

Assessment of Predictors to Access Anti-Psychotic Medications among patients with Schizophrenia in some selected Hospitals of Jigawa State, Nigeria

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Abstract

Achieving complete remission of symptoms is rare, especially in schizophrenia and some other mental illnesses like, Bipolar Affective Disorder (BAD). Several studies have indicated that poor access to antipsychotic drugs results in non-adherence that will invariably leads to poor quality of life among schizophrenic patients.

Aim: This study aimed to assess the barriers of access to Anti-psychotic Medications among patients with Schizophrenia in some selected Hospitals of Jigawa State, Nigeria.

Methodology: A hospital based cross-sectional descriptive study design was used with a total of four hundred and thirty-six (436) schizophrenic patients receiving treatment from some selected hospitals. Participants were recruited through multi-stage sampling and questionnaire were administered. Data collected was entered, coded and analyzed using the Statistical Package for the Social Sciences (SPSS) version 22.

Result: About one third (34.1%) of the study participants have good access to, while about two third (65.9%) of the study participants have poor or no access to drugs. After anti-psychotic medications; adjusting for the confounding effects using logistic regression analysis; educational status of secondary (AOR=0.4, 95%CI=0.19-0.84) and tertiary (AOR=0.25, 95%CI=0.13-0.97), marital status of single (AOR=4.25, 95%CI=1.79-9.31), occupational status of civil servants category (AOR=0.40, 95%CI=(1.13 – 5.68), sex of male category (AOR=0.33, 95%CI= (0.11 – 0.72)) remained significant predictors of low barrier to access of anti-psychotic medications.

Conclusions: Supervised community treatment can be introduced to an individual to ensure continual acceptance of antipsychotic medication following hospital discharge and encourage community collaborative approach in the management of the schizophrenic patients. This will help to increase accessibility to drugs.

Keywords: Assessment, Anti-psychotic Medications, Barriers, Schizophrenia, Jigawa.

1. Introduction

Schizophrenia is a psychotic disorder defined by a disruption in thoughts, emotions, volitions, and capacities in the presence of clear awareness (Omranifard et al., 2022). The term "Schizophrenia" was coined by a Swiss doctor in 1908. It's a combination of the Greek terms *skhizo* (split) and *phren* (thought). For almost a century, it has been hypothesized that schizophrenia and manic-depressive disorder (bipolar disorder) are brain disorders. "Insanity, then, is inordinate or irregular, or impaired action of the mind of instincts, sentiments, intellectual, or perceptive powers, depending on and produced by an organic change in the brain," observed Dr. Browne, the best-known English psychiatrist of his day, in 1837. In the same year, one of the founders of American psychiatry, Dr. Amariah Brigham, said that insanity "is now considered a physical disorder, a disease of the brain." The exact etiology of schizophrenia is unknown. Genetics (heredity), biology (an imbalance in the chemistry of the brain), and/or probable viral infections and immunological problems are some possibilities concerning the etiology of this condition. (Olivares et al., 2013).

2. 0 Barriers to access the Drug

Over 56% of the individuals spent \$1 per day on drugs [equal to N1700 Nigerian money] (Rababa, 2013). Trifluoperazine (36.3%), Chlorpromazine (33.5%), and Haloperidol (23.1%) were the three most regularly prescribed first generation antipsychotics (Rababa, 2013). Thioridazine, Fluphenazine decanoate, or Flupenthixol decanoate (the latter two being depot formulations) were used by the remaining 7.1% (Rababa, 2013). Carbamazepine (63.1%) and Sodium Valproate (36.9%) were the sole prescription mood stabilizers for about 30% of the population (Rababa, 2013). More than 10% were using atypical antipsychotics. Olanzapine (62.3%), Risperidone (29.4%), and Clozapine (8.1%) were the most regularly prescribed serotonin dopamine antagonists (SDAs) (Rababa, 2013).

Earlier research in Brazil by Razzouk et al. (2015) showed the expense of antipsychotic polytherapy on the public health care system and hence called for sensible monotherapy. Baldessarini et al. (2008) found lower levels of adherence among patients with bipolar illness on poly-therapy, which lends some credibility to this research conclusion. To realize the aim of giving therapy to all people suffering from schizophrenia, we must first understand why patients and families do not obtain medical care (Kare M et al., 2018). Such research would highlight gaps in the health system. Several studies that examined variables influencing access to mental health care highlighted the following barriers: Stigma and discrimination (Link BG et al., 2004), an inherent belief that nothing could help, seeking help as a sign of weakness, denial, embarrassment to seek help, poor awareness, economic policies, (Michelle A et al., 2017), a lack of resources, unequal distribution of resources, insufficient facilities, poor allocation of funds, (David M., 2022), a lack of availability and accessibility of treatment (Ohaeri et al. lower socioeconomic position, limited education, underdeveloped services, and supernatural beliefs (Sharra H., 2021). While one Indian research found restricted access, insufficient understanding, and a lack of family support, and continued dependence by the family on the service provider as barriers to access of medication in patient with schizophrenia (Srinivasa M. et al., 2019).

2.1 Medication accessibility in Schizophrenic patients

Value-Based Insurance Design (V-BID), V-BID lowers barriers to high-value clinical treatments and providers while discouraging usage of lower-value services and providers, aligning consumer incentives with value. V-BID is motivated by the notion of clinical nuance, which acknowledges that: (1) medical services differ in the benefit supplied; and (2) the clinical benefit gained from a specific service is dependent on the features of the patient receiving it, who delivers it, and how it is delivered, and where the service is delivered. Plans incorporating V-BID establish lower cost-sharing on high-value services, drugs, providers, and settings as a means to increase utilization that represents worthwhile investment in health. A wide range of plan sponsors have embraced V-BID (Westrich *et al.*, 2007).

Reduce cost-sharing based on patient or disease specific characteristics to guarantee that health-care dollars are used wisely, treatments must be made available to individuals who would benefit from them. It is less important

that remedies are available to people who are unlikely to benefit. People with schizophrenia must consequently have access to psychiatric therapy, community-based mental health services, and social supports to help them recover. While we recognize that the Ontario Public Drug Program faces financial constraints that limit its ability to reimburse medications, we believe that schizophrenia is a unique illness and that certain considerations should be made when deciding whether to list a specific medication (Kazadi et al., 2008). The Canadian Psychiatric Association (CPA) agrees, stating in its Clinical Practice Guidelines for the Treatment of Schizophrenia that "pharmacotherapy with antipsychotic medications is an essential component of a treatment plan for the majority of patients with schizophrenia." Unlike a few decades earlier, individuals with serious mental illness no longer spend their lives in institutions. The process of deinstitutionalization has required that a network of services and supports be provided in the community. While community-based mental health treatments and social supports such as money and housing are critical, the efficacy of these interventions is connected to the psychiatric stability of many persons with major mental illness. Indeed, according to the CPA's Clinical Practice Guidelines, "psychosocial interventions work synergistically with medication to optimize treatment adherence and successful community living." This showed that, among other things, adequate access to medicine in the community might potentially reduce hospital admission rates and associated expenditures. Recurrence is prevalent in schizophrenia, and the majority of people living with the condition will require longer-term therapy since recurrence is linked with considerable personal expenses. This emphasizes the importance of having access to pharmaceuticals throughout one's life. Because various drugs affect people differently, they require a variety of alternatives. In its Clinical Practice Guidelines for the Treatment of Schizophrenia, the CPA states unequivocally that "medications must be individualized because individual response is highly variable" and that "the choice of medication should be guided by individual patient factors." This is an experience shared by many of the individuals and families with whom our organization works (Kazadi et al., 2018).

3. Materials and Methods

A hospital-based cross-sectional descriptive design with a total of 436 schizophrenic patients who were receiving treatment in some selected hospitals were recruited for the study. This was accomplished using a multi-stage sampling approach as follows:

Stage I: Selection of the facilities: - simple random sampling was used to select one health facility each from each of the emirate. The hospitals were as follows:

- I. Gumel General Hospital
- II. Hadejia General Hospital
- III. Ringim General Hospital
- IV. Psychiatric Hospital Kazaure
- V. Federal Medical Centre Birnin-kudu and Rasheed Shakoni Specialist Hospital

Stage II: Selection of study participants (Schizophrenic patients) with the aid of simple random sampling from the above hospitals.

Data was collected using an interviewer-administered questionnaire after obtaining an informed consent. Adequate explanation regarding the study was given, confidentiality was also guaranteed.

The outcome variable measured was prevalence and some selected determinants of Barriers/Accessibility to antipsychotics medication among the study participants. All the data generated from the study was analyzed using SPSS version 22. Chi-square test was used to determine significant association between categorical variables. A P-value of ≤ 0.05 was considered significant. Logistic regression analysis was also conducted..

Ethical clearance:

Ethical clearance was obtained from the ethical committee of Jigawa State Ministry of Health and Ahmadu Bello University Zaria before commencement of the study. The provisions of the HELSINKI declaration were respected.

4.0 Results:

Table 1: Socio-demographic characteristics

Variables	Frequency	Percent (%)	Cumulative Percent
Age range			
11-50	387	97.0	97.0
51-90	12	3.0	100.0
Total	399	100.0	
Educational status			
Non formal	42	11.4	11.4
Primary	27	7.3	18.8
Secondary	115	31.3	50.0
Tertiary	184	50.0	100.0
Total	368	100.0	
Sex			
Male	182	49.7	49.7
Female	184	50.3	100.0
Total	366	100.0	
Ethnic group			
Hausa	246	63.9	63.9
Fulani	105	27.3	91.2
Others	34	8.8	100.0
Total	385	100.0	
Religion			
Islam	309	81.1	81.1
Christianity	68	17.8	99.0
Others	4	1.0	100.0
Total	381	100.0	
Occupation			
Farmer	55	14.8	14.8
Civil servant	182	48.9	63.7
Self-employed	55	14.8	78.5
Student	46	12.4	90.9
Business	34	9.1	100.0
Total	372	100.0	
Marital status			
Single	128	34.2	34.2
Married	215	57.5	91.7
Divorced	22	5.9	97.6
Widowed	9	2.4	100.0
Total	374	100.0	

A total of 405 patients with age range from 11 to 90 years old, with a mean age of 32.0 years out of which 97.0% of the patients were between the ages of 11 and 50. About half (50.00%) of the study participants had a tertiary education. There are about equal number of both males and females with sex ratio almost equal to 1:1. About two-third of the study participants were Hausas (63.9%). Civil servants (48.9%) nearly constituted about half of the study populations, while more than half of the study participants were married.

Table 2: Medical History of the Patients

Variables	Frequency	Percent (%)	Cumulative Percent
Range Duration			
0-17	343	97.4	97.4
18-34	9	2.6	100.0
Total	352	100.0	
Contacts with the Care system			
Psychiatrist	213	54.2	54.2
Health care provider	130	33.1	87.3
Psychiatric nurse	45	11.5	98.7
Others	5	1.3	100.0
Total	393	100.0	
Admitted in Hospital			
Yes	294	74.4	74.4
No	101	25.6	100.0
Total	395	100.0	
Which Health Facilities?			
Psychiatric hospital	233	80.1	80.1
Social services	21	7.2	87.3
Day Centre	15	5.2	92.4
Support Centre	15	5.2	97.6
Others	7	2.4	100.0
Total	291	100.0	
Member of family with similar condition?			
Yes	259	65.1	65.1
No	139	34.9	100.0
Total	398	100.0	
Family member with Schizophrenia			
Grandfather	44	17.1	17.1
Grandmother	79	30.6	47.7
Father	51	19.8	67.4
Mother	66	25.6	93.0
Others	18	7.0	100.0
Total	258	100.0	

Patients contacted care systems such as psychiatrists, health care providers, psychiatric nurses, and others in proportions of 54.2%, 33.1%, 11.5%, and 1.3%, respectively. Only about three-quarter (74.4%) of the study participants were ever admitted to the hospital. Patients were admitted to psychiatric hospitals, social services, day centers, support centers, and other facilities in proportions of 80.1%, 7.2%, 5.2%, 5.2%, and 2.4%, respectively. 65.1% of patients said their family relatives had a comparable ailment, while 34.9% said their family members do not have a similar disease.

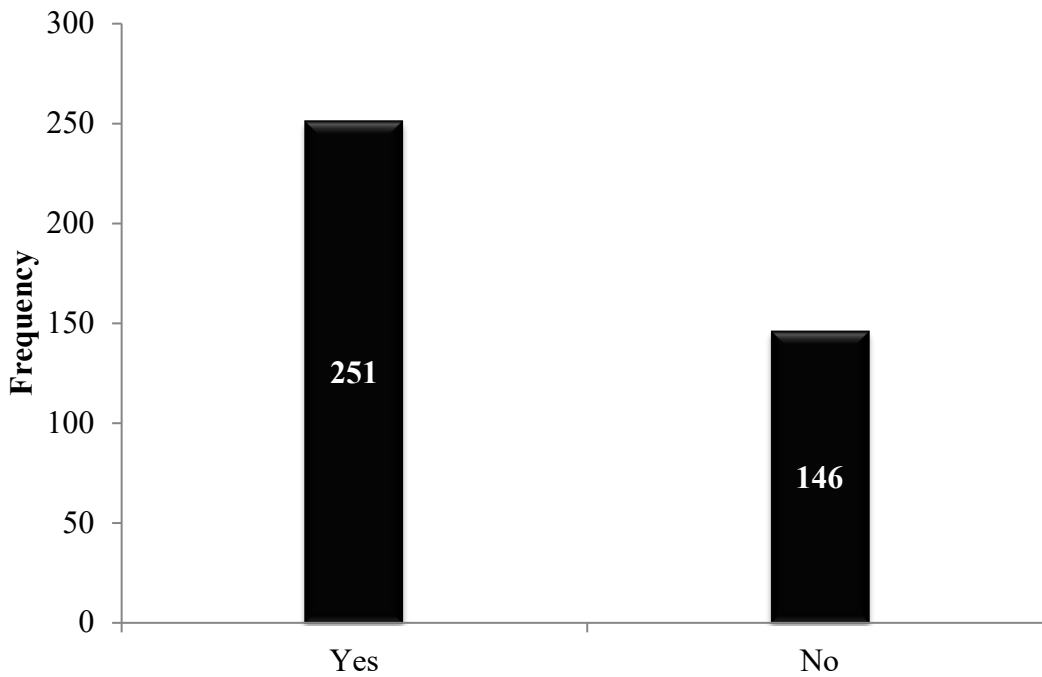


Fig 1: Barriers to Access the Medications

Fig 1: showed that 251 of the patients corresponding to 63.20% indicated that they have barriers to access their drugs while 146 of the patients corresponding to 36.80% indicated that they have no barrier to access their anti-psychotic medications.

Table 3: Barriers to Access the Anti- Psychotic Medications among patients with the schizophrenic

S/N	Variables	Always N (%)	Sometimes N (%)	Never N (%)	Total (%)
1	Presence of any source of income	100(25.1)	102(25.6)	197(49.4)	399 (91.5)
2	Daily income less than \$ 1 (N400)	200(66.2)	64(21.2)	38(12.6)	
3	Financial difficulties	105(26.3)	96(24.1)	198(49.6)	
4	Communication difficulties	299(74.9)	40(10.0)	50(15.1)	
5	Side Effects of the drugs	198(49.6)	85(21.3)	116(29.1)	
6	No improvement of Symptoms	201(50.4)	100(25.1)	98(24.6)	
7	High cost of drugs	133(33.3)	66(16.5)	200(50.1)	
8	Stigmatization by the community members because I'm on drugs	160(40.0)	123(30.8)	116(29.1)	
9	Believed the disease is from God so it requires no medications	205(51.4)	82(20.6)	112(28.1)	
10	Size and combination of the drugs are discomforting	100(25.1)	102(25.6)	197(49.4)	
11	Insufficient or lack of family care	305(76.4)	25(6.3)	69(17.30)	

From the results in the table above, about three quarters of the study participants have indicated the main barriers as insufficient or lack of family care (76.4%) and communication difficulties (74.9%), to access of anti-psychotic medications. In more than half of the study participants, daily income of less than S1, side effects of drugs, no improvement of symptoms and believe that the disease was from God so it requires no medication were reported as barriers to access of drugs. While, about one quarter to one third of the study participants indicated financial

difficulties, high cost of drugs, size and combination of the drugs were the cause of barrier to access of treatment among the study participants. These data revealed that social and economic factors constituted the major barriers to psycho-pharmacological interventions in schizophrenic patients under study.

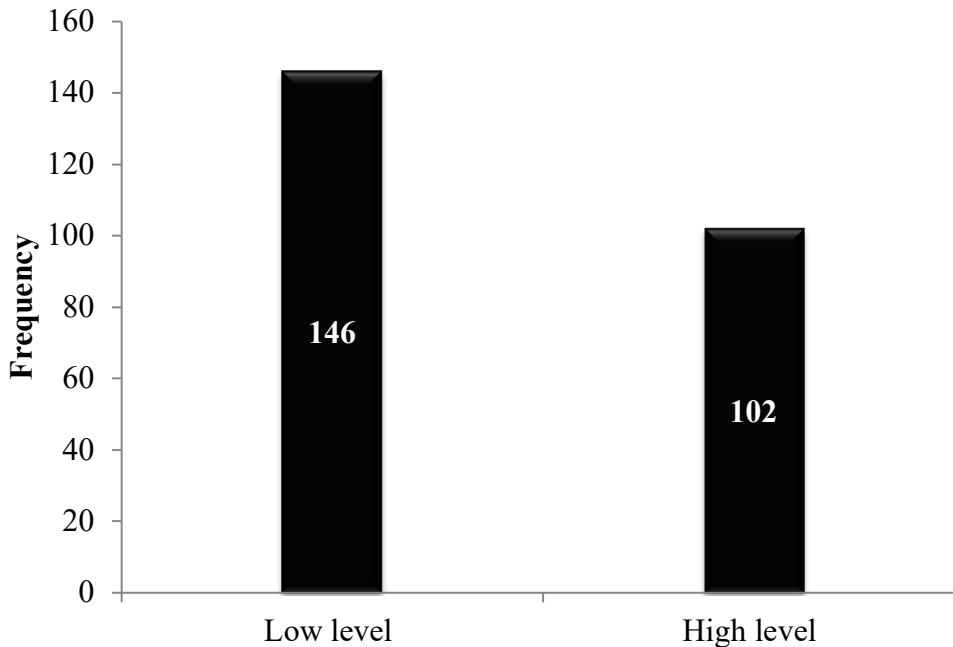


Fig 2: Level of barrier to Anti- psychotic medications accessibility

Fig. 2: The result above showed that 146 respondents corresponding to 58.9% of the patients have low level of barrier to drugs accessibility while 102 respondents corresponding to 41.1% of the patients have higher level of barrier to drugs accessibility as shown in figure 4.2.

Table 5: Anti-psychotic medications accessibility

S/N	Variable	Yes (%)	No F (%)	Total F (%)
1	Access to medications	338(91.40)	32(8.60)	370(100)
2	Availability of drugs in the health facility	331(88.30)	44(11.70)	375(100)
3	Affordability of drugs	259(69.80)	112(30.20)	371(100)
4	Availability of health insurance plan	94(25.30)	278(74.70)	372(100)
5	Health insurance scheme help me to collect the drugs	101(27.20)	270(72.80)	371(100)
6	Access to drugs	116(31.50)	252(68.50)	368(100)
7	Out of pocket payment outside the health facility	155(42.00)	214(58.00)	369(100)
8	Buying drugs by oneself	278(75.30)	91(24.70)	369(100)
9	Access to community based mental health services	101(27.50)	266(72.50)	367(100)
10	Community based assistance on your illness/ medications	77(20.50)	298(79.50)	375(100)

From the result, 91.40% of the patients have access to their medications while 88.30% of the patients indicated that drugs were available in health facility. 69.80% of the patients said they can afford the drugs while, 25.30% and

27.20% of the patients respectively indicated that they were on health insurance and assisted by health insurance to collect the drugs. Only 31.50% of the patients have access to health facility, and about 42.00% of the patients indicated that they bought the drugs out of health facility. 75.30% of the patients said they bought the drugs by themselves while the remaining 24.70% of the patients said they don't buy the anti-psychotic medications by themselves. While 27.50% and 20.50% of the patients respectively indicated that they received community base mental health services and assistance on their illness/medications, 72.50% and 79.50% of the patients respectively indicated that they don't receive community base mental health services and assistance on their illness/medications as shown in table above.

Table 6: Assessment of the level of barriers to access anti-psychotic medications among the schizophrenic patients

Barriers to access of drugs	Frequency	Percentage (%)
High level	201	50.4
Low level	198	49.6
Total	399	

Table above Showed that 201 (50.4%) of the study participants reported high level barrier to access of drugs, while only 198 (49.6%) have low level of barrier to access.

Table 7: Bivariate analysis of relationship between socio-demographic variables and barriers to drug access of drug treatment the schizophrenic patients

Variables	Barriers to access of drugs		X ²	P-value
	High level	Low level		
Age range	70	62	5.99	>0.05
20 – 29	40	60		
30 – 39	35	27		
40 – 49	30	27		
50 – 59	26	22		
60 – 69				
Non formal education	29	86	59.21	<0.05*
Primary	21	37		
Secondary	120	64		
Tertiary	31	11		
Male	151	64	71.82	<0.05*
Female	50	134		
Ethnic group				
Hausa	120	126	5.65	>0.05
Fulani	62	43		
Others	19	29		
Religion				
Islam	168	163	0.11	>0.05
Christianity	33	35		
Occupation				
Farmers	120	69	31.56	<0.05*
Civil servants	34	36		
Housewives	23	32		

Student	12	34	
Business	12	27	
Marital status			
Single	48	105	<0.05*
Married	144	80	
Divorced	9	13	

*Statistically significant difference

There was a statistically significant association between barrier to access & educational status, marital status, sex and occupational status as outlined in Table 7 above. This suggested that the more a patient is educated, the more likely he/she can have access to drugs. Occupational status of farming also has low level of barrier to access of drugs. All this difference was found to be statistically significant i.e. $p < 0.05$.

Table 8: Multivariate (Logistic Regression) analysis of predictors of barriers to access of drugs treatment among schizophrenic patients

Predictors	Crude OR (95% CI)	Adjusted OR (95% CI)	p-value
Educational status			
Non-formal	Referent		
Primary	0.50 (0.18 – 1.37)	0.62 (0.21 – 2.23)	>0.05
Secondary	0.22 (0.06 – 0.74)	0.40 (0.19 – 0.84)	<0.05*
Tertiary	0.47 (0.10 – 2.02)	0.25 (0.13 – 0.97)	<0.05*
Marital status			
Married	Referent		
Single	2.29 (0.81 – 6.61)	4.25 (1.79 – 9.31)	<0.05*
Divorced	4.46 (1.01 – 18.65)	5.76 (1.23 – 11.19)	>0.05
Occupational status			
Farmers	Referent		
Civil servants	0.66 (0.32 – 2.98)	0.40 (1.13 – 5.68)	<0.05*
House wives	0.75 (0.48 – 15.77)	0.60 (0.71 – 13.99)	>0.05
Business	3.16 (0.93 – 10.73)	2.86 (0.99 – 12.56)	>0.05
Students	7.64 (1.79 – 32.48)	6.11 (0.53 – 41.97)	>0.05
Sex			
Male	Referent		
Female	0.21 (0.09 – 0.45)	0.33 (0.11 – 0.72)	<0.05*

*Statistically significant difference

After adjusting for the confounding effects using logistic regression analysis; educational status of secondary (AOR=0.4, 95%CI=0.19-0.84) and tertiary (AOR=0.25, 95%CI=0.13-0.97), marital status of single (AOR=4.25, 95%CI=1.79-9.31), occupational status of civil servants category (AOR=0.40, 95%CI=(1.13 – 5.68), sex of male category (AOR=0.33, 95%CI= (0.11 – 0.72)) remained significant predictors of low barrier to access of drugs among the study participants.

Table 9: Assessment of the level of drugs accessibility among the schizophrenic patients

Drug access	Frequency	Percentage (%)
Good	136	34.1
Poor	263	65.9
Total	399	

Table above Showed that about one third (34.1%) of the study participants have good access to drugs, while about two third (65.9%) of the study participants have poor or no access to drugs.

5.0 Discussion:

Although complete symptom remission is uncommon, particularly in schizophrenia and some other mental illnesses such as bipolar affective disorder (BAD), health professionals must make a concerted effort to address the challenges of adherence and drug accessibility in order to improve treatment outcomes. Several studies have found that insufficient access to antipsychotic medications leads to non-adherence, which in turn leads to low quality of life in schizophrenia patients.(Fendrick, Buxbaum, Hsa, & Westrich, 2014; Kazadi et al., 2008). The factors used to determine drugs availability in this study includes access to medications, availability of medication in the health facility, affordability of drugs, enrolment into NHIS, person responsible for buying drugs, participation in community mental health programme and whether patients have ever received community assistance or not. It was found out that about one third of the study participants had good access to drugs, while two third had poor access to drugs.

In terms of medication cost, the higher the cost of the medicine per day, the greater the number of patients with limited access to pharmaceuticals for the treatment of schizophrenia, which usually leads to medication non-adherence. This might be because, in this study, a substantial number of participants (50.6%) experienced financial issues with treatment and only around 10% had tertiary educational status, showing that most patients with schizophrenia come from a poor socioeconomic background. This means that there are limited financial resources available to support treatment, particularly when healthcare spending is primarily out-of-pocket in the absence of a comprehensive health insurance program in a resource-poor context like ours.

In terms of Medical History of a Patients that are able to contact the Health care systems such as psychiatrists, health care providers, psychiatric nurses, and others in proportions of 54.2%, 33.1%, 11.5%, and 1.3%, respectively. Only about three-quarter (74.4%) of the study participants were ever admitted to the hospital. Patients were admitted to psychiatric hospitals, social services, day centers, support centers, and other facilities in proportions of 80.1%, 7.2%, 5.2%, 5.2%, and 2.4%, respectively. 65.1% of patients said their family relatives had a comparable ailment which may possibly link to genetic or it runs in their family, while 34.9% said their family members do not have a similar disease.

On bivariate analysis, there was no relationship between drug accessibility and the patients' age, gender, ethnicity, religion, or occupational status; however, there was a positive or direct relationship between drug accessibility and marital status and educational status. This might be because married couples are more inclined to look after their spouses than single or divorced people. It is also considered that persons with greater educational qualifications are more likely to be aware of the consequences of noncompliance with pharmacological therapy in schizophrenia.

Several variables that function as obstacles to or restrict access to therapy were discovered in this study. On an average, each patient and family had at least one of the factors that causes barrier to drug treatment. On Barriers to Access the Anti- Psychotic Medications among patients with the schizophrenic, the factors identified in the research include source of income with at least daily income of one dollar, financial difficulties, communication difficulties, side effects of the drugs, no improvement of symptoms, high cost of drugs, stigmatization by community members, believe that the diseases is from God so it requires no medication, size and combination of the drugs are discomfoting and insufficient or lack of family care. Thus, a complex and dynamic interplay of several factors rather than any single factor determined barrier to access of drugs care among patients with schizophrenia undergoing treatment in the study area. On Anti-psychotic medications accessibility among the results, 91.40% of the patients have access to their medications while 88.30% of the patients indicated that drugs were available in health facility. 69.80% of the patients said they can afford the drugs while, 25.30% and 27.20% of the patients respectively indicated that they were on health insurance and assisted by health insurance to collect the drugs. Only 31.50% of the patients have access to health facility, and about 42.00% of the patients indicated that they bought the drugs out of health facility. 75.30% of the patients said they bought the drugs by themselves while the remaining 24.70% of the patients said they don't buy the anti-psychotic medications by themselves. While 27.50% and 20.50% of the patients respectively indicated that they received community base mental health services and assistance on

their illness/medications, 72.50% and 79.50% of the patients respectively indicated that they don't receive community base mental health services and assistance on their illness/medications (Chesney, 2000; Hauber et al., 2013).

According to the findings, over three-quarters of the survey participants cited communication issues, inadequate or absence of family care as a barrier to accessing medications for treatment. A daily income of less than one dollar, medicine side effects, no improvement in symptoms, and belief that the condition is from God hence no medication is the source of the barrier to drug access in around half of the research participants. While one-quarter to one-third of the study participants said that financial issues, high drug costs, drug size and combination were the causes of barriers to treatment access among the study participants.

There was a statistically significant relationship between access barrier and educational status, marital status, gender, and job status. The more educated you are, the more likely you are to have a low barrier to drug access, and married research participants were more likely to have a low degree of barrier to drug use. Farming occupational classifications also have a low degree of medication access barrier. All of these differences were determined to be statistically significant ($p < 0.05$).

The socio-demographic characteristics shows a total of 405 patients with age range from 11 to 90 years old, with a mean age of 32.0 years out of which 97.0% of the patients were between the ages of 11 and 50. About half (50.00%) of the study participants had a tertiary education. There are about equal number of both males and females with sex ratio almost equal to 1:1. About two-third of the study participants were Hausas (63.9%). Civil servants (48.9%) nearly constituted about half of the study populations, while more than half of the study participants were married.

After adjusting for confounding effects with logistic regression analysis, secondary and tertiary educational status, single marital status, civil servant occupational status, and male gender remained significant predictors of low barrier to drug access among study participants.

5.1 Summary:

A cross-sectional study design was used, using an interviewer-administered questionnaire. A sample size of four hundred and thirty-six (436) was distributed among those who accepted and signed consent for the study, with three hundred and ninety-nine (399) being thoroughly analysed. SPSS version 22 was used to code and analyse the data.

1. Educational status of secondary and tertiary, marital status of single, occupational status of civil servants' category, sex of male category remained significant predictors of low barrier to access of drugs among the participants.
2. It also revealed that, about two third of the study participants had poor access to drugs for treatment of schizophrenia among the study participants, with only marital and educational status having direct association with low access to drugs.
3. The level of drug adherence was 47.1 % and that of non-adherence was 52.9% among the study participants. The cost of treatment of more than one thousand naira per day and side effects were found to be predictors of non-adherence to drug treatments.

5.2 Conclusions:

Treatment type (ECT/combination of ECT and medications) was shown to be a negative predictor of low adherence to treatment among schizophrenia patients, whereas treatment cost above 1,700 naira and the occurrence of side effects were found to be positive predictors of low adherence to treatment. Secondary and tertiary education, marital status, treatment cost, non-smoking, drug and substance misuse remained important predictors of excellent quality of life among study participants.

5.3 Recommendations:

Based on the findings of the study, the following were recommended:

- i. Supervised community treatment can be introduced to an individual to ensure continual acceptance of antipsychotic medication following hospital discharge and encourage community collaborative approach in the management of the schizophrenic patients. This will help to increase accessibility to drugs.
- ii. Government and psychiatric health workers should introduce the means of improvement in service delivery for schizophrenic patients and their relatives, especially health education sessions on the importance of medication adherence and follow up.
- iii. Government and other relevant stakeholders should introduce a modified behavioural change communication techniques and procedures that will help schizophrenic patients to stop or decrease the level of drug abuse and smoking: this will invariably improve the quality of life of those schizophrenic patients who are involved in drug abuse and smoking.
- iv. Community mental health financing programme can be introduced in order to subsidize the cost of treatment for schizophrenic patients: this will increase drug accessibility and improve adherence to treatment among the schizophrenic patients.
- v. Drugs with low side effects that are also cost-effective should be introduced in the protocol of treatment of schizophrenic patients.

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