Original article

IMPACT OF SOCIAL SUPPORT ON DEPRESSION AND GENERALIZED ANXIETY DISORDER AMONG WOMEN WITH BREAST CANCER IN NORTH-WESTERN NIGERIA: A CROSS-SECTIONAL STUDY

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ABSTRACT

Context: Breast cancer, the most prevalent malignancy among women, accounts for one-quarter of female cancer diagnoses in Kano State, Nigeria, often presenting at advanced stages.

Aim: This study examines the association between social support on depression and generalized anxiety disorder (GAD) among women with breast cancer in North-western Nigeria, hypothesizing that poor social support increases psychological distress.

Methods: This cross-sectional study enrolled two hundred and forty women with histopathologically confirmed breast cancer at Aminu Kano Teaching Hospital (AKTH) and Murtala Muhammad Specialist Hospital (MMSH), Kano, over six months (from November 2023 to April 2024). Depression

and GAD were assessed using the Mini International Neuropsychiatric Interview (MINI 7.0), and social support was measured with the Oslo Social Support Scale (OSSS-3). Chi-square tests and binary logistic regression analyzed associations and independent determinants, adjusting for age, income, and education ($p < 0.05$).

Results: Poor social support was associated with higher depression (73.2% vs. 57.3%, $p = 0.012$) and GAD (27.8% vs. 16.8%, $p = 0.040$) rates. Multivariate analysis confirmed that poor social support remained an independent predictor of both conditions. (AOR 1.928, 95% CI: 1.097–3.389, $p = 0.022$) And GAD (AOR 2.002, 95% CI: 1.072–3.740, $p = 0.030$).

Conclusion: Strengthening social support networks may be crucial in alleviating the psychological burden of breast cancer. Mental health interventions should integrate support systems to improve outcomes for patients.

Keywords: Breast cancer, social support, depression, generalized anxiety disorder, mental health.

INTRODUCTION

Breast cancer, the leading malignancy among women globally, constitutes one-quarter of female cancer diagnoses in Kano State, Nigeria, often at advanced stages.[1,2] This diagnosis frequently triggers psychological distress, including depression and generalized anxiety disorder (GAD), impairing quality of life and treatment adherence.[3] Social support from family, friends, or professionals mitigates distress per the buffering hypothesis.[4] However, its role in North-western Nigeria, where Hausa-Fulani cultural norms shape family-based support, is underexplored.

We hypothesized that poor social support increases depression and GAD among women with breast cancer in this region.

MATERIALS AND METHODS

Study Design and Setting

This cross-sectional study was conducted at the surgical outpatient clinics of two hospitals: Aminu Kano Teaching Hospital (AKTH) and Murtala Muhammad Specialist Hospital (MMSH) in Kano, Nigeria, from November 2023 to April 2024.

We recruited two hundred and forty women aged eighteen years or older with histopathologically confirmed breast cancer using systematic sampling. The sample was proportionally allocated based on patient volume (AKTH: 29%, MMSH: 71%). A random start was selected using a table of random numbers, followed by every second eligible patient (sampling interval: 2, calculated as total clinic attendees divided by sample size). Inclusion criteria were a confirmed breast cancer diagnosis. Exclusion criteria included severe mental illness impairing questionnaire response, severe medical conditions, or pre-existing psychiatric disorders before diagnosis. All participants provided written informed consent. Ethical approval was obtained from the AKTH Research Ethics Committee (AKTH/MAC/SUB/12A/P-3/VI/3748). The study complied with the Declaration of Helsinki (2013).

Sample Size

The sample size of two hundred and forty was calculated using 16.9% depression prevalence from a previous study,[5] with a 95% confidence interval and 5% margin of error. Adjustment for a 10% non-response was made.[6] This provides at least 80% power to estimate the prevalence accurately.

Data Collection

Trained interviewers administered three tools: Mini International Neuropsychiatric Interview (MINI 7.0): Diagnosed depression and GAD based on DSM-5 criteria.

Oslo Social Support Scale (OSSS-3): A three-item self-report tool assessing the number of close confidants, sense of concern from others, and access to neighbours for help. It has been validated in Nigeria.[7]

Socio-demographic Questionnaire: Captured the participant's socio-demographic characteristics.

To minimize bias, random sampling techniques were used to select the participants, and validated tools were used to assess depression and social support.

Statistical Analysis

Descriptive statistics summarized participant characteristics. Chi-square tests assessed associations between social support (poor/good), depression, and GAD. Binary logistic regression analyzed independent determinants of depression and GAD, adjusting for confounders (age, income, and education) selected based on bivariate significance ($p < 0.05$). Adjusted odds ratios (AORs) with 95% confidence intervals (CIs) were reported. There were no missing data. Analysis used SPSS version 21

.RESULTS

Of two hundred and forty participants, one hundred and forty-two (59.2%) were aged forty-four years or younger, one hundred and fifty-five (64.6%) were married, and two hundred and six (85.8%) were from monogamous families (Table 1). Most were Muslim (95.4%) and Hausa-Fulani (85.8%), with one hundred and forty-eight (61.7%) having higher education (≥12 years). One hundred and fifty-five (64.6%) were employed, and one hundred and seventy-five (72.9%) had a monthly income ≥30,000 naira. Relatives were the primary support source for two hundred and seven (86.2%). Poor social support was associated with higher depression (73.2% vs. 57.3%, χ^2 =

6.286, p = 0.012) and GAD (27.8% vs. 16.8%, $\chi^2 = 4.218$, p = 0.040) rates compared to good social support (Table 2). Absolute risk differences were 15.9% for depression and 11.0% for GAD. Logistic regression showed that social support remained an independent determinant of both depression (AOR = 2.17; 95% CI: 1.10–4.28) and GAD (AOR = 1.92; 95% CI: 1.05–3.50) after adjusting for confounders.

Figure 1: Participant Flow Diagram. Description: Flow diagram showing participant selection

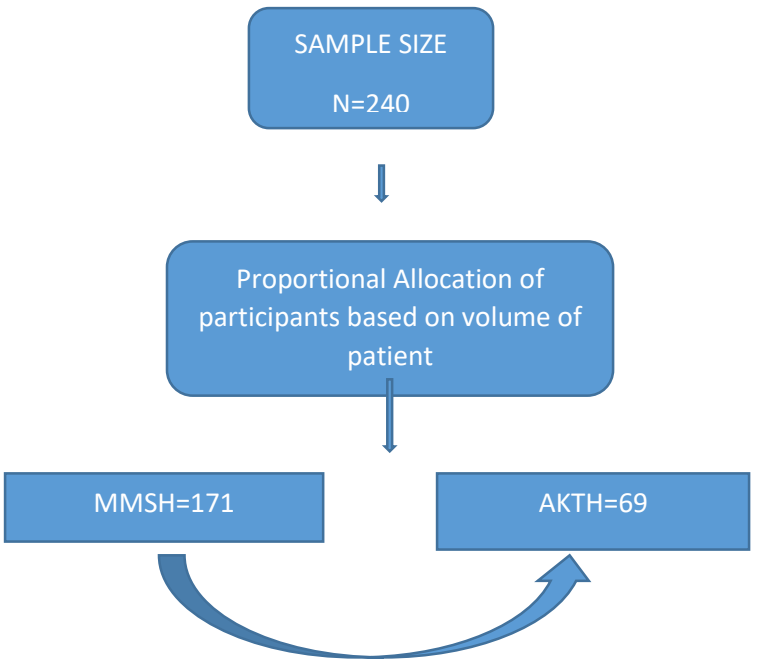

Table 1: Socio-demographic characteristics of the participants

Variables	Frequency	Percentage (%)
Age (Years)		
≤44	142	59.2
>45	98	40.8
Number of children		
0-4	156	65.0
≥5	84	35.0
Marital status		
Married	155	64.6
Unmarried	85	34.4
Family type		
Monogamy	206	85.8
Polygamy	34	14.2
Religion		
Islam	229	95.4
Christianity	11	4.6
Educational status		
High (≥12 years)	148	61.7
Low (<12 years)	92	38.3
Tribe		
Hausa-Fulani	206	85.8
Others	34	14.2
Employment status		
Employed	155	64.6
Unemployed	85	34.4
Monthly income(naira)		
≥30,000	175	72.9
<30,000	65	27.1
Support source		
Relatives	207	86.2
Others	33	13.8

Table 2: Association between social support with Depression and GAD among the participants

Variable	Depressed (Frequency %)	Non-depressed (Frequency %)	χ^2	P-value	GAD (Frequency %)	No GAD (Frequency %)	χ^2	P-value
Social support			6.286	0.012**			4.218	0.040**
Good	82(57.3%)	61(42.7%)			24(16.8%)	119(83.2%)		
Poor	71(73.2%)	26(26.8%)			27(27.8%)	70(72.2%)		

**Statistically significant

Table 3: Analysis of social support with depression and GAD among the participants at logistic regression

Variable	B	AOR	Confidence interval		P-value
			Lower	Upper	
Social support (poor)	0.657	1.928	1.097	3.389	0.022**
	0.694	2.002	1.072	3.740	0.030**

Reference category: Social support: Good, ** statistically significant

DISCUSSION

This study demonstrates that poor social support is significantly associated with higher rates of depression and generalized anxiety disorder (GAD) among women with breast cancer in North-western Nigeria, a finding that aligns closely with global evidence. Multiple studies conducted in

Ghana, Nigeria, Ethiopia, and Kazakhstan have consistently reported that low perceived social support predicts higher psychological morbidity, particularly depressive symptoms and anxiety disorders among breast cancer patients^[5,8,9]. These findings reinforce the universal protective role of emotional, instrumental, and informational support in reducing distress and enhancing coping capacity in cancer populations.

Nevertheless, contrasting evidence exists. Ayalew et al. in Ethiopia found no statistically significant association between social support and depression^[10]. This inconsistency may reflect methodological differences, including variations in social support measurement tools, differences in sample characteristics, or cultural variations in how social support is perceived and utilized. In some settings, individuals may underreport emotional distress due to stigma, or they may rely more heavily on spiritual or religious coping mechanisms, diluting the measurable effect of social support.

The high prevalence of depression and GAD observed in this study highlights the substantial psychological burden experienced by women with breast cancer in this region. Several contextual factors may contribute to this burden. In Northern Nigeria, cultural expectations often place caregiving responsibilities on families, and women frequently depend on extended relatives for emotional and financial support. When this support is inadequate or inconsistent, the psychological impact of a breast cancer diagnosis may be magnified. In addition, economic hardship, limited access to specialized oncology care, and the fear of stigmatization may further compound psychological distress.

Strengthening social support systems offers a promising intervention pathway. Structured psycho-social support programs, patient-

support groups, family-focused counselling, and community-based initiatives may help enhance emotional resilience and improve treatment adherence. Integrating routine psychological screening into oncology clinics could facilitate early identification of high-risk individuals. Furthermore, educational interventions aimed at caregivers and community members may improve the quality of support provided to patients.

Overall, the findings underscore the need for comprehensive, culturally sensitive mental-health support within oncology care frameworks in Nigeria. Future longitudinal studies are warranted to explore causal pathways and to evaluate the effectiveness of targeted social-support interventions.

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Conflict of Interest

The authors declare no financial, commercial, legal, or professional conflicts of interest.

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