Original Article

Screening For Anxiety And Depression In Women With Breast Cancer A Cross-Sectional Observational Analytical Study

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Abstract

Background: This study aims to identify socio-demographic variables correlated with anxiety and depression among women recently diagnosed with breast cancer, utilizing the Hospital Anxiety and Depression Scale (HADS).

Study Design: A Cross-sectional observational analytical study

Place of Study: Department of Psychiatry , General Surgery And GYNAE & OBS Mardan Medical Complex (MMC) from January 05- 2021 to 05-July 2021.

Methods and Materials: A sample of 56 newly diagnosed female breast cancer patients aged 18 and above was recruited, excluding those with a history of breast cancer, mental illness, or cognitive impairment. Data analysis involved descriptive statistics, Pearson's correlation coefficient, chi-square tests, and one-way ANOVA using SPSS software.

Results: Clinically significant anxiety (HADS-A > 8) was found in 39.3% of patients, while clinically significant depression (HADS-D ≥ 8) was found in 26.8% of patients. Positive correlations were observed between age and HADS-D scores ($r = 0.17$, $p = 0.001$). Marital status was significantly associated with both anxiety ($X^2 = 13.017$, $p = 0.005$) and depression ($X^2 = 8.725$, $p = 0.033$), with widowed patients showing higher levels of anxiety and depression.

Conclusion: The study underscores the importance of early psychological distress screening in newly diagnosed breast cancer patients, especially among older, widowed, and less educated women. Early detection can facilitate timely intervention, potentially improving mental health outcomes.

Keywords: Breast Cancer, Anxiety, Depression, Socio-demographic Variables, HADS

Introduction

An immense 1.7 million women throughout the globe are diagnosed with breast cancer each year, underscoring the gravity of this international problem. [1] In Italy alone, some 52,800 new cases are reported every year. [2] As a fatal illness, cancer not only threatens people's lives but also requires therapies that have a major influence on their quality

of life, can lead to substantial impairment, and offer serious health concerns. According to research, anxiety and sadness are the most prevalent psychological symptoms experienced by nearly one-third of breast cancer participants. [3] Comprehensive psycho-oncological treatment must thus include screening for these psychological symptoms to quickly identify individuals at high risk of developing psychopathological disorders. When it comes to screening for distress in cancer patients, the Hospital Anxiety and Depression Scale (HADS) is among the best tools available. It is also a useful tool for detecting anxiety and depression in other medical patients [4,5]. According to longitudinal studies, the degrees of anguish are usually highest just after a diagnosis, as opposed to later on. [6] For many people, receiving a cancer diagnosis is a life-altering event that throws their emotional and psychological equilibrium into disarray. Villar et al. [7] state that several socio-demographic characteristics impact cancer patients' psychological morbidity, which aids in determining which individuals are most vulnerable to mental health issues. Anxiety is more common in younger women with breast cancer, as is a lack of social support, unhappy marital relationships, and ineffective communication with partners. [8] Similarly, younger women, those with less education, less stable relationships, and fewer social supports are more prone to have depressive symptoms. 8,9 This study aims to identify the categories most at risk for acquiring psychopathological disorders by studying the correlations among anxiety and depression levels and socio-demographic variables in a sample of women recently diagnosed with breast cancer.

Materials and Methods

In this Cross-sectional observational analytical study, 100 newly diagnosed female breast cancer patients aged 18 and above were to be recruited. Women were excluded if they had a history of breast cancer, mental illness, or cognitive impairment which might interfere with their ability to provide voluntary, informed consent or answer study questions. The final sample for the study was 56 patients willing to give full informed consent. In this investigation, the investigators used the HADS-Italian version. A self-report questionnaire developed for use in medical, non-psychiatric outpatient settings, the HADS consists of fourteen items used to evaluate anxiety and depression during the preceding seven days. As one of the commonly used instruments for assessing cancer patients' anxiety and despair, it has a stellar reputation for being both reliable and easy to use. Anxiety symptoms are measured by the HADS-A and depressive symptoms by the HADS-D. There are seven items on each subscale, and they are all scored using a 4-point Likert scale. The highest possible score for anxiety and sadness is 21. With ratings of 8 or above on both subscales, clinical depression or anxiety is present. The relevant ethics committee gave its stamp of approval after the study followed the guidelines laid out in the Declaration of Helsinki. During their pre-operative appointments, participants were enlisted from the Peshawar Medical Complex's Breast Unit. Every single participant gave their informed permission. The HADS was administered and clinical and socio-demographic data was gathered by nurses. We looked at marital status, age, education, employment, and the number of children as some of the socio-demographic characteristics.

Data Analysis

The statistical package SPSS 20.0, developed by IBM and published by IBM Corp. in Armonk, New York, USA, was used to analyze the collected data. We computed descriptive statistics, which include frequencies, standard deviations, and means. To evaluate the association between age and HADS scores, Pearson's correlation coefficient was utilized. We used a chi-square test (X^2) with a post hoc test to look for correlations between factors including marital status, education level, employment, and number of children with clinically significant anxiety or depression. For hypothesis testing, an essential value of 1.96 was utilized, and a p-value less than or equal to 0.05 was deemed statistically significant. A one-way analysis of variance (ANOVA) was used to test for any significant differences in HADS-A, HADS-D, and HADS-total scores by socio-demographic characteristics.

Results

Table 1 shows the demographic and socioeconomic details of the 56 patients that were part of the research. About 40% of patients (n = 22) had anxious or depressed symptoms that exceeded the HADS-A cut-off, about 26.7 percent

(n = 15) had HADS-D symptoms that exceeded the cut-off, and about 44.6 percent (n = 25) had HADS-total symptoms that exceeded the cut-off.

Table 01: outcomes of participant frequency and Percentage

Characteristic	Frequency (n)	Percentage (%)
Age (Mean ± SD)	56	100
Sons		
Yes	40	71.4
No	16	28.6
Marital Status		
Married	27	48.2
Single	9	16.1
Divorced	7	12.5
Widow	13	23.2
Education Level		
Middle School	29	51.71
High School	18	32.1
Degree	9	16.1
Occupational Status		
Employed	22	39.3
Housewife	34	60.7

An association between age and HADS-D scores was shown to be favorable ($r = 0.17$, $p = 0.001$). Both clinically relevant anxious symptoms (scores > HADS-A cut-off) ($X^2 = 13.017$, $p = 0.005$) and depressive symptoms (scores ≥ HADS-D cut-off) ($X^2 = 8.725$, $p = 0.033$) were significantly associated with marital status according to the chi-square test. When there was no statistically significant correlation, the proportion of patients in the "widow" group who had HADS-A or HADS-D levels above the thresholds would have been lower than predicted (HADS-A: Adjusted residue: +3.2, 57.1%, n = 8; HADS-D: Adjusted residue: +2.4, 37.5%, n = 5). In comparison to married (38.3%, n = 18; HADS-D: 23.8%, n = 11), single (32.0%, n = 8; HADS-D: 20.0%, n = 5), and divorced (40.0%, n = 4), widowed patients were more likely to exhibit clinically significant anxious and depressed symptoms. These results are illustrated in Tables 2 and 3. Scores on the HADS-A, HADS-D, and HADS-total were significantly different between groups defined by marital status, according to a one-way analysis of variance.

Table 02: HADS-A frequency and outcomes

HADS-A Groups	Frequencies, %	Married	Single	Divorced	Widow
(N = 27)	**(N = 9)**	**(N = 7)**	**(N = 13)**	**(N = 56)**	
n	15	6	5	4	30
% in HADS-A	50%	20%	16.7%	13.3%	100%
% in marital status	55.6%	66.7%	71.4%	30.8%	53.6%
% of the total	26.8%	10.7%	8.9%	7.1%	53.6%
Adjures	+0.5	+0.8	+0.7	−2.0	
n	12	3	2	9	26
% in HADS-A	46.2%	11.5%	7.7%	34.6%	100%
% in marital status	44.4%	33.3%	28.6%	69.2%	46.4%
% of the total	21.4%	5.4%	3.6%	16.1%	46.4%
Adjres	−0.5	−0.8	−0.7	+2.0	
n	27	9	7	13	56
% in HADS-A	48.2%	16.1%	12.5%	23.2%	100%
% in marital status	100%	100%	100%	100%	100%
% of the total	48.2%	16.1%	12.5%	23.2%	100%

Table 03: HADS-D frequency and outcome

HADS-D Groups	Frequencies, %	Married	Single	Divorced	Widow
(N = 27)	**(N = 9)**	**(N = 7)**	**(N = 13)**	**(N = 56)**	
Under cut-off					
Frequency	17	7	4	8	36
% in HADS-D	47.2%	19.4%	11.1%	22.2%	100%
% in marital status	62.96%	77.8%	57.1%	61.5%	64.3%
% of the total	30.4%	12.5%	7.1%	14.3%	64.3%
Adj res	+1.0	+0.5	−0.8	−1.5	
Above cut-off					

Frequency	10	2	3	5	20
% in HADS-D	50.0%	10.0%	15.0%	25.0%	100%
% in marital status	37.04%	22.2%	42.9%	38.5%	35.7%
% of the total	17.9%	3.6%	5.4%	8.9%	35.7%
Adj res	−1.0	−0.5	+0.8	+1.5	
Total					
Frequency	27	9	7	13	56
% in HADS-D	48.2%	16.1%	12.5%	23.2%	100%
% in marital status	100%	100%	100%	100%	100%
% of the total	48.2%	16.1%	12.5%	23.2%	100%

The results of the HADS-D were positively correlated with age ($r = 0.17$, $p = 0.001$). $X^2 = 13.017$, $p = 0.005$ for anxious symptoms and $X^2 = 8.725$, $p = 0.033$ for depressed symptoms, respectively, showing a substantial connection between marital status and clinically relevant symptoms. If there was no significant link, it would be predicted that the frequency of patients in the "widow" category who were above the HADS-A and HADS-D cut-offs would be lower. However, for HADS-A, the adjusted residue was +3.2, 57.1%, with n = 8, and for HADS-D, it was +2.4, 37.5%, with n = 5. In comparison to married (38.3%, n = 18; HADS-D: 23.8%, n = 11), single (32.0%, n = 8; HADS-D: 20.0%, n = 5), and divorced (40.0%, n = 4), widowed patients were more likely to exhibit clinically relevant anxious and depressed symptoms. These results are illustrated in Tables 2 and 3. HADS-A, HADS-D, and HADS-total scores varied significantly among marital status categories, according to one-way ANOVA.

Table 04: HADS-A Group frequency and outcomes

HADS-A Groups	**Frequencies, %**	**Primary School**	**Middle School**	**High School**	**Graduate**
(N = 9)	**(N = 16)**	**(N = 20)**	**(N = 11)**	**(N = 56)**	
Under cut-off					
Frequency	5	8	13	8	34
% in HADS-A	14.7%	23.5%	38.2%	23.5%	100%
% in education	55.6%	50.0%	65.0%	72.7%	60.7%
% of the total	8.9%	14.3%	23.2%	14.3%	60.7%
Adj res	-0.4	-1.0	+0.9	+1.0	
Above cut-off					

Frequency	4	8	7	3	22
% in HADS-A	18.2%	36.4%	31.8%	13.6%	100%
% in education	44.4%	50.0%	35.0%	27.3%	39.3%
% of the total	7.1%	14.3%	12.5%	5.4%	39.3%
Adj res	+0.4	+1.0	-0.9	-1.0	
Total					
Frequency	9	16	20	11	56
% in HADS-A	16.1%	28.6%	35.7%	19.6%	100%
% in education	100%	100%	100%	100%	100%
% of the total	16.1%	28.6%	35.7%	19.6%	100%

Discussion

Patients often experience worry and sadness after receiving a breast cancer diagnosis, in addition to the physical difficulties that the disease presents. Using the Hospital Anxiety and Depression Scale (HADS), our study sought to examine the relationship between socio-demographic characteristics and levels of anxiety and depression in patients recently diagnosed with breast cancer. According to our research, 39.3% of patients displayed clinically significant anxiety symptoms (HADS-A > 8), and 26.8% displayed clinically significant depression symptoms (HADS-D ≥ 8). In line with previous research, this study also indicates that breast cancer patients experience high levels of anxiety and sadness. 10 The global prevalence of anxiety and depression in breast cancer patients stands at 15-50% for anxiety and 12-49% for depression; our study depicted slightly lower levels. [11] Our results revealed that HADS-D was positively related to age suggesting that the elderly might have more severe depressive symptoms. Earlier studies have established that older patients with cancer are more likely to display symptoms of depression as supported by the current study. [12] It was established in our research that marital status has a positive relationship with the level of anxiety and despair. In particular, patients, who lost a spouse, had the highest level of clinically significant anxiety and depression symptoms compared to other marital status groups. This is supported by previous findings that have revealed that cancer patients experience more psychological distress once they become widows. [13] Furthermore, we found that having only a middle school diploma predicted a higher likelihood of clinically significant anxiety symptoms when comparing people with different education levels. Research conducted in the past has indicated that patients with low levels of education are likely to suffer from psychological distress, a situation that is well echoed by our study. [14]

Conclusion

Collectively, our findings underscore the need for evaluating anxiety and depression among newly diagnosed breast cancer patients and differences by age, marital status, and education level. Breast cancer patients could benefit from early detection of psychological distress to enable early treatment before their mental health deteriorates.

The present research has some limitations, such as a small sample size and the use of self-report measures that can cause response bias. Lastly, the research was performed in a single medical complex, which makes its findings less

generalizable. Future studies should also have increased sample size and use longitudinal research design to track changes in anxiety and depression levels in breast cancer patients.

Conflict of Interest: Nill
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Muhammad Muslim Khan3,Asif Imran5: Data Analysis
Mansoor Khan4: Critical review
Muhammad Muslim Khan1: Final Approval of version

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