

Research Article

Depression in Patients with Schizophrenia in a Psychiatry Hospital in Lagos, Nigeria

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Abstract

Schizophrenia is a devastating and highly disabling disorder associated with long-term consequences. Treatment is often made difficult by the presence of comorbidities like depression which when considered in management ensures good outcome. This study aimed to determine the prevalence and correlates of depression in schizophrenia. It is a two-phase study involving 320 outpatients recruited by consecutive sampling. The first phase entails confirming diagnosis with Mini International Neuropsychiatric Interview (MINI), psychotic disorder module, assessing socio-demographic characteristic and screening for depressive symptoms with the Beck Depression Inventory (BDI) by a trained assistant. In the second phase, the researcher then assesses for depressive disorder using MINI, depressive disorder module among subjects who screened positive with BDI together with 10% of those who screened negative. Over four-fifth (83.4%) of the participants were less than 50 years, they were mostly females (57.2%), of Yoruba ethnic group (59.7%), Christians (75.6%), and earn below ₦18,000 monthly or nothing (72.2%). Also, a large proportion (86.2%) had good social support. Over a third of the participants were married (38.1%) with about four-fifth of these living with their spouses. The prevalence of depressive symptoms and depressive disorder were 49.7% and 38.4% respectively. Logistic regression revealed that poor social support predicts depressive in Schizophrenia. In conclusion, Depression is common in patients with schizophrenia. Therefore, thorough evaluation of schizophrenic patients is necessary so that, co-morbid depression when present can be detected and considered in management to ensure good treatment outcome.

Keywords: Depression; Schizophrenia; MINI; Correlates; Depressive Symptoms; Depressive Disorder

Introduction

Schizophrenia is a chronic debilitating psychiatric disorder associated with long-term disability [1]. It affects about 1% of the world's population cutting across all races and cultures [2-5]. Studies have shown that Schizophrenia is often associated with other psychiatric conditions including anxiety disorders, psychoactive substance use disorder and depression [6]. In the early periods in the history of psychiatry, schizophrenia and depression were regarded as separate disorders. Historically, Kraepelin used the presence of affective symptoms to differentiate between dementia praecox and manic-depressive disorder [7,8]. However, beginning with Bleuler, the observation was repeatedly made over the years that a substantial proportion of patients diagnosed with schizophrenia manifest some sort of "depressive-like" symptoms at certain points during their clinical course [9,10]. Depression in patients with schizophrenia can either occur as a symptom or a syndrome. Several studies up till recent times have continued to confirm this relationship and have shown that depressive symptoms are frequent clinical features in patients with schizophrenia [11,12]. The Epidemiologic Catchment Area (ECA) study [13] indicated that patients with schizophrenia are twenty-nine times more likely than the general population to have a lifetime diagnosis of major depressive disorder while the National co-morbidity survey showed that 59% of patients with schizophrenia met the DSM-III (Diagnostic and Statistical Manual of Mental

Disorders 3rd edition) criteria for major depressive disorder [14]. In past studies, estimates of the prevalence of depressive symptoms in patients with schizophrenia range from 7% - 75%, with an average around 25% [15-18]. Schizophrenic patients who develop depression have been shown to have suffered more undesirable adverse life events than those who do not [19]. Studies on gender distribution of depression in patients with schizophrenia yielded conflicting results [20,21]. However studies have revealed that generally, depressive symptoms in patients with schizophrenia are generally more severe in women, while some earlier studies reported favorable outcome [22-25], several recent studies have reported negative consequences of coexistence of schizophrenia and depression [26,27]. It is associated with substantial morbidity and mortality burden, suicide, non-adherence to medication, poor response to pharmacological treatment and poor quality of life [28-31]. Owing to all these negative consequences, depression has been identified as one of the illness related risk factors in schizophrenia [32]. There is paucity of studies examining the relationship between schizophrenia and depression in Nigeria. There is also limited information on depression in Africans with schizophrenia. The few available studies were conducted mostly in South Africa and these have shown that depression is common in patients with schizophrenia. Carrying out a study on depression in patients with schizophrenia will help provide awareness about the co-morbidity in psychiatric practice and thereby improving diagnosis.

It will also provide data that could inform intervention strategies, thereby improving treatment outcome in the affected individuals.

Materials and Methods

The study was carried out at the outpatient clinic of a Neuropsychiatric Hospital. Data collection was carried out in two phases. In the first phase, 320 consecutive patients who have been diagnosed as suffering from schizophrenia and presenting for follow-up management at the out-patient clinic were recruited into the study. The purpose of the study was explained to them, they were assured of utmost confidentiality and written Informed consent was obtained from them. Their diagnosis was then confirmed using the Mini International Neuropsychiatric Interview (MINI) psychotic disorder module, which was administered by the researcher. Thereafter, the first stage of the data collection was conducted with the aid of a trained research assistant who administered the socio-demographic and clinical questionnaire as well as screening the participants for the presence of depressive symptoms with the Becks Depression Inventory (BDI) and finally pooling together all the participants who screened positive for depressive symptoms as evidenced by scoring 18 and above on the BDI and ten percent of those who scored less than 18 and therefore screened negative. The second phase was conducted by the researcher who administered the MINI International Neuropsychiatric Inventory, Depressive disorder module to all participants who screened positive to BDI together with 10% of those who screened negative in the first phase. The data collected was collated and analysed using the Statistical Package for Social Sciences (SPSS) version 16. The result was presented using frequency tables, percentages, mean and standard deviation where necessary. The prevalence of depressive disorder in the patients with schizophrenia was calculated by the weighting method described by Dunn et al., [33]. Association between categorical variables and depression was determined using chi square. The confidence interval was set at 95% and level of significance at 0.05 for statistical association.

Results

The socio-demographic and clinical variables of the respondents in the study (Table 1). A total of three hundred and twenty outpatients who were receiving treatment for schizophrenic disorder participated in the study. The age of the participants ranged from 19-68 years (mean=37.7 years; sd±11.38), majority (61.5%), being less than 40 years. One-third of the participants were in the 30-39 years age. More than half (57.2%) of them were females while 46.5% were never married. Out 122 (38.1%) of them who were married, over three-quarter (79.5%) were living with their spouses. About half of them (50.6%) were employed and 67.5% had no family history of psychiatry disorder while 72.2% of them either had no financial income or earn less than ₦18,000 monthly income. Majority (86.2%) had good social support, about a quarter (80.9%) had either tertiary or secondary school education while 15.0% had primary education and 4.1% had no formal education. The duration of illness ranged from 6 to 540 months, (mean=92.23; sd±95.43). About two-third of the patients (68.1%) had the illness for a period of 120 months or less, while about fifty-five percent (54.7%) of the patients have had one hospital admissions or more (mean=1; sd±1.34). One hundred and forty-five of the participants (45%) reported no history of hospital admission. The number of illness episodes ranged from 1 to 16

Table 1: Socio-demographic and clinical characteristic of subjects (N=320).

Variable	Frequency (n)	Percentage (%)	Mean (sd)	Range
Age				
<20	2	0.6		
20-29	89	27.8		
30-39	106	33.1	377.70 (11.3775) yrs	19-68 years
40-49	70	21.9		
50-59	35	11		
>60	18	5.6		
Sex				
Male	137	42.8		
Female	183	57.8		
Educational status				
No formal education	13	4.1		
Primary	48	15		
Secondary	138	43.1		
Tertiary	121	37.8		
Employment status				
Employed	162	50.6		
Unemployed	158	49.4		
Income (₦)				
0-17,000	231	72.2		
18,000-50,000	61	19	20,958 (66,188)	0-1,000,000
51,000-100,000	16	5		
>100,000	12	3.8		
Marital status				
Never Married	149	46.5		
Married	122	38.1		
Divorced	28	8.8		
Widowed	21	6.6		
Living with spouse (if married)				
Yes	97	79.5		
No	25	20.5		
Social support				
Yes	276	86.2		
No	44	13.8		
Family history				
Yes	104	32.5		
No	216	67.5		
Duration of illness (months)				
0-120	218	68.1		
121-240	88	27.5	92.23 (95.43)	6-540
>240	14	4.4		
No of episodes				
1	66	20.6		

2-5	199	62.2	3.55 (2.57)	
>5	55	17.2		
No of admissions				
0	145	45.3		
1-2	137	42.8	1.02 (1.34)	0-8
>2	38	11.9		

Table 2: Distribution of respondents by their beck depression inventory scores (N=320).

Depressive symptoms	Frequency (n)	Percent (%)
Beck score < 18	161	50.3
Beck score >`18	159	49.7
Total	320	100

(mean=3.55; sd±2.57). More than three-quarter of the participants 254 (79.4%) has had 2 episodes or more

Prevalence of Depression

Depressive symptoms

As shown in (Table II), the screening instrument, Beck Depression Inventory at a threshold score of 18 and above identified 159 participants (49.7%) as meeting criteria for depressive symptoms. Thus, the prevalence of depressive symptom in the study is 49.7%.

Depressive disorder

Using the weighting method described by Dunn et al, for two-phase data collection, the prevalence of depressive disorder was calculated as follows:

$$\frac{\text{Sum of product of sample weight and MINI interview status } \sum(wy)}{\text{Total number of patients}} = \frac{(1 \times 13) + (10 \times 1)}{320} = \frac{123}{320} = 38.44\%$$

Thus, the prevalence of depressive disorder is 38.4%.

Correlates of depression

According to (Table 4 and Supplementary Table), among the possible predictors entered into logistic regression, social support and educational level, only poor social support (OR=3.118, p-value=0.002, 95% CI=1.513-6.462) was found to predict depressive disorder in the patients on binomial logistic regression. The odds of developing depressive disorder is 3 times more in patients with poor social support when compared to those with good social support.

Discussion

The prevalence of depressive disorders among patients with schizophrenia in the present study is 38.4%. While this finding is in line with reports of some studies conducted in Africa and the western

world, other studies reported prevalence, which is either higher or lower than the findings of this study. Studies reporting similar findings include; two African studies conducted in South Africa and in Egypt both of which reported prevalence of 30% [34,35]. In the western countries, study by Sand and Harrow which investigated the occurrence and persistence of depression during the longitudinal course of schizophrenia reported a prevalence of 30-40% [36]. Similarly, a large multicenter study in the United States of America among patients with schizophrenia reported a prevalence of 39.4% [37] while study among Spanish patients found a prevalence of 31% [38]. Higher prevalence was reported by some studies, for example a prevalence of 54% was reported by Drake and Cotton, the same finding was also reported by the study of Babinkostova et al., [39,40]. Similarly, Cardoso et al in a longitudinal study among schizophrenic patients in Brazil reported a prevalence of 56% [41] while a study conducted in South Africa by Mosotho et al., reported a prevalence of 57% [42]. On the other hand, studies by Rajkumar, Barnes et al., and then Suttajit and his colleague that reported low prevalence rates of 15.3%, 12.9% and 16% respectively [43-45]. The observed differences in prevalence rates reported by various studies can be attributed to variations in study design and methodology. For example, most of these studies had small sample sizes and were conducted in different settings using a wide variety of diagnostic instruments to assess the patients. The finding that poor social support is a predictor of depression is consistent with findings from previous studies, Monroe et al., reported poor social support as a predictor [45], Brown et al., reported lack of confiding relationship as a predictor [46] while chang and Choi reported no familial support and infrequent visit by caretakers as predictors of depression in schizophrenia [47]. Variables including low income and number of hospital admissions were not significantly related in this study but were reported to predict depression in schizophrenia by some other studies [48,49]. This contrast can be explained on the ground of methodological differences e.g. sample size, limiting sampling to patients with chronic schizophrenia etc.

Limitations

The study population was drawn from a hospital setting which may not truly reflect the characteristics of the general population. Also, the interviewer is not blinded to the hypothesis and this may be a source of bias.

Conclusion and Recommendation

The findings of this study clearly show that depression is common in patients with schizophrenia with attendant consequences. It also showed that social support is a predictor of depression in patients with schizophrenia. Effort should therefore be made to ensure adequate evaluation of patients being managed for schizophrenia so that adequate treatment can be given to patients.

Table 3: Summary of distribution of selected becks cases and non-cases showing mini interview status and sample weight (N=320).

Subjects	No of selected patients	Sum of Becks status	Sum of interview Status $\sum(y)$	Sum of sampling Weight $\sum(w)$	Sum of interview Status & sample weight $\sum(yx)$
Becks case	159	159	113	159	113
10% of non- cases	16	0	1	161	10
Total	175	159	114	320	123

Table 4: Association between Socio-demographic variables and depressive disorder.

Variable	Frequency (n)	Depressed n(%)	Not Depressed n(%)	X ²	df	p value	OR	95% CI
Age (yrs)								
<40	197	73 (37.1%)	124 (62.9%)	0.458	1	0.29	1.177	0.891-1.270
≥ 40	123	41 (33.3%)	82 (66.7%)					
Gender								
Male	137	53 (38.7%)	84 (61.3%)	0.979	1	0.192	1.161	0.882-1.474
Female	183	61 (33.3%)	122 (66.7%)					
Education								
<Secondary	61	27 (44.3%)	34 (55.7%)	2.452	1	0.079	1.57	0.915-2.252
≥Secondary	259	87 (45.9%)	172 (54.1%)					
Employment								
Employed	162	58 (35.8%)	104 (64.2%)	0.005	1	0.52	1.016	0.787-1.251
Unemployed	158	56 (35.4%)	102 (64.6%)					
Income (₦)								
<18,000	218	80 (36.7%)	138 (63.3%)	0.343	1	0.324	1.159	0.899-1.221
≥18,000	102	34 (33.3%)	68 (66.7%)					
Living with spouse (if married)								
Yes	97	27 (27.8%)	70 (72.2%)	0.637	1	0.286	0.686	0.655-2.755
No	25	9 (36.0%)	16 (64.0%)					
Social support								
Good								
Poor	276	89 (32.2%)	187 (67.8%)	9.991	1	0.002	0.362	1.371-4.125
	44	25 (56.8%)	19 (43.2%)					
Family history								
Yes	104	42 (40.4%)	62 (59.6%)	1.522	1	0.134	1.355	0.891-1.682
No	216	72 (33.3%)	144 (66.7%)					
Illness duration								
<12 months	49	15 (30.6%)	34 (69.4%)	0.634	1	0.265	0.766	0.947-1.142
>12 months	271	99 (36.5%)	172 (63.5%)					
No of episodes								
1	66	20 (30.3%)	46 (69.7%)	1.027	1	0.193	0.74	0.949-1.187
Above 1	254	94 (37.0%)	160 (63.0%)					
No of admission								
No admission	143	54 (37.8%)	89 (62.2%)	0.515	1	0.274	1.183	0.750-1.144
≥ 1 admission	177	60 (33.9%)	117 (66.1%)					

Social support: Financial and emotional support

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