Comparison of the Profile of Patients With Acute and Transient Psychotic Disorder and Schizophrenia in a Nigerian Teaching Hospital

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Acute and transient psychotic disorders (ATPD) are different from schizophrenia; however, very little research has been done on this disorder in low-income countries, where the incidence is as high as 10 times the incidence in the more developed countries. The authors sought to identify/characterize the sociodemographic and clinical differences between the two disorders by performing a retrospective review of the records of patients with untreated first episode of ATPD and schizophrenia seen at the University College Hospital, Ibadan, between January 1, 2006 and December 31, 2010, extracting sociodemographic and clinical data. A group of 243 patients with schizophrenia and 124 subjects with ATPD met the inclusion criteria. Patients with ATPD were more likely to present below the age of 25 years. Excitement was more common in ATPD than in schizophrenia; suspiciousness was more common in subjects with schizophrenia than ATPD. Also, anxiety and uncooperativeness were significantly more likely to occur in ATPD. Poor orientation, disturbance of volition, and preoccupation were more common in schizophrenia. The mean age at onset was similar between patients with schizophrenia and ATPD. In keeping with findings in Europe and North America, there are clinical and sociodemographic differences between ATPD and schizophrenia; however, a different set of features differentiate between the two conditions in Nigerians.

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Acute and transient psychotic disorders (ATPD) are clinically different from schizophrenia; however, very little research has been done on this disorder in low-income countries, where the magnitude is 10 times higher than the in more-developed countries.[1] The ATPDs tend to be brief and recurrent,[2] whereas schizophrenia is typically chronic and can be recurrent. However, their clinical features are frequently indistinguishable when they present acutely for the first time.

The ATPDs and schizophrenia contribute significantly to the global burden of disease,[3] even though they are relatively rare. Lifetime prevalence of psychotic disorders in Finland is about 3.5%,[4] whereas the incidence in England is 34.8 per 100,000 person-years.[5] Schizophrenia is one of the severe mental disorders. It has a substantial burden. Measured in DALYs in the 2004 WHO Global Burden of Disease report,[6] neuropsychiatric conditions accounted for 13.1% of the global burden of diseases. Schizophrenia alone accounted for 1.1%. Similarly, in ATPDs, the risk of harm to self and others increases with each episode of the disorder.[7,8] Consequently, in patients with either condition, there is an excess mortality risk compared with that of the general population. This excess morbidity and mortality risks become particularly more striking for patients with ATPD in a developing country like Nigeria, where studies show that the prevalence of ATPD could be 10 times higher than in developed countries.[9] There is a need to differentiate between the two conditions, first, to avoid the stigmatization associated with schizophrenia, and, second, to enable physicians to make a correct diagnosis. The duration of follow-up treatment is also a reason to be

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able to differentiate between both conditions. Whereas schizophrenia requires long-term treatment, the ATPDs require a shorter duration of treatment. Thus, it would be beneficial to both the patient and healthcare provider to distinguish between the two disorders in a low-resource setting like Nigeria.

Accordingly, the aim of this study is to identify sociodemographic and clinical features that differentiate between patients with ATPD and patients with schizophrenia apart from the ICD-10 criteria.

METHODS

Study Setting

The study area was the Psychiatry Unit of the University College Hospital (UCH), Ibadan, Nigeria. UCH is an 812-bed teaching hospital located in Ibadan, southwest Nigeria. The estimated population of Southwest Nigeria is about 28 million.[10] The hospital receives referrals specifically from health facilities in the South West geopolitical zone of Nigeria and frequently from all geopolitical zones of the country. The Department of Psychiatry is one of the major specialties in the hospital. The inpatient facility in the department has two wards, operated as a male and female ward, and equipped with 64 beds, equally distributed between the two wards. The department has 9 consultants, 17 resident doctors, and 32 nurses that run the activities. The Section of Medical Records in the Department of Psychiatry classifies all the psychiatry cases on the basis of ICD−10 criteria. Data of all the patients who were admitted in the ward or seen in the outpatient clinics of the department during this period were collected. Only case records reviewed by a consultant psychiatrist were included in the study.

Study Design

This was a comparative study. It was also a case series in which we carried out a review of case notes of patients with a first episode of schizophrenia and ATPD. All consecutive patients who met the ICD−10 criteria for ATPD or ICD−10 criteria for schizophrenia during this period were recruited into the study.

The study population consisted of new (first-episode) and untreated patients, ages between 18 and 65 years, seen during the period from January 1, 2006, to December 31, 2010.

Exclusion criteria were the following: 1) all cases with incomplete records or missing key variables; and 2) patients who had previous antipsychotic treatment before presenting at the hospital.

The sample size was calculated to ensure that the number of case records reviewed was adequate to make valid inferences. Adjusting for a nonresponse rate of 10%, minimum sample size was 73.

Using case record forms, sociodemographic and clinical data were extracted from the case notes of the patients. The case record form collected data on age at first episode, sex, marital status at presentation, employment status, family history, and psychopathology at presentation. Sociodemographic data were extracted by two research assistants after 3 weeks of training by the principal investigator. The clinical data were extracted by the principal investigator. Data were collected over a period of 10 weeks, from February 1 to April 14, 2012.

Data Management and Analysis

Data cleaning and coding were done daily by the principal investigator. Data entry and analysis were done using the Statistical Package for the Social Sciences (SPSS), Version 16. Descriptive statistics such as means and standard deviations (SD) were used to summarize quantitative variables such as age at onset, and frequencies and proportions were used for qualitative variables. Psychopathology was grouped according to the 30-item subscales in the Positive and Negative Syndrome Scale for schizophrenia (PANSS). Chi-square test and Student *t*-test were used to test for significance between qualitative variables and differences between means, respectively. Logistic regression was used to identify independent factors associated with schizophrenia and ATPD.

RESULTS

Between January 1, 2006, and December 31, 2011, 2,604 new patients, ages between 18 and 65 years, were seen at the clinic. However, only 243 subjects with schizophrenia and 124 subjects with ATPD met the inclusion criteria and were recruited into the study. This represented 9.3% and 4.8% of the number of new patients that were seen at the department, respectively, that is, proportional morbidity rate for schizophrenia and ATPD, respectively.

Sociodemographic Characteristics

Table 1 describes the sociodemographic characteristics of the subjects with ATPD and schizophrenia, respectively.

TABLE 1. Comparison of the Sociodemographic Characteristics of Subjects With Untreated First Episode of Acute and Transient Psychotic Disorder (ATPD) and Schizophrenia Seen at the University College Hospital, Ibadan, between January 2006 and December 2010

Variable	Dependent Variable (% with diagnosis)		χ^2	p
	ATPD, N (%)	Schizophrenia, N (%)		
Age at presentation, years				
<20	9 (7.3)	11 (4.5)	13.94	<0.01*
20–29	71 (57.3)	116 (47.7)		
30–39	19 (15.3)	80 (32.9)		
40–49	20 (16.1)	26 (10.7)		
≥50	5 (4.0)	10 (4.1)		
Gender				
Male	61 (50.8)	125 (51.4)	0.01	NS
Female	63 (33.8)	118 (48.6)		
Occupation				
Skilled	35 (29.70)	51 (25.40)	16.41	<0.01*
Semiskilled	22 (18.60)	51 (25.00)		
Unskilled	12 (10.20)	12 (6.00)		
Unemployed	5 (4.20)	34 (16.90)		
Student	44 (37.30)	53 (26.40)		
Level of education				
No formal education	5 (4.00)	6 (2.60)	5.91	NS
Primary	17 (13.70)	28 (11.90)		
Secondary	55 (44.40)	81 (34.50)		
Tertiary	47 (37.90)	120 (51.10)		
Marital status				
Single	73 (58.90)	150 (61.70)	10.67	<0.01*
Married	46 (37.90)	64 (26.30)		
Divorced/widowed/separated	5 (3.20)	29 (11.90)		
Religion				
Christian	94 (75.80)	185 (77.74)	0.12	NS
Islam	30 (24.20)	54 (22.60)		

A significantly higher proportion of subjects who had ATPD (46.8%) presented below the age of 25 years, as compared with those who had schizophrenia (30.0%; p <0.01). There was a significant association between occupation and diagnosis (p <0.01). A significantly higher proportion of subjects with schizophrenia (16.9%) were unemployed, as compared with patients with ATPD (4.2%; p <0.01) There was also a significant association between marital status and diagnosis (p <0.01).

Table 2 shows the comparison of means. The mean age at presentation for the ATPD and Schizophrenia groups were 29.5 (SD: 9.6) and 30.8 (SD: 8.8), respectively (NS). There was no significant difference in the age at onset between ATPD and schizophrenia in men: 29.61 versus 31.75 (NS) or in women: 29.38 versus 26.96 (p=0.06). The mean age at onset for the subjects with ATPD was 29.5 (SD: 9.6) years, whereas, for the schizophrenia subjects, it was 29.3 (SD: 8.7; NS).

Clinical Characteristics

Table 3 shows the distribution of symptoms in both groups. In both groups, a majority showed delusions and conceptual disorganization as part of the presenting symptoms. A significantly higher proportion of subjects with schizophrenia showed excitement (17.7%) as part of the presenting symptoms than did subjects with ATPD (1.2%; p <0.01). Grandiosity was present in 12.1% of the subjects with ATPD, versus 6.6% of subjects with schizophrenia. Suspiciousness was three times more common in the patients with schizophrenia (20.2%) than in the patients with ATPD (6.5%; p <0.01). Table 3 also shows that patients with ATPD presented more commonly (35.5%; N=44) with symptoms of anxiety than did patients with schizophrenia (22.6%; N=55); this difference was significant (p=0.01). Also, patients with schizophrenia presented more commonly with disturbance of volition (20.2%) than patients with ATPD (8.1%; p <0.01).

Factors That Independently Predict Schizophrenia

Table 4 shows the factors that were independently predictive of schizophrenia as determined by logistic regression. Subjects over age 25 years were about three times more likely to have schizophrenia than those below the age of 25. This finding was statistically significant

TABLE 2. Comparison of Means Between Subjects With Untreated First Episode of ATPD and First Episode of Schizophrenia Seen at the University College Hospital, Ibadan, Between January 2006 and December 2010

Variable, years	ATPD, mean (SD)	Schizophrenia, mean (SD)	t-test	p
Age at presentation	29.50 (9.60)	30.9 (8.80)	–1.29	NS
Age at onset, all	29.50 (9.60)	29.3 (8.70)	0.21	NS
Age at onset, men	29.61 (9.46)	31.75 (9.16)	–1.47	NS
Age at onset, women	29.38 (9.79)	26.96 (7.57)	1.87	0.06
Numbers of years of education	11.50 (4.40)	12.0 (4.80)	–1.04	NS

SD: standard deviation.

TABLE 3. Comparison of General and Psychotic Symptoms Between Subjects With Untreated First Episode of ATPD and Schizophrenia Seen at the University College Hospital, Ibadan, Between January 2006 and December 2010

General Symptoms	ATPD (%)	Schizophrenia (%)	χ^2	p
Somatic concern	12 (9.7)	19 (7.8)	0.37	NS
Anxiety	44 (35.5)	55 (22.6)	6.88	0.01*
Tension	19 (15.3)	22 (9.1)	3.25	0.07
Depression	11 (8.9)	31 (12.8)	1.22	NS
Uncooperativeness	18 (14.5)	17 (7.0)	5.38	0.02*
Unusual thought content	9 (7.3)	31 (12.8)	10.90	NS
Disorientation	13 (10.5)	49 (20.2)	5.48	NS
Poor attention	59 (16.1)	79 (21.5)	7.94	0.01*
Lack of judgment and insight	79 (63.7)	171 (70.4)	1.68	NS
Disturbance of volition	10 (8.1)	49 (20.2)	8.91	<0.01*
Poor impulse-control	42 (33.9)	113 (46.5)	5.37	NS
Preoccupation	23 (18.5)	80 (32.9)	8.40	<0.01*
Active social avoidance	3 (2.4)	7 (2.9)	0.66	NS
Delusions	77 (62.10)	156 (64.20)	0.16	NS
Conceptual disorganization	82 (66.10)	142 (58.40)	2.04	NS
Hallucinatory behavior	61 (49.20)	124 (51.00)	0.11	NS
Excitement	22 (17.70)	3 (1.20)	35.24	<0.01*
Grandiosity	15 (12.10)	16 (6.60)	3.23	0.07
Suspiciousness	8 (6.50)	49 (20.20)	11.77	<0.01*
Hostility	44 (35.50)	93 (38.30)	0.27	NS

(p=0.02). With regard to the psychopathology of schizophrenia, subjects with suspiciousness, emotional withdrawal, and preoccupation were more likely to have a diagnosis of schizophrenia than those without.

Factors That Independently Predict ATPD

Table 5 shows the factors that are independently predictive of ATPD as determined by logistic regression. Subjects over age 25 years were about three times less likely to have ATPD than those below the age of 25. This was statistically significant (p=0.02). There was a significant relationship between occupational status and ATPD. Subjects who had semi-skilled occupations were half as likely to have ATPD as those who were engaged in a skilled occupation. Subjects who were unemployed were four times less likely to have ATPD than those who had skilled employment. With regard to the psychopathology, subjects who showed excitement and poor attention were more likely to have ATPD than those who did not have such symptoms. Similarly, subjects who were suspicious, had blunted affect, passive social withdrawal, or who had preoccupations were less likely to have a diagnosis of ATPD than those who did not have such symptoms.

DISCUSSION

Sociodemographics

This sample of untreated, first-episode ATPD and schizophrenia represent the clinical patient population of patients with ATPD and schizophrenia in UCH, Ibadan. In line with previous studies that found no significant differences between ATPD and schizophrenia with regard to the age at onset,[2,11,12] this study also found no significant difference in age at onset between patients with ATPD and patients with schizophrenia. The mean age at onset of the subjects with ATPD was

TABLE 4. Factors Predictive of Schizophrenia by Logistic Regression

	Odds Ratio (OR)	95% Confidence Interval of OR		p
Age at presentation				
<25[a]	1.00			
≥25	2.46	1.18	5.15	0.02
Occupation				
Skilled[a]	1.00			
Semiskilled	2.32	1.02	5.27	0.04
Unskilled	0.95	0.29	3.15	NS
Unemployed	3.60	1.05	12.26	0.04
Student	0.85	0.33	2.17	NS
Marital status				
Single[a]	1.00			
Married	0.58	0.27	1.19	NS
Divorced/widowed/separated	2.36	0.64	8.67	NS
Symptoms of schizophrenia				
Excitement	0.07	0.01	0.34	<0.01
Suspiciousness	3.29	1.29	8.42	0.01
Blunted	5.00	1.60	15.61	0.07
Emotional withdrawal	38.83	1.90	795.62	0.02
Passive social withdrawal	15.04	4.08	55.48	<0.01
Anxiety	0.60	0.31	1.12	0.11
Uncooperativeness	0.42	0.15	1.17	0.10
Poor attention	0.48	0.27	0.88	0.02
Disturbance of volition	1.01	0.37	2.73	NS
Preoccupation	2.04	1.02	4.10	0.04

[a]Reference measure.

TABLE 5. Factors Predictive of Acute and Transient Psychotic Disorder (ATPD) by Logistic Regression

Variable	Odds Ratio (OR)	95% Confidence Interval for OR		p
Age at presentation				
<25[a]	1.00			
≥25	0.406	0.19	0.85	0.02
Occupation				
Skilled[a]	1.00			
Semiskilled	0.43	0.19	0.98	0.04
Unskilled	1.05	0.32	3.48	NS
Unemployed	0.28	0.08	0.95	0.04
Student	1.18	0.46	3.03	NS
Marital status				
Single[a]	1.00			
Married	1.76	0.84	3.69	NS
Divorced/widowed/separated	0.42	0.12	1.55	NS
Symptoms of ATPD				
Excitement	15.30	2.91	80.40	<0.01
Suspiciousness	0.30	0.12	0.78	0.01
Blunted affect	0.20	0.06	0.62	0.01
Emotional withdrawal	0.03	0.02	0.53	0.02
Passive social withdrawal	0.07	0.02	0.25	<0.01
Anxiety	1.70	0.90	3.22	0.11
Uncooperativeness	2.38	0.86	6.59	0.10
Poor attention	2.07	1.14	3.75	0.02
Disturbance of volition	1.00.	0.37	2.68	NS
Preoccupation	0.49	0.24	0.98	0.04

[a]Reference measure.

29.5 years, and, for the subjects with schizophrenia, it was 29.3 years. However, compared with the result in this study, Marneros et al., (2003) in Germany,[2] found a higher mean age at onset, 35.8 years and 35.3 years, respectively, for ATPD and schizophrenia; as such, age at onset did not differentiate between ATPD and schizophrenia.

Unlike the age at onset, the age at presentation in this study discriminated between ATPD and schizophrenia. With respect to a first episode of illness, ATPD was significantly more likely to present below the age of 25 years than was schizophrenia. After the separation of age at onset by sex, neither ATPD nor schizophrenia showed a differentiation in age at onset by sex. This is, however, at variance with previous reports of a higher age at onset of schizophrenia in women.

Contrary to previous studies that found marked female preponderance in ATPD,[2,9,12,13] this study found an equal gender representation in both groups. This finding, however, is in keeping with the reports by Shaltout et al.[14] in a study carried out in Qatar in 2007. A common factor to all the studies that found a preponderance of women in ATPD is that they were all conducted in Europe or in the United States. This result adds weight to the findings of cross-cultural differences in the incidence of the ATPDs.[9,15] It may also suggest that the epidemiology of ATPD may differ with geographic sites. Whether this is true needs further exploration. However, it has been shown that, comparable to the relationship between latitude and the incidence of certain disorders such as type I diabetes,[16] there is a significant positive association between latitude and the incidence of certain psychotic disorders.[17,18]

A comparison of the occupational status between ATPD and schizophrenia revealed some minor differences. A significantly higher proportion of subjects with schizophrenia (16.9%) were unemployed at the time of presentation, as compared with ATPD (4.2%). This trend was also found among subjects at follow-up in a study by Pillmann et al.[12] No significant differences were observed with regard to educational level. This corroborates the findings from earlier investigations by Marneros et al.[2] and Pillmann et al.,[12] that educational level did not distinguish between schizophrenia and ATPD. With regard to employment and education, Guinness (1992)[19] found an over-representation of education and paid employment in the ATPD group, as compared with schizophrenia.[19,20] In keeping with this finding, subjects with ATPD in the current study had a higher proportion of employed subjects than those in the schizophrenia group.

Patients with schizophrenia have lower rates of marriage,[21–23] in the same way that, in this study, subjects with schizophrenia were more likely to be single, whereas subjects with ATPD were more likely to be married. This finding by Watt and Szuleka is, however, at variance with the study by Pillmann et al. (2002),[12] which showed that being married did not differentiate significantly between the ATPD patients and schizophrenia patients. A bivariate analysis in the current study showed that compared with ATPD, subjects with schizophrenia were significantly more likely to be divorced, widowed, or separated. This could be due to the fact that patients with schizophrenia have poor social skills and are less likely to be in or maintain a heterosexual relationship.[21] Also, separation and divorce could also be a consequence of the illness when partners cannot cope with the stress associated with being married to spouses with mental illness.

Excitement was significantly more common among subjects with ATPD. This included features such as agitation, pressured speech, excessive arousal, and hyperactivity. Similarly, suspiciousness was significantly more common in schizophrenia than in ATPD (20.2% versus 6.5%). Features classified here included distrustfulness, persecutory ideas, hypervigilance, and delusions of persecution. Excitement and suspiciousness constituted significant differences regarding the phenomenology of ATPD and schizophrenia in this study. Excitement was more common in ATPD, whereas suspiciousness was more common in schizophrenia.

A comparison of general (non-psychotic) symptoms between the two groups revealed some differences. Anxiety and uncooperativeness were significantly more common in the ATPD group, whereas poor orientation, disturbance of volition, and preoccupation were significantly more common in the schizophrenia group. In a similar study by Marneros et al.,[13] a 5-year prospective study that explored psychopathological differences between ATPD and schizophrenia, the authors concluded that the most important differences between ATPD and schizophrenia were a higher frequency of rapidly-changing delusional topics, a rapidly-changing mood, and anxiety in ATPD, as compared with schizophrenia. This study corroborates this finding, as well. It is, however, important to note that differences in psychopathology are not sufficient to distinguish between ATPD as an entity and schizophrenia.

It is well established that people with schizophrenia have markedly high rates of unemployment. There is also evidence of associations between high rates of unemployment and greater symptomatology.[24] Correspondingly, in this study, unemployed subjects were four times more likely to have a diagnosis of schizophrenia

than subjects who were engaged in a skilled occupation. Whisman and Baucom[25] showed that relationship discord is associated with mental ill-health. Furthermore, it has been shown that married people have better mental and physical health than their non-married counterparts.[25,26] In the current study, subjects who were widowed, divorced, or separated were twice more likely than those who were single to have a diagnosis of schizophrenia.

The factors that were predictive of ATPD included excitement and poor attention. Subjects who had these symptoms were more likely to receive a diagnosis of ATPD than those who did not have such symptoms. This finding is in keeping with reports by Marneros et al.[13] that ATPD showed marked affective symptoms, as compared with schizophrenia.

One strength of this study is that it has used a relatively large sample size for the ATPD group. Previous studies used much smaller sample sizes; for example in Germany, Pillmann et al.[12] used 26 patients; also in Germany, Pillmann et al. (2001)[27] used 42 patients; in Denmark, Jorgensen et al.[7] used 51 patients; in India, Susser et al. used 46 patients.[28] As such, this study has more power to detect a difference than the previously-mentioned studies. Secondly, since ATPDs are commoner in the less-developed countries, the findings of this study are more generalizable in Africa than previous studies, which were done in Europe and America. Hence, this is one of the first few studies on ATPD in Africa.

The results of this study should be considered in the context of its limitations, First, this was a review of case notes; a cross-sectional or prospective study would have better addressed the objectives. Missing/inadequate information is not uncommon in reviews of case notes; however, for subjects who had lengthy follow-up at the clinics or who had more than one episode of illness and presented at our clinics, several sociodemographic data were obtained from the case notes at such follow-up and later episodes. Consequently, there were very few missing sociodemographic data. Secondly, the diagnosis of ATPD and schizophrenia were not made with standardized diagnostic research instruments, such as the Structured Clinical Interview for DSM-IV (SCID). However, each case of ATPD or schizophrenia recruited into the study were reviewed by at least two specialists, first during the first episode, and second, at the commencement of this study, by the principal investigator. Cases that did not meet the criteria were excluded. Also, the duration of untreated psychosis was not assessed in this study. This could determine the severity and nature of symptoms that were observed. The duration of untreated psychosis is also associated with functioning.

In conclusion, in keeping with findings in Europe and North America, there are clinical and sociodemographic differences between ATPD and schizophrenia. However, a different set of features differentiates between the two conditions in Nigerians. It is recommended that physicians need to sensitize the populace to the differences in the signs and symptoms between ATPD and schizophrenia. This is important in predicting the course of both disorders, devising long-term treatment, promoting mental health, and reducing stigma. There is also a need for further cross-cultural research on the ATPD in Africans.

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