



Stress Among Patients with Breast Complaints in Sulaimani: A Cross-Sectional Study

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Abstract

Background and Objectives: Breast complaints are a significant health concern for women globally, often accompanied by heightened stress levels which can exacerbate psychological distress. This study aimed to evaluate the prevalence and levels of stress, as measured by the Perceived Stress Scale, among women with breast complaints in Breast disease management center in Sulaimani, Iraq.

Methods: A cross-sectional study design was utilized in this research, which spanned from January to June 2024 at Breast disease management center in Sulaimani. Participants included 200 women visiting a breast disease management center, selected using an available sampling technique. The Perceived Stress Scale questionnaire was administered to assess stress levels, with scores ranging from 0-40, and categorized into low (0-13), moderate (14-26), and high (27-40) stress.

Results: Based on the Perceived Stress Scale distribution results among women, it was found that 93 (46.5%) women had high levels of stress, 104 (52%) women had moderate stress levels, and three (1.5%) had low-stress levels. The Perceived Stress Scale was significantly associated with the participants' educational levels in the study, with individuals having lower educational attainment exhibiting higher levels of stress, and moderate to severe stress levels being more prevalent among these individuals p-value 0.05.

Conclusion: Patients with breast problems experienced high levels of stress. Therefore, designing interventions based on stress-coping methods can help alleviate their stress and may prevent other complications.

Keywords: Breast cancer, Prevalence, Perceived stress, Stress

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Introduction

Breast complaints, ranging from benign conditions like fibrocystic changes to breast cancer (BC), signify a considerable health concern for women worldwide. These breast-related health issues not only represent a physical challenge but also carry a substantial psychological burden.^{1,2} Stress is a complex reaction, both physical and mental, that occurs in response to external stimuli that are seen as threatening or challenging. Research indicates that stress can manifest in various forms, including anxiety, depression, and psychosocial distress, all of which can significantly affect a patient's ability to cope with their diagnosis and treatment.³ A growing body of evidence suggests that women with breast complaints experience higher levels of stress compared to the general population. Research has indicated that the psychological impact of breast disorders can be profound, often leading to increased levels of anxiety, depression, and overall psychological distress.⁴ The diagnosis and treatment processes associated with breast complaints, such as invasive procedures, the uncertainty of outcomes, and the fear of malignancy, are significant stressors that can exacerbate an individual's mental health status.^{5,6} A further point to consider is that research has shown that demographic factors might have an effect on how stress is experienced and perceived. These factors can shape a woman's support network, access to healthcare, and ability to manage health challenges, all of which contribute to the overall level of perceived stress.⁷⁻⁹ By investigating the association between these demographic characteristics and stress levels in women with breast complaints, healthcare providers can identify at-risk populations and customize interventions accordingly. Alagizy et al.'s study (2020) showed that depression, anxiety, and perceived stress disorders are common psychiatric disorders among BC

patients, which are influenced by demographic factors.⁴ Because most studies have focused on BC, little attention has been paid to women with breast complaints; By exploring the relationship between these demographic factors and the PSS scores of women with breast complaints, healthcare providers can identify at-risk populations and tailor interventions accordingly. Therefore, the present study aimed to investigate the prevalence and levels of stress in patients with breast complaints visiting the breast disease management center in Sulaimani.

Patients and methods

A cross-sectional study was spanned from January to June 2024. Data were collected from patients attending the breast diseases management center at Sulaimani city. Participants were selected using an available sampling technique. In total, 200 women enrolled in the current study with various breast problems. Inclusion criteria females 18-65 years and all cases are female. Exclusion criteria, No exclusion criteria. The Sample size was calculated using the formula: $n = (Z^2 * P * (1-P)) / d^2$ Assuming: Desired confidence level: 95% ($Z = 1.96$); Estimated prevalence of stress among breast complaint patients: 0.15; Margin of error: 0.05. The calculated sample size was approximately 200 patients. Stress levels were assessed using the Perceived Stress Scale (PSS), a widely utilized tool introduced in 1983. The PSS consists of 10 items that assess the degree to which individuals feel stressed over the past month. The scale is scored on a Likert scale from 0 (never) to 4 (very often), with higher scores indicating higher perceived stress levels. The PSS has been validated across various populations and has shown good reliability and validity.^{10,11} The scale categorizes stress levels as follows: Scores 0-13: Low stress; Scores 14-26: Moderate stress; Scores 27-40: High perceived stress. Consecutive female patients aged 18 years and above, visiting the





breast diseases management center at Sulaimani city, were assessed for stress using the PSS. Additionally, patient demographics were collected using a structured questionnaire administered face-to-face. Ethical approval for the study will be obtained from the Kurdistan High Council for Medical Specialties. Patient confidentiality and privacy were ensured during data collection and analysis. Informed consent was obtained from all participating patients. Data were coded and analyzed using SPSS software. Descriptive statistics such as frequency, percentage, mean, and standard deviation were calculated. Analytical statistics were employed to determine associations between PSS scores and socio-demographic variables. P-values were reported to assess the statistical significance of observed relationships, with a predetermined significance level ≤ 0.05 .

Results

This study was included 200 patients. Table (1) shows the socio-demographic characteristics of the study participants, which included 200 female patients who visited the breast disease management clinic in Sulaimani. The bulk of participants (72.5%) were over 40 years old, with 33.0% completing primary education, 26.5% secondary education, and 20.5% university education. The vast majority of participants (98.5%) identified as Kurds and 87.5% were married. In terms of economic standing, 47.0% were classified as medium, and 39.5% as high. Most participants (70.5%) lived in the city core, and only 1.5% reported smoking. None of the participants reported any alcohol or substance misuse. Overall, the table presents a thorough picture of the study population's sociodemographic profile, emphasizing crucial aspects that may influence stress levels among breast complaint patients.

Table (1): Socio-demographic characters

Variable		Frequency	Percentage
Sex	Male	0	0.0
	Female	200	100.0
Age	≤ 40 years	55	27.5
	>40 years	145	72.5
Education	Primary school	66	33.0
	Secondary school	53	26.5
	Graduated	41	20.5
	Illiterate	40	20.0
Nationality	Kurd	197	98.5
	Arab	3	1.5
Marital Status	Single	12	6.0
	Married	175	87.5
	Separated	13	6.5
Economic Status	Low	27	13.5
	Medium	94	47.0
	High	79	39.5
Residence	Inside city center	141	70.5
	Outside city center	59	29.5
Smoking	Yes	3	1.5
	No	197	98.5
Alcoholic	Yes	0	0.0
	No	200	100.0
Substance abuse	Yes	0	0.0
	No	200	100.0

The graph illustrates the distribution of the PSS among the participants. 46.5% were found to be high perceived stress only 1.5% demonstrated low stress, Figure (1).

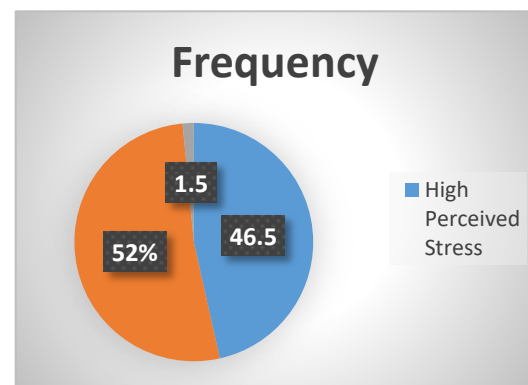


Figure (1): PSS distribution of the participants.





An examination of the educational level variable among the women revealed that 66 (33%) had primary school education, 53 (26.5%) had secondary school education, 41 (20.5%) were graduates, and 40 (20%) were illiterate, Figure (2).

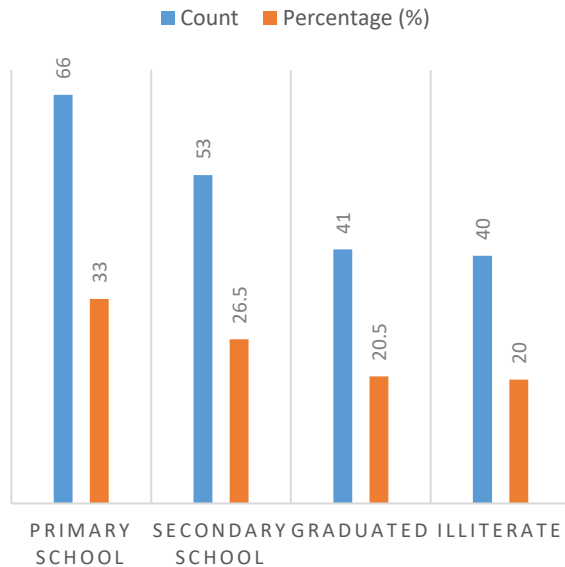


Figure (2): Education level distribution of the participants

The economic status of the participants showed that 94 (47%) had a medium economic status, 79 (37.5%) had a high economic status, and 27 (13.5%) had a low economic status, Figure (3). Table (2) displays the association between perceived stress scores (PSS) and various socio-demographic factors among the study participants. Across different age groups, marital statuses, economic statuses, residency locations, and educational levels, the table presents the distribution of participants experiencing low, moderate, and high perceived stress levels. Interestingly, educational level exhibit statistically significant associations with perceived stress scores, as indicated by p-values of 0.05, whereas age groups were not indicated p-value 0.45. Notably, participants over 40

years old and those with a higher level of education tended to report higher levels of stress. However, no significant associations were found between perceived stress scores and marital status, economic status, or residency location. Overall, the table provides valuable insights into the relationship between socio-demographic factors and perceived stress levels among the study population.

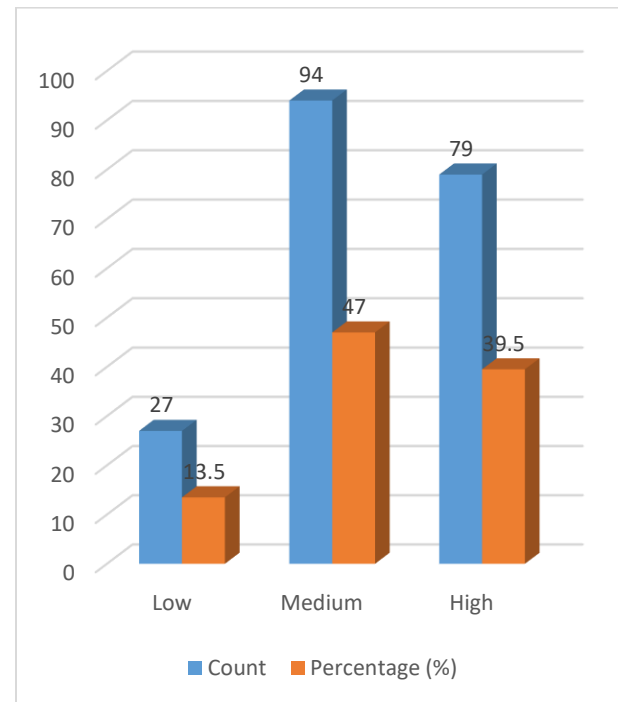


Figure (3): Economic status distribution of the participants.



**Table (2):** The association of perceived stress with some sociodemographic variables

Variables		PSS (no. & %)			Total	p value
		Low stress	Moderate stress	High stress		
Age	≤ 40 years	0 (0.0)	27 (26.0)	28 (30.1)	55 (27.5)	0.45
	>40 years	3 (100.0)	77 (74.0)	65 (69.9)	145 (72.5)	
Marital status	Single	0 (0.0)	10 (9.6)	2 (2.2)	12 (6.0)	0.25
	Married	3 (100.0)	87 (83.7)	85 (91.4)	175 (87.5)	
	Separated	0 (0.0)	7 (6.7)	6 (6.5)	13 (6.5)	
Economic status	Low	0 (0.0)	16 (15.4)	11 (11.8)	27 (13.5)	0.39
	Medium	3 (100.0)	46 (44.2)	45 (48.4)	94 (47.0)	
	High	0 (0.0)	42 (40.4)	37 (39.8)	79 (39.5)	
Residency	Inside city	2 (66.7)	73 (70.2)	66 (71.0)	141 (70.5)	0.98
	Outside city	1 (33.3)	31 (29.8)	27 (29.0)	59 (29.5)	
Education level	Primary	0 (0.0)	32 (33.0)	34 (36.6)	66 (33.0)	0.05
	Secondary	3 (33.3)	22 (21.2)	30 (32.3)	53 (26.5)	
	Graduated	0 (0.0)	28 (26.9)	13 (14.0)	41 (20.5)	
	Illiterate	2 (66.7)	22 (21.2)	16 (17.2)	40 (20.0)	

Discussion

In the current study, the level of stress among 200 women who sought care for breast-related issues at the Breast Disease Management Center in Sulaimani City was examined. The distribution of scores on the PSS among the women indicated that 93 (46.5%) exhibited high levels of stress, 104 (52%) had moderate stress levels, and three (1.5%) presented with low-stress levels. A significant association was found between perceived stress scores and the educational attainment of participants; individuals with lower educational levels experienced higher stress compared to those with higher education, with increased instances of moderate and severe stress levels observed among the former group. Stress arises from the interaction between an individual and their environment, causing dissonance (either real or perceived) between the assumptions of a situation and an individual's biological, psychological, and social resources. This dissonance can exceed an individual's capacity for management, potentially jeopardizing their health.¹² Chronic life stress gradually weakens the immune system, predisposing an individual to various

physical and psychological illnesses.¹³ One of the major issues faced by patients is the stress and anxiety associated with coping with illness. Therefore, evaluating stress levels and coping strategies is critical for individuals facing stressful conditions.¹⁴ Prolonged stress can lead to maladjustment, and if the stress experienced by a patient is not properly managed, it can significantly affect their health.^{15,16} The study's findings revealed that the majority of participants experienced stress, with 98.5% of individuals exhibiting signs of stress. A parallel study by Alagizy et al. (2020) aimed at identifying the prevalence and psychosocial factors associated with anxiety, depressive disorders, and perceived stress in BC patients at Menoufia University hospitals in Egypt. This study included 60 patients and utilized the Perceived Stress Scale (PSS-10) to evaluate stress levels. The results indicated a mean perceived stress score of 78.15, which was lower than that found in the current study, suggesting that differences in methodology, sample size, and the nature of the illness may account for this variance.⁴ Another study by Hashemi et al.¹⁷ sought to determine the prevalence of depression, anxiety, and stress





in BC patients. Involving 190 women selected through convenience sampling, the study employed the Depression Anxiety Stress Scales (DASS-21) for assessment. The prevalence of perceived stress was found to be 14.7%, notably lower than the current study, suggesting that differing methodologies may explain the disparity in results.¹⁷ An important consideration is the link between stress in women and an increased risk of developing BC in the future. A systematic review encompassing 52 studies found that 26 articles established a relationship between personal characteristics, stressful life events, and BC. Despite considerable heterogeneity in this field, qualitative analysis of the articles indicated a potential association between stress and cancer, particularly concerning stressful life events.¹⁸ Stress can predispose individuals to various diseases. Among patients with breast issues, particularly those with fears of malignancy, stress management is crucial. A review study focusing on stress management approaches and related supportive variables in women with BC demonstrated that stress management and appropriate interventions can be exceedingly beneficial.¹⁸ The age status of the people examined in this study showed that most of the patients were in the age group above 40. The level of education in the studied subjects indicated that most of the patients had a low level of education, so that 79.5% had a low level of education. The economic status of people in the present study showed that most of the people had a good economic status. In the study conducted by Cerezo et al¹⁹, the age group of most of the patients was over 40 years old, and the economic status of most of the patients was also good, which is consistent with the present study. But the level of education of the people in the mentioned study was higher than the present study, and these differences are due to the different characteristics and status in the communities where the studies

were conducted.¹⁹ The analysis of stress levels in the current study revealed that individuals of older age, married individuals, those with higher economic status, urban residents, and individuals with lower educational attainment exhibited higher levels of stress. According to the findings, individuals with varying levels of education differed in terms of stress levels. Various studies suggest that these forementioned factors collectively may play a role in the development and exacerbation of stress in patients.²⁰⁻²² In the present study, despite the insignificance of these factors, stress levels among patients varied based on age, marital status, economic status, residency, and education level.

Conclusions

Patients with breast issues experienced high levels of stress. Therefore, focusing on designing stress-coping interventions can be beneficial in alleviating their stress and preventing other adverse outcomes.

Acknowledgments

Our sincere gratitude goes out to everyone who contributed their time, effort, and expertise to make this study a success.

Conflict of interest

The authors declare no conflict of interest regarding the publication of this study.

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