the use of these strategies, the impact of these strategies is not clear on how they impact levels of stress in breast cancer survivors in Pakistan (11, 12).

The current study is, therefore, designed with the aims of assessing the levels of stress among breast cancer survivors, the most commonly used coping strategies in such scenarios, and exploring the relationship of deployed coping strategy with the reported levels of stress. The impact of demographic factors and cancer stages on stress will also be assessed. It will, therefore, contribute towards the development of tailored support programs and interventions in a bid to enhance the quality of life among breast cancer survivors by providing insight into effective

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coping mechanisms and their impact on stress. Understanding these dynamics is thus very important for enhancing mental health support and informing public health strategies aligned with global health goals.

Methodology

Analytical Cross-sectional study design will be used. Data will be collected at a single time to analyze relationships between variables.

The study conducted at NIMRA Hospital Jamshoro aimed to assess the stress and coping strategies of 191 breast cancer survivors—data collected during the period of 1st June 2024 to 30 June 2024.

Sample size calculation was performed using the OpenEpi sample size calculator https://www.openepi.com/SampleSize/SSPropor.htm based on a prevalence rate of 14.5% for Breast Cancer; the determined sample size is 191, with a 95% confidence interval and a margin of error of 5%[3].

Data will be gathered through purposive sampling techniques, specifically selecting individuals who meet the inclusion criteria for the study.

Women, regardless of age, are diagnosed with breast cancer, have completed their active treatment, and are currently on routine follow-up.

Individuals are willing to participate in the research study.

Patients with advanced-stage breast cancer or recurrent breast cancer

Patients with known mental health issues before diagnosis of breast cancer.

Individuals who are unwilling to participate in the study.

Data will be collected through a structured three-part questionnaire encompassing socio-demographic details, a validated scale (PCL-S) for assessing post-traumatic stress, and the BRIEF COPE Inventory, a validated scale for measuring coping strategies.

Data was analyzed using the Statistical Package for the Social Sciences version 26.0. Descriptive analysis was conducted to assess frequencies and percentages for different variables. The stress level is correlated with the most used coping strategy, using Spearman's rho correlation.

Formal written consent was obtained from the ethical review board of LUMHS and NIMRA Hospital. Also, permission was obtained from each participant in the study. Confidentiality was maintained for every participant.

Results

Out of the 191 participants aged between 20 and 79 years (Mean age 46.49 years ±SD 12.48), most were within the age range of 25-50 years (67.5%) of the sample. The 50-plus-year-old participants account for 31.4%, while those under 25 make up only 1.0%. Of the 191 participants, the majority were married, 66.0%, while single ones accounted for 9.9%. Additionally, divorced/separated ranked 12.6%, while widows/widowers accounted for 11.5%. Most participants had no formal education (55.5%), followed by those with a primary school education at 26.7%. A small proportion had secondary and higher secondary education, 12.6% and 5.2%, respectively. Participants included 72.8% Muslims, 10.5% Christians, 9.9% Hindus, and 6.8% other religions. Most (77.5%) of the respondents were homemakers, while 19.4% were working women, 2.1% were retired, and 1.0% belonged to other occupations. Extended families were the most prevalent, at 51.8%, while the nuclear ones accounted for 43.5%. Single-parent families are the least, at 4.7%. A large number of respondents had a mastectomy, 66.0 %, compared to their counterparts who had not, 34.0%.

Financially, 34.6% have limited money only for utility bills; 48.7% do not have money even for utility bills. Only 16.8% have enough funds for extraordinary things after paying utility bills. Regarding the cancer stage, 42.9% are in stage II, 38.7% are in stage III, and 18.3% are in stage I. 53% of patients had severe stress, followed by mild stress in 18%, moderate in 17%, and minimal in 12% of the population.

Among the participants, dysfunctional coping strategies and emotion-focused coping strategies were more commonly employed than problem-focused coping strategies.

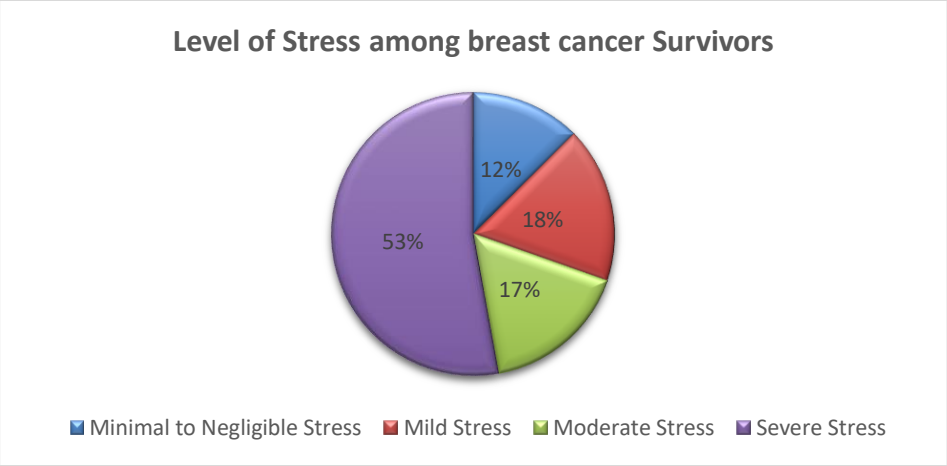

Figure: 1 Level of Stress among breast cancer Survivors

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Table 1 Distribution of Coping Strategies

Coping Strategy	Mean	Median	Std. Deviation	Range	Sum
Problem-Focused Coping	15.54	15.00	5.16	18.00	2969.00
Emotion-Focused Coping	23.10	23.00	7.55	26.00	4412.00
Dysfunctional Coping	23.52	23.00	3.10	18.00	4492.00

Discussion

In this study, 67.5% of respondents were 25–50 years old, and 31.4% were above 50. Khalili N et al. found 62% of cases were 32–60 years old, with a mean age of 45.81. In Pakistan, middle-aged women are at risk for breast cancer (13). In contrast, Hu et al. found that most Chinese participants were 39–69 years old, with a mean age of 57.2, suggesting regional age inequalities (14). These data indicate that breast cancer support programs should be tailored to different age groups, particularly middle-aged women, who are most afflicted in diverse countries. Breast cancer survivors in this study had low education levels, with 55.5% not having formal schooling. In contrast, Boscher et al. found that just 3.2% of participants had no formal education in France (15). Showing huge educational inequalities between Pakistan and France. In Iran, Narges et al. found 8% of breast cancer patients without formal education. Hence, other Asian nations attain higher levels of education than Pakistan (13). This research differed by academic level, highlighting the relevance of education for health literacy and access to care. Low education becomes a barrier to treatment options.

Ethnic diversity is significant in population sociodemographics, but few researches focused on it in our study was expected as Pakistan is a Muslim nation. This could have produced homogeneity. Most subjects in Indian and Ethiopian studies were Hindus or Amhara (16, 17). Ethnic diversity was rarely discussed in breast cancer studies, a vacuum in the literature that could help explain cultural influences.

77.5 % of the study participants were homemakers, reflecting the majority of South Asian women's occupations. Seven et al. found that most breast cancer patients in Turkey were unemployed or working low-paying jobs, reflecting the socioeconomic level of both locations (18). In contrast, Purnama Sari's Indonesian study found that only 40% of patients were homemakers, while the rest worked in various industries (19). This difference should indicate that breast cancer patients in different socioeconomic milieus may have different occupational backgrounds than their peers in more economically advanced societies, which may affect their access to proper health care, financial stability during treatment, and quality of life.

Most South Asian societies still have joint families, as 69.0% of the participants did. Surbhi et al. found that 72% of Indian participants were joint families.[16] However, Vadsaria et al. found that only 49.4% of individuals lived in extended families in Karachi, where nuclear families are more common (20). Since joint families were ordinary in our study, breast cancer patients may receive exceptional social support and reduce psychological and financial stress. Different family structures lead to other social support for people living with breast cancer based on their culture and family.

The study included 60.4% stage II and 30.7% stage III cancer patients. Like Alagizy et al.'s Egyptian study, most patients were diagnosed at stages II and III (21). However, a Korean study found 40.8% of cases at stage II and 37.5% at stage I (22). Indicating that screening and early detection are better in Korea than in Pakistan. These findings show a need for improved screening and awareness programs, especially in nations with late-stage diagnoses, because diagnosis stages affect treatment and prognosis.

57.9% of patients cited financial issues with therapy, a prevalent problem in this study. Saeed et al. found that breast cancer patients in Pakistan face severe financial hurdles to care despite the biological need for free therapy (23). This shows the stark differences in research among locations, highlighting the necessity for financial support for breast cancer patients, especially in low-income countries.

Stress levels among breast cancer survivors varied widely, but this was consistent with earlier studies. 52.9% of study participants had severe stress. In 2021, Chinese researchers found that 58% of breast cancer survivors feel stressed. Fear of recurrence, financial strain, and role shift were key stressors.[14] However, stress was 78.1% in this study sample, with 14 women (21.9%) having low stress, 44 (68.8%) moderate, and 6 (9.4%) high stress (22).

Most individuals utilized dysfunctional and emotion-focused coping mechanisms, according to this study. Another Isfahan, Iran study indicated that problem-focused and emotion-focused coping techniques were more common than dysfunctional ones (15). A meta-analysis of 1980–2013 studies found otherwise. It showed that emotion-focused methods like social support were adopted (24). These data show that breast cancer survivors need coping strategies to manage stress. The study shows substantial correlations between cancer stage and coping techniques. The strong link between advanced cancer stages and higher usage of dysfunctional coping techniques ($p = 0.000$) supports the idea that patients' coping strategies vary by stage—early-stage cancer patients employed problem-focused coping strategies more, demonstrating their ability to respond to the diagnosis. Advanced illness patients utilized emotional and avoidant behaviors, which raised psychological suffering and degraded their quality of life (25). Such a link requires tailored interventions to help advanced illness patients manage stress and adopt healthy coping techniques.

Given the significant stress and maladaptive coping techniques shown in this study, breast cancer survivors need thorough psychological support. Patients would experience less stress and an improved quality of life when both the problem-focused and the emotional-focused coping skills are developed. Therefore, psychoeducation, emotional support, and practical problem-solving skills form part of the psychological needs of breast cancer survivors.

In the present study, breast cancer survivors experienced excessive stress as well as poor coping, respectively, warranting psychological intervention. Such patients may

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benefit from problem-focused and emotion-focused coping interventions to reduce stress and improve quality of life. Mastectomy patients had considerably higher levels of stress as compared to their non-mastectomy counterparts. Physiological and psychological changes because of surgery and the loss of the breast increased stress. Although this research is very valuable in terms of the insight it has given, it is not without its limitations. It was an analytical cross-sectional study that captured one instance of stress levels and coping strategies. This design restricts the establishment of causality between variables under study; hence, it becomes pretty difficult to assess whether some coping strategies directly impact changes in stress levels or vice versa. This study identifies that mastectomy survivors require specialized psychological intervention to overcome such pressures. The fact that the study only focused on the level of stress and coping strategies and did not consider other plausible psychological factors is a limitation. Secondly, the sample size was limited to one geographical area of Pakistan, which may have reduced the generalizability of the findings to other populations.

Conclusion

The study has also brought out the critical need for targeted psychological interventions amongst breast cancer survivors in the country of Pakistan. The results indicated that 59.3% of survivors used maladaptive coping strategies, mainly avoidant and denial, which caused immense stress among them. On the other hand, problem-focused and emotion-focused coping were predictive of better mental health; therefore, there exists a need to develop adaptive strategies. The findings also support that as cancer progresses, survivors have increased stress and malfunctioning coping mechanisms, proving the need for phase-specific psychological intervention according to the progressive challenges in a survivor's life.

Declarations

Data Availability statement
All data generated or analyzed during the study are included in the manuscript.
Ethics approval and consent to participate
Approved by the department concerned.
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Not applicable

Conflict of interest

The authors declared the absence of a conflict of interest.

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