

Psychometric Properties and Correlates of the Beck Hopelessness Scale in Family Caregivers of Nigerian Patients with Psychiatric Disorders in Southwestern Nigeria

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ABSTRACT

Objectives: To examine the construct and correlates of hopelessness among family caregivers of Nigerian psychiatric patients. **Materials and Methods:** This is a cross-sectional, descriptive study involving 264 family caregiver-patients' dyads recruited from two university teaching hospitals psychiatric clinics in Southwestern Nigeria. **Results:** Exploratory factor analysis revealed a two-factor 9-item model of the Beck Hopelessness Scale (BHS) among the family caregivers. Confirmatory factor analysis of the model revealed satisfactory indices of fitness (goodness of fit index = 0.97, comparative fit index = 0.96, Chi-square/degree of freedom (CMIN/DF) = 1.60, root mean square error of approximation = 0.048, expected cross-validation index = 0.307, and standardized root mean residual = 0.005). Reliability of the scale was modestly satisfactory (Cronbach's alpha 0.72). Construct validity of scale was supported by significant correlations with the family caregivers' scores on the Zarit Burden Interview, mini international neuropsychiatric interview suicidality module, General Health Questionnaire-12 (GHQ-12), and Patient Health Questionnaire-9. The greatest variance in the family caregivers' scores on the BHS was contributed by their scores on the psychological distress scale (GHQ-12). **Conclusions:** The BHS has adequate psychometric properties among Nigerian psychiatric patients' family caregivers. There is the need to pay attention to the psychological well-being of the family caregivers of Nigerian psychiatric patients.

KEYWORDS: Beck Hopelessness Scale, Nigerian family caregivers, psychiatric patients

INTRODUCTION

One factor that has been consistently recognized as the strongest predictive factor for suicide, either attempted or completed is hopelessness.^[1-3] Hopelessness has been defined as the manifestation of a current reasoning attitude that reflects adverse or unfavorable anticipation concerning the future.^[4] It has been demonstrated that there is a positive correlation between caregiving and caregivers' psychological distress.^[5] Family caregivers are usually the providers of informal care for patients with chronic mental disorders.^[6,7] The provision of care to a family member with a chronic mental disorder can be quite daunting, and there is the tendency for family caregivers to experience being oppressed by the associated tasks involved.^[8] In developing countries, such as Nigeria, family caregivers have a central role in the societal reintegration of their relatives affected with severe mental disorders, which is mainly due to the dearth of professionals that are required for their rehabilitation.^[9] Studies have also demonstrated that the overwhelming burden arising from providing care for a family member with severe mental disorder can adversely affect the caregivers' psychological well-being.^[10,11] About a quarter of family caregivers of patients with chronic mental disorders

either resident or not with their relative fulfill the criteria for possible cases of psychiatric disorders according to the General Health Questionnaire (GHQ).^[12]

An electronic literature search revealed that most of the studies of hopelessness among family caregivers in developed countries, involved those of patients with oncological disorders.^[13-16] Most of the studies among Nigerian family caregivers of patients with chronic medical disorders have focused predominantly on measuring the burden experienced by the family caregivers.^[8,17,18] It has been suggested that medical care providers need to take into consideration the susceptibility to psychological distress among the family caregivers of patients with chronic medical disorders.^[15] Studies have also reported that family caregivers with depression or anxiety due to the burden of caregiving have a higher prevalence of suicidal ideation and were at an elevated risk for suicide.^[19] Hopelessness in caregivers may reduce their stress absorbing

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abilities and increased levels of hope has been reported to have statistically significant correlations with reduced psychological dysfunctions among caregivers.^[14] The most globally recognized and utilized scale for the measurement and quantification of hopelessness is the Beck Hopelessness Scale (BHS).^[20] No study has examined the construct of hopelessness and its correlates among Nigerian family caregivers of psychiatric patients.

MATERIALS AND METHODS

This is a cross-sectional descriptive study involving 264 family caregiver-patient dyads, who were recruited over a period of 6 months (September, 2015 to February, 2016) from the outpatient psychiatric clinics of two tertiary health-care centers in Southwestern Nigeria. These two tertiary referral centers provide health-care services for a large number of surrounding rural communities. Eligibility criteria for the patients were (1) aged 18 years and above, (2) must have been an outpatient in these centers for at least 6 months, (3) the severity of psychopathological disturbance being experienced by the patient is not to the extent where it will interfere with their ability to give consent. The inclusion criteria for family caregivers were (1) must have been responsible for providing care for the patient within the preceding 3 months, without any financial benefits, (2) patient must identify him or her as been the principal caregiver, (3) must be aged 18 years and above, (4) must not have a chronic mental or medical disorder that could independently affect their functioning, (5) must give consent to participate in the study. The study protocol was approved by the Ethics and Research Committees of the two health-care institutions.

Measures

Study measures completed by the patients

Patients' sociodemographic and illness-related questionnaire

This is a semi-structured questionnaire that included variables such as, age, gender, marital status, and number of years of education.

Global Assessment of Functioning Scale

This scale was utilized to objectively measure the level of patients' functioning. Scores on the scale range from 0 to 100, with higher functioning indicated by higher scores on the scale.^[21]

Positive and negative syndrome scale

A clinician-administered scale which consists of 30 items evaluating positive (7 items), negative (7 items), and general (16 items) symptoms of psychosis, with each item measured on a 7-point Likert scale.^[22]

Hamilton Depression Rating Scale

This clinician-administered scale consisting of 17 items was utilized to measure the level of depressive symptoms over the preceding week among the patients.^[23] Higher scores reflects greater depressive symptoms severity.

Young Mania Rating Scale

This scale was employed in assessing the severity of manic symptoms among the patients with bipolar disorder. It consists

of 11 items and the total score on the scale range from 0 to 60, with higher scores reflecting greater mental state disturbance in the context of a manic episode.^[24]

Study measures completed by the family caregivers

Caregiver sociodemographic information form

This consist of family caregivers' variables such as age, gender, marital status, employment status, and relationship to the patient, number of years of education, and duration of providing care for the patient.

Beck Hopelessness Scale

This is a 20-item scale developed in 1974 by Beck *et al.*^[25] The scale has been described as the most consistent instrument to predict suicide.^[26] The response to each item on the scale is either a yes or no. Each item is worded such that the respondent completing the scale either admits a "yes" to a negatively worded item or indicates a "no" to a positively worded item. Total score on the complete scale range from 0 to 20, with greater levels of hopelessness reflected by higher scores on the scale.

Mini international neuropsychiatric interview suicidality module

Suicidality among the family caregivers was evaluated with the mini international neuropsychiatric interview (MINI) suicidality module section.^[27] The total score on this module was calculated by summing up the points per questions depending on the respondents' responses. The previous studies have reported strong positive correlations between hopelessness and suicidality.^[28,29]

Zarit Burden Interview

The level of burden subjectively experienced by the family caregivers was quantified with the 22-item Zarit Burden Interview (ZBI).^[30] Each item is measured on a five-point Likert scale, ranging from 0 (never) to 4 (almost always). Higher scores reflect a more severe level of subjective burden by the family caregivers. The scale has been shown to exhibit satisfactory psychometric properties among the caregivers of Nigerian patients with chronic mental disorders.^[8,18,31-33]

General Health Questionnaire-12

The Yoruba language translated version of this 12-item psychological distress scale has been demonstrated to be reliable and valid.^[34] Each of the items was scored using the 0-0-1-1 method and individuals with an aggregate score of three points and above were recognized as been psychological distressed.^[35]

Patient Health Questionnaire-9

This is a brief 9-item subjectively completed scale for screening and measuring the severity of depressive symptomatology.^[36] Each item is scored on a four-point Likert scale (not at all-0 to nearly every day-3), producing a total score ranging from 0 to 27. Adequacy of reliability and validity of the Patient Health Questionnaire-9 (PHQ-9) has been reported among different Nigerian clinical and nonclinical populations.^[37-39]

Data analysis

This was performed with the 21st version of the International Business Machine's Statistical Package for Social Scientists (IBM SPSS Statistics for Windows, Version 21.0. Armonk,

NY: IBM Corp). The reliability of the BHS was explored by calculating the Cronbach's alpha while the construct validity of the BHS was examined with correlational analyses with selected family caregivers' and patients' variables. Exploratory factor analysis (EFA) applying principal axis factoring (PAF) with oblimin rotation was employed to examine the loading patterns of the items of the BHS among the family caregivers. The fit of the factor model of the BHS extracted with PAF was then subjected to confirmatory factor analysis (CFA) performed using the analysis of moment structures software, 20th version. Satisfactory model fit was based on the Hu and Bentler criteria,^[40] in which the goodness of fit index (GFI) and comparative fit index (CFI) values will be close to or >0.95; root mean square error of approximation (RMSEA) and standardized root mean residual (SRMR) square <0.05, minimal expected cross-validation index (ECVI) value, Chi-square/degree of freedom ratio (CMIN/DF) <2.0, and a nonsignificant Chi-square *P* value. Regression analyses were employed to identify which variable significantly predicted the family caregivers' hopelessness scores. The level of statistical significance was set at *P* < 0.05 and all statistical tests were two-tailed.

RESULTS

Descriptive statistics of the family caregivers (*n* = 264) and the patients (*n* = 264)

The duration of caregiving and the average hours spent per day with their relative were 63.85 (standard deviation [SD] 57.91) months and 9.16 (SD 6.94) hours, respectively. The largest proportion of the family caregivers were females (71.6%) and those who were married (87.9%). Among the family caregivers, the mean score on the 9-item BHS was 1.89 (SD 1.75) [Table 1].

Descriptive details and Cronbach's alpha of the Beck Hopelessness Scale among the family caregivers (*n* = 264) with the factor loading extracted with principal axis factoring

Initial examination of the descriptive characteristics of the 20 items of the BHS revealed that item total scale correlations were <0.30 for items 3, "When things are going badly, I am helped by knowing they cannot stay that way forever", six, "In the future, I expect to succeed in what concerns me the most" and ten, "My past experiences have prepared me well for the future". These 3 items were eliminated since a correlation value <0.3 indicated that the corresponding item does not correlate adequately with the overall scale.^[41] The remaining 17 items were subjected to PAF with oblimin rotation because we assumed that the extracted factors will be correlated. The Kaiser-Meyer-Olkin of sampling adequacy was acceptable (>0.50)^[42] and Bartlett's test of sphericity^[43] indicated that our data were appropriate for subjection to factor analysis. We decided to retain only the scale's items with factor loading values that exceeds 0.40. Following this approach, we had to eliminate 8 items due to factor loading values <0.40, leaving 9 items (4, 5, 9, 12, 14, 16, 17, 19, and 20). We then repeated the PFA with these 9 items, which finally yielded a two-factor model of the BHS shown in Table 2, with Factor 1 (4 items, Eigen value 2.4) and Factor 2 (5 items, Eigenvalue 1.7) accounting for 26.6% and 18.5% of the variance, respectively, with both factors cumulatively accounting for

45.1% of the total variance in the BHS among the family caregivers. Cronbach's alpha for the 9-item BHS was 0.72. Figure 1 depicts the CFA path diagram. The GFI (0.97), CFI (0.96), CMIN/DF (1.60), RMSEA (0.048), ECVI (0.307), and SRMR (0.005) all indicated adequateness of our model fit. The Chi-square fit index had a significant *P* value (0.034), which may be attributed to the relatively large sample size, which can lead to diminished Chi-square values.^[44]

Correlational analyses of the 9-item Beck Hopelessness Scale with the family caregivers' and patients' characteristics

As seen in Table 3, bivariate analysis revealed that BHS had significant positive correlations with the PHQ-9 (*r* = 0.529, *P* < 0.001), MINI Suicidality module (*r* = 0.588, *P* < 0.001), GHQ-12 (*r* = 0.641, *P* < 0.001), and modest positive correlations with the ZBI (*r* = 0.270, *P* < 0.001).

Multiple linear regression models

Linear regressions employing a stepwise approach indicated that the combinations of the family caregivers' score on the GHQ-12, MINI Suicidality module, and patients' Global Assessment of Functioning scores statistically predicted their scores on the BHS. It can also be observed that the largest variance (approximately 41%) in the BHS among the family caregivers was contributed by their scores on the GHQ-12 scale [Table 4].

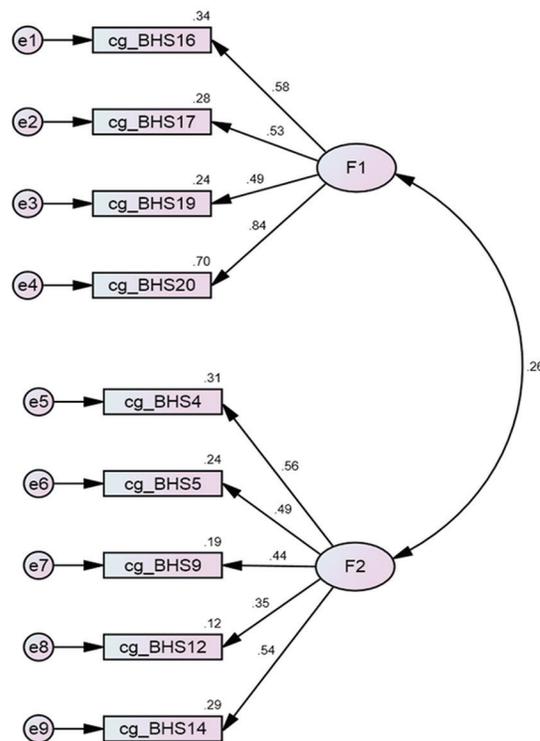


Figure 1: Path analysis with confirmatory factor analysis showing the factor loading of each item on the two-factor nine items Beck Hopelessness Scale among the family caregivers. Goodness of fit indices: $\chi^2 = 36.9$; *df* = 23; CMIN/DF = 1.60; *P* = 0.034; GFI = 0.97; CFI = 0.96; SRMR = 0.005; RMSEA = 0.048; ECVI = 0.307. GFI: Goodness of fit index, CFI: Comparative fit index, SRMR: Standardized root mean residual, RMSEA: Root mean square error of approximation, ECVI: expected cross-validation index

Table 1: Sociodemographic details of the family caregivers (n=264) and patients (n=264)

Variable	Family caregivers, n=264 (%)	Patients, n=264 (%)
Sex		
Males	75 (28.4)	120 (45.5)
Females	189 (71.6)	144 (54.5)
Marital status		
Single	15 (5.7)	118 (44.7)
Married	232 (87.9)	117 (44.3)
Divorced/separated	7 (2.7)	29 (11.0)
Widow/widower	10 (3.8)	-
Employment status		
Yes	213 (80.7)	131 (49.6)
No	51 (19.3)	133 (50.4)
Relationship to patient		
Parents	124 (47.0)	-
Spouses	51 (19.3)	-
Sibling (brother/sister)	43 (16.3)	-
Child (son/daughter)	41 (15.5)	-
Grandparents	5 (1.9)	-
Patients diagnosis		
Schizophrenia	-	176 (66.7)
Bipolar disorder	-	45 (17.0)
Depressive disorder	-	43 (16.3)

Variable	Mean (SD) range	
	Family caregivers (n=264)	Patients (n=264)
Age	52.18 (14.11) (22-87)	41.14 (14.28) (18-82)
Number of years of education	11.10 (4.98) (3-20)	11.43 (4.65) (4-18)
Income/month (in naira)	45,620.36 (64,519.82) (1000-500,000) ^a	40,996.18 (52,629.420) (500-350,000) ^b
Duration of caregiving (months)	63.85 (57.91) (3-264)	-
Average hours spent with patient/day	9.16 (6.94) (6-24)	-
Zarit score	37.31 (18.80) (3-77)	-
PHQ-9	4.47 (4.34) (0-23)	-
BHS (9-item)	1.89 (1.57) (0-6)	-
GHQ-12	2.81 (2.69) (0-11)	-
MINI suicidality	1.05 (1.70) (0-8)	-
Age at onset of illness	-	28.47 (13.35) (14-78)
Duration of illness (months)	-	80.41 (68.99) (12-420)
Previous number of episodes	-	3.18 (2.78) (1-15)
Previous number of admissions	-	1.26 (1.60) (0-9)
GAF	-	59.94 (13.560) (6-88)
PANSS		
Positive	-	12.75 (5.58) (7-38)
Negative	-	12.99 (7.19) (7-48)
General	-	25.92 (10.95) (16-67)
HRSD (all patients)	-	9.28 (7.03) (0-45)
YMRS (bipolar patients)	-	9.82 (5.81) (0-22)

^a80.7% of employed family caregivers, ^b49.6% of employed patients. PHQ: Patient Health Questionnaire, BHS: Beck Hopelessness Scale, GHQ: General Health Questionnaire, MINI: Mini international neuropsychiatric interview, GAF: Global Assessment of Functioning, PANSS: Positive and negative syndrome scale, HRSD: Hamilton Rating Scale for Depression, YMRS: Young Mania Rating Scale, SD: Standard deviation

DISCUSSION

The factorial structure of the BHS, after eliminating all the items with either low item-scale correlations or low factor loadings, produced a two-factor 9-item model among the Nigerian psychiatric patients' family caregivers. We decided to label

the factors as "negative cognition regarding the future (Factor 1)" and "negative expectations regarding the future (Factor 2)." The scale's developers utilizing principal component analysis as the factorial structure extraction method in their original study involving 294 individuals who had previously

Table 2: Descriptive details and Cronbach's alpha of the Beck Hopelessness Scale (9 item) among the family caregivers (n=264) with the factor loadings resulting from principal axis factoring

Items	Statement	Mean (SD)	Item-scale correlations	Factor 1	Factor 2
20	There is no use in really trying to get anything I want because I probably won't get it	0.04 (0.20)	0.36	0.843	-
16	I never get what I want, so it is foolish to want anything	0.07 (0.25)	0.36	0.591	-
17	It is very unlikely that I will get any real satisfaction in the future	0.07 (0.26)	0.30	0.517	-
19	I can look forward to more good times than bad times	0.06 (0.23)	0.31	0.461	-
5	I have enough time to accomplish the things I want to do	0.24 (0.43)	0.30	-	0.553
14	Things do not just work out the way I want them to	0.65 (0.48)	0.36	-	0.503
4	I cannot imagine what my life will be like in 10 years	0.52 (0.50)	0.44	-	0.486
9	I just cannot get the breaks, and there is no reason I will in the future	0.11 (0.31)	0.34	-	0.451
12	I do not expect to get what I really want	0.14 (0.34)	0.37	-	0.401
	Eigen values			2.4	1.7
	Cronbach's alpha			0.68	0.60
	Percentage of total variance explained			26.6	18.5

Overall Cronbach's alpha 0.72. SD: Standard deviation

Table 3: Correlational analyses of the 9 item Beck Hopelessness Scale with the family caregivers' and patients' characteristics

Variable	r	P
ZBI (caregiver)	0.270	<0.001
PHQ-9 (caregiver)	0.529	<0.001
MINI suicidality (caregiver)	0.588	<0.001
GHQ-12 (caregiver)	0.641	<0.001
Caregivers' age	0.140	0.023
Duration of caregiving	0.022	0.717
Average number of hours spent/day with patient (caregiver)	0.106	0.085
Patients' age	-0.007	0.908
Previous number of episodes	0.130	0.035
Previous number of admissions	0.162	0.008
Duration of illness	0.143	0.020
Patients' GAF score	-0.357	<0.001
Patients' PANSS		
Positive	0.256	<0.001
Negative	0.219	<0.001
General	0.261	<0.001
Patients' HRSD score	0.369	<0.001
YMRS (bipolar patients)	0.424	0.007

ZBI: Zarit Burden Interview, GHQ: General Health Questionnaire, MINI: Mini international neuropsychiatric interview, GAF: Global Assessment of Functioning, PANSS: Positive and negative syndrome scale, HRSD: Hamilton Rating Scale for Depression, YMRS: Young Mania Rating Scale, PHQ: Patient Health Questionnaire

attempted suicide yielded a model with three factors namely "feeling about the future," "loss of motivation," and "future expectations."^[25] Among all, the previous studies that had examined the factor structure of the BHS, none had been able to replicate a factor model structure that is exactly similar to what was described by the scale's developers either in terms of the number of factors or the items constituting the factors.^[45] The lack of specificity or exactness regarding the factor structure of

the BHS in both patients and nonclinical population has been previously described.^[46] In the context of patients' population, a three-factor BHS model has been advanced to be the most applicable,^[47] an observation that has been recently reported among Nigerian patients with psychiatric disorders.^[45] Because of the lack of clarity regarding the definition and construct of hopelessness in the nonclinical general population, it has been suggested that there may be a difference in the factor structure of the BHS between patients and the general population.^[48] The factor structure of the BHS may be less complicated in the nonclinical population.^[49] Similar to what was observed in this study, a number of previous authors have reported a two-factor model of the BHS in the nonclinical population. A descriptive study involving 544 undergraduate American students applying PAF with oblique rotation and CFA yielded a two-factor model consisting of 16 items (Factor 1-9 items and Factor 2-7 items), and the indices of fitness obtained with CFA were to some extent comparable to those of our model.^[50] A two-factor 11-item model of the BHS was also described in 340 Italian college students with the authors applying EFA with oblique rotation.^[48] We noted that the two-factor 9 item BHS model we observed among our family caregivers shared some similarities to the model among the Italian students, the Factor 1 in their model consisted of 5 items made of items 11, 16, 17, 19, and 20 while our Factor 2 was composed of four of these items (16, 17, 19, and 20). In addition, a two-factor BHS model consisting of 18 items with adequate indices of fitness has also been described in a Japanese community survey involving 154 adults^[49] and another model consisting of 15 items in two samples (889) of male recruits in the United State Navy.^[51] Careful examination of the entire two-factor BHS models revealed lack of similarities among them despite the satisfactory psychometric properties and indices of fitness of each model described by the different authors. It has been suggested that the lack of unanimity regarding the factor structure of the BHS in all previous studies may be attributable to factors such as diverseness in the statistical analyses (e.g., differences in model extraction techniques, application of different response formats, and the different language adaptation of the scale

Table 4: Multiple linear regressions (stepwise method) indicating the variables that predicted the Beck Hopelessness Scale scores among the family caregivers showing the percentage of the variance taken up at each step as each variable is added into the model

Model	Variables	Unstandardized coefficient		Standardized coefficient			95% CI	R ²	Adjusted R ²
		B	SE	B	t	P			
1	Constant	0.848	0.107	-	7.888	<0.001	0.636-1.060	0.410	0.408
	GHQ-12	0.374	0.028	0.641	13.502	<0.001	0.319-0.428		
2	Constant	0.913	0.107	-	8.527	<0.001	0.702-1.123	0.430	0.431
	GHQ-12	0.267	0.041	0.457	6.451	<0.001	0.185-0.343		
	MINI suicidality	0.224	0.065	0.243	3.430	<0.001	0.095-0.353		
3	Constant	1.944	0.381	-	5.097	<0.001	1.193-2.694	0.452	0.446
	GHQ-12	0.248	0.041	0.426	6.018	<0.001	0.167-0.330		
	MINI suicidality	0.204	0.065	0.221	3.145	0.002	0.076-0.332		
	GAF (patient)	-0.016	0.006	-0.138	-2.814	0.005	-0.027-(-0.005)		

GHQ: General Health Questionnaire, MINI: Mini international neuropsychiatric interview, GAF: Global Assessment of Functioning, SE: Standard error, CI: Confidence interval

in some studies).^[52] Some of the studies that examined the psychometric qualities of the BHS employed a five-point Likert scaling response format^[49,51] while others adopted the usual dichotomous response format approach.^[48,50] Demands have been made for more studies to further explore and ratify the theoretical structure of hopelessness, particularly in the general nonpatient populations,^[50] due to the dearth of research regarding the construct and applicability of the BHS in the nonclinical population.^[47] Previous authors have suggested the utility of BHS models consisting of different numbers of the scale's items, for example, 14 items,^[53] 15 items,^[51] 12 items,^[54] and even a four-items scale.^[46]

The Cronbach's alpha (0.72) of the two-factor 9-item BHS among our family caregivers was modestly acceptable. Internal consistency of a scales' items indicated by Cronbach's alpha of 0.70 and higher is generally recognized as acceptable.^[55] In addition, the item-scale correlations of the 9 items on our two-factor model (0.30–0.44) were relatively lower compared to what has been reported in association with other two factor models.^[48-50] The scale's internal consistency in studies that have examined its reliability in the nonclinical population has been described to be lower (Cronbach's alpha ranging from 0.65 to 0.85),^[50,56] compared to what has been reported among patient population (Cronbach's alpha ranging from 0.83 to 0.93).^[48,57,58]

We noted among our family caregivers that the BHS had modestly statistically significant positive correlations with their scores on the ZBI, PHQ-9, MINI suicidality module, and GHQ-12 scales. We believe that these correlations lend credence to the construct validity of the scale among our respondents. Most of the studies in developed countries that had examined the construct of hopelessness among family caregivers were focused primarily on those caring for patients with oncological disorders.^[13,14,16,59] In a cross-sectional survey of caregivers of patients with gynecological cancer in Turkey, the authors reported similar correlations between hopelessness measured with the BHS and burden.^[14] Similar correlations between the BHS and scales evaluating depressive symptoms have been reported in caregivers of patients with chronic

medical disorders.^[13,14,16] Studies among the clinical population have consistently affirmed the positive correlations between hopelessness assessed with the BHS and measures of suicidality.^[60,61] Thus, our observation of the association between the BHS and suicidality among family caregivers of Nigerian patients with psychiatric disorders is a further attestation to the BHS as a prognostic factor for suicidal ideation and attempt.^[62,63] The highest correlation we observed between the family caregivers' BHS and GHQ-12 further supports the construct validity of the scale. Family caregivers of mentally ill patients have a higher likelihood of reporting poorer subjective psychological health compared to noncaregivers.^[64] Caution needs to be exercised in generalizing our findings to family caregivers of patients in other regions of Nigeria because we recruited family caregivers from only two referral tertiary health care centers.

CONCLUSION

Our study appears to indicate the necessity to pay attention to the mental health well-being of Nigerian family caregivers of psychiatric patients.^[64] The BHS despite the ambiguity associated with its factor structure has exhibited satisfactory psychometric properties as a measure of hopelessness among our respondents.

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Conflicts of interest

There are no conflicts of interest.

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