Prevalence of Schizophrenia among Patients Admitted Into a Nigeria Neuro-Psychiatric Hospital

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Abstract

Background: *Schizophrenia is a disabling group of brain disorders characterized by symptoms such as hallucinations, delusions, disorganized communication, poor planning, reduced motivation and blunted affect The incidence of Schizophrenia has been reported to vary with race and ethnicity. The prevalence of Schizophrenia was said to be lower in developing countries compared to developed countries but a better outcome of Schizophrenia has been recorded in developed countries and the incidence of Schizophrenia in urban areas has been found to be higher than rural areas. This study, a retrospective one that was conducted to assess the prevalence of schizophrenia among patients admitted into Neuro-Psychiatric Hospital, Rumuigbo, Port-Harcourt, Rivers State, Nigeria between January 2005 and December 2009.*

Methods: *This study is a retrospective one where the case files of the patients involved were collected at the Medical Records Department of the hospital to generate the needed data. Simple Percentages and tables were used for analysis of the data collected*

Result: *The study revealed that on the average 58.19% of the patients admitted between the study period were Schizophrenic patients.*

Keywords: *Schizophrenia, mental disorders, incidence, prevalence, psychiatric hospital.*

I. Introduction

Schizophrenia is a disabling group of brain disorders characterized by symptoms such as hallucinations, delusions, disorganized communication, poor planning, reduced motivation and blunted affect [1, 2] defined Schizophrenia as a psychiatric diagnosis that is characterized by abnormalities in perception or expression of reality. Distortions in perception may affect all five senses, including sight, hearing, taste, touch and smell but most commonly manifested as auditory hallucinations, paranoid or bizarre delusion or disorganized speech and thinking with significant social or occupational dysfunction. [3]asserted that evidence from nearly a century of epidemiological research indicates that Schizophrenia occurs in all population with prevalence in the range of 1.4 and 4.6 per 1000 and incidence rates in the range of 0.16 and 0.42 per 1000 population.

[4]Schizophrenia was defined as a group of imperfectly understood brain disorders characterized by alterations in higher functions related to perception, cognition, communication, planning and motivation. Schizophrenia is said to be a syndrome which applying diagnostic criteria related to the presence of hallucinations, delusions, thought disorders and negative symptoms such as blunted affect and reduced speech and that symptoms of the disorder usually emerge in early adulthood and many affected persons make a good recover, many have intermittent or persistent symptoms for decades but unfortunately, despite these better treatment options, schizophrenia is still a leading contributor to the global burden of disease.

The incidence of Schizophrenia in the United States of America is 10-58 new cases per 100,000 populations. The age group of highest incidence rates for men was younger than women. The incidence of Schizophrenia has been reported to vary with race and ethnicity. The prevalence of Schizophrenia was said to be lower in developing countries compared to developed countries but a better outcome of Schizophrenia has been recorded in developed countries and the incidence of Schizophrenia in urban areas has been found to be higher than rural areas [5]

It was [6]asserted that parental exposure to infection increases the risk of developing schizophrenia late in life, providing additional evidence for link between utero-developmental pathology and risk of developing the condition. Living in urban environment has been consistently found to be a risk factor for schizophrenia, poverty, migration related to social adversity, racial discrimination, family dysfunction, unemployment or poor housing condition are all inclusive[7.]

Schizophrenia is a very severe mental illness which constitutes a great economic burden all over the world. In the United States of America, it accounts for 2-5% of all health care expenditures and costs about fifty billion dollars annually. Moreover, about 75% of persons with Schizophrenia cannot work and are unemployed and the social drift hypothesis proposes that persons with schizophrenia are unable to compete for resources resulting in a downward social mobility. Schizophrenia is among the top ten disabling conditions worldwide for young, adults patients with schizophrenia struggle with many functional impairments including performance of independent living skills, social functioning and occupational/educational performance and attainment and most patients require some public assistance for support and only about 10-20% of these patients are able to sustain full or post-time competitive employment[8.]

[9] The view that using strict recovery criteria (concurrent) remission or positive and negative symptoms, adequate social and vocational functioning continuously for two years had about 14% recovery rate while a 5-year community study found that 62 % showed overall improvement on a composite measure of symptomatic clinical and functional outcomes while in retrospective study of [10]found that about a third of people diagnosed with schizophrenia made a full recovery, about a third showed improvement but not a full recovery and a third remained ill. [11]The study conducted by World Health Organization two-long-term studies involving more than 2000 people suffering from schizophrenia in different studies and found out that patients were much better in long-term outcomes in developing countries despite the fact that antipsychotics are typically not widely available in poorer countries raising questions about the effectiveness of such drug-based treatments. [12]It was said further that several factors are associated with a better diagnosis such as being females, acute onset of symptoms and good pre-morbid functioning and in particular, critical comments, hostility, authoritarianism and intrusive or controlling attitudes from family members have been found to correlate with a higher risk of relapse in schizophrenia across cultures. [13, 14] They agreed that the treatment of schizophrenia can be divided into medical treatment, psychological and social interventions and alternative approaches such as the use of antipsychotics, psychotherapy like cognitive behavioural enhancement therapy, family therapy, cognitive enhancement therapy, rational emotive therapy and electro-convulsive therapy.

II.   Method

This study was a retrospective one where the case files of the patients involved were collected at the Medical Records Department of the hospital to generate the needed data.

The population for this study was all the patients admitted into the hospital (Neuro-Psychiatric Hospital, Rumuigbo, Port-Harcourt Nigeria) between January 2005 and December 2009. A non-probability sampling technique was used. All the records made available for the researchers were used as sample for the study. 4,494 cases were used for this study i.e. 2005: 921, 2006:873, 2007:877, 2008:882, 2009:941 respectively

The instrument was valid and reliable because the actual case files of the patients were used as collected from Medical Records Department of the Neuro-Psychiatric Hospital. The Chief Nursing Officer, Consultant Psychiatrist-in-Charge and the Chief Medical Records Officer confirmed the data obtained. Simple Percentages and tables were used for analysis of the data collected at the Medical Records Department of the hospital.

2.2 Ethical Consideration

The researchers officially wrote a letter of permission to conduct the study to the Administration of the hospital, invitation to meet the ethical committee of the hospital was honoured where the aims and procedure for the study were thoroughly discussed and approval was given to the researchers. The researchers also ensured that names of the patients were not used for the study to enhance confidentiality and anonymity.

III.   Results

Table 1: The total number of the patients per year.

Year of admission	No of admission	No admitted due to Schizophrenia	Percentage (%)
2005	1684	921	54.69
2006	1573	873	54.50
2007	1462	877	59.99
2008	1440	882	61.25
2009	1564	941	60.17
Total	7723	4494	58.19

The table above showed that in 2005, 54.69% of admissions was schizophrenic patients, 54.50 % in 2006, 59.99 % in 2007, 61.25 % in 2008 and 60.17 % in 2009 with overall 58.19 %.

Table 2: Gender of the participants

Variable	F	%
Gender/Year		
2005		
Male	546	59.28
Female	375	40.72
2006		
Male	486	55.67
Female	387	44.33
2007		
Male	507	57.81
Female	370	42.19
2008		
Male	560	63.49
Female	322	36.51
2009		
Male	554	58.87
Female	387	41.13

The table above showed 59.28 % of the schizophrenia patients in 2005 were males, 40.72 % were females. In 2006, 55.67 % were males, while 44.33 % were females, 57.81 % were males and 42.19 % were females in 2007. In 2008, 63.49 % were males while 36.51 % were females, 58.87 % were males and 41.13 % were females in 2009 respectively.

Table 3: Age range of the patients

Age range in years	Year of Admission									
	2005		2006		2007		2008		2009	
	f	%	f	%	f	%	f	%	f	%
10-19	80	8.69	89	10.19	96	10.95	80	9.07	92	9.78
20-29	360	39.09	440	50.40	310	35.35	400	45.35	442	46.97
30-39	275	29.86	200	22.91	300	34.21	168	19.05	208	22.10
40-49	75	8.14	80	9.17	85	9.69	130	14.74	79	8.40
50-59	131	14.22	64	7.33	86	9.80	104	11.79	120	12.75
Total	921	100	873	100	877	100	882	100	941	100

The table above showed that in the year 2005, 10-19 year age range had 8.69%, 20-29: 39.09%, 30-39: 29.86%, 40-49: 8.14% and 50-59: 14.22%, In 2006, 10-19 had 10.19%, 20-29: 50.40%, 30-39: 22.91%, 40-49: 9.17%, 50-59: 7.33%. In 2007, 10.95% were between 10 and 19 years, 35.35% were between 20 and 29 years, 34.21% were between 30 and 39 years, 9.69% were between 40 and 49 years while 9.80% were between 50 and 59% years old. In 2008, 10-19 years were 9.07%, 20-29 years were 45.35%, 19.05% were between 30 and 39 years, 14.74% were between 40 and 49 years, 11.79% were between 50 and 59 and in 2009, 10-19: 9.78%, 20-29: 46.97%, 30-39:22.10%, 40-49:8.40% and 50-59: 12.75% respectively.

Table 4: Occupation of the patients admitted due to schizophrenia

Occupation	Year of Admission									
	2005		2006		2007		2008		2009	
	f	%	f	%	f	%	f	%	f	%
Civil servant	86	9.34	75	8.60	206	23.49	88	9.98	83	8.82
Trading	53	5.75	58	6.64	60	6.84	84	9.52	86	9.14
Student	360	39.09	220	25.20	240	27.37	330	37.42	320	34.01
Farming	64	6.95	80	9.16	56	6.39	60	6.80	62	6.59
Housewives	140	15.20	160	18.33	125	14.25	116	13.15	120	12.75
Unemployed	218	23.67	280	32.07	190	21.66	204	23.13	270	28.69
Total	921	100	873	100	877	100	882	100	941	100

From the table above, for the year 2005, 9.34 % were civil servants, 5.75 % were into trading, 39.09 % were students, 6.95 % were farmers, 15.20 % were housewives, and 23.67 % were unemployed. In the year 2006, 8.60 % were civil servants, 6.64 % were traders, 25.20 % were students, 9.16 % were farmers, 18.33 % were housewives and 32.07 % were unemployed. For the year 2007, 23.47 % were civil servants, 6.39 % were into trading, 27.37 % were students, 6.39 % were farmers, 14.25 % were housewives and unemployed were 21.66 %.In 2008, 9.98 % were civil servants, 9.52 % were traders, 37.42 % were students, 6.80 % were farmers,

13.15 % were housewives and 23.13 % were unemployed while in the year 2009, 8.82 % were civil servants, 9.14 % were traders, 34.01 % were students, 6.59 % were farmers, 12.75 % were housewives and 28.69 % were unemployed respectively.

Table 5: Level of education of the patients.

Level of education	Year of Admission									
	2005		2006		2007		2008		2009	
	f	%	f	%	f	%	f	%	f	%
Primary	53	5.76	83	9.51	49	5.59	39	4.42	95	10.10
Secondary	428	46.47	381	43.64	306	34.89	310	35.15	270	28.69
Tertiary	360	39.09	300	34.36	420	47.89	419	47.51	436	46.33
Non-literate	80	8.68	109	12.49	102	11.63	114	12.92	140	14.88
Total	921	100	873	100	877	100	882	100	941	100

Level of the education of the participants showed that in 2005, 5.76 % had primary education, 46.47 % had secondary education, 39.09 % had tertiary education and 8.68 % were non-literates. In the year 2006, 9.51 % had primary education, 43.64 % had secondary education, 34.36 % had tertiary education and 12.49 % were non-literates. In 2007, 5.59 % had primary education, 34.89 % had secondary education, 47.89 % had tertiary education while 11.63 % were non-literates. For the year 2008, 4.42 % had primary education, 35.15 % with secondary education, 47.51 % with tertiary education and 12.92 % were non-literates and in the year 2009, 10.10 % had primary certificates, 28.69 % had secondary certificates, 46.33 % had tertiary certificates while 14.88 % were non-literates.

Table 6:   Marital status of the patients

Marital status	Year of Admission									
	2005		2006		2007		2008		2009	
	f	%	f	%	f	%	f	%	f	%
Single	550	59.72	540	61.86	490	55.87	600	68.02	560	59.51
Married	260	28.23	150	17.18	140	15.96	126	14.29	175	18.60
Separated	11	1.19	63	7.22	99	11.29	26	2.95	50	5.31
Divorced	100	10.86	120	13.74	148	16.88	130	14.74	156	16.58
Total	921	100	873	100	877	100	882	100	941	100

Table 6 showed the distribution of marital status of the participants as in 2005, 59.72 % were singles, 28.33 % were married, 1.19 % were separated and 10.86 % were divorced. In 2006, 61.86 % were singles, 17.18 % were married, 7.22 % were separated and 13.74 % were divorced. In 2007, 55.87 % were singles, 15.96 % were married, 11.29 % were separated and 16.88 % were divorced. In the year 2008, 68.02 % were singles, 14.29 % were married, 2.95 % were separated and 14.74 % were divorced and in 2009, 59.51 % were singles, 18.60 % were married, 5.31 % were separated and 16.58 % were divorced respectively

IV.   Discussion

Social advantages and disadvantages have been found to be a risk factor to schizophrenia including poverty, migration related to social adversity, discrimination, family dysfunction, unemployment and poor housing[15]. No wonder the prevalence of schizophrenia is higher among the students and unemployed. They also established the fact that half of the patients with schizophrenia abuses drug or alcohol. [16]Substance use is a consequence of schizophrenia and that mostly students of higher institutions and unemployed for obvious reasons are more engaged in substance abuse than any other group which makes the prevalence of schizophrenia higher in these groups of individuals.

In this study, prevalence of schizophrenia is higher in males than in females. [17]It was posited that despite higher prevalence of schizophrenia in males than in females, the prognosis is better in females than in males and that long-term treatment outcomes are better in developing countries than developed countries despite the fact that antipsychotic drugs are typically not widely available in poorer countries although [18] it was said that several factors are associated with better prognosis like being females, acute onset of symptoms and good pre-morbid functioning of the individuals.[19]Negative attitudes toward individuals with schizophrenia can have a significant adverse impact on the patients especially critical comments, hostility, intrusive or controlling attitudes from family members which have been found to have correlate with a higher risk of relapse in schizophrenia across cultures.

The prevalence of schizophrenia in this study showed a higher percentage among the secondary and tertiary levels of education, singles and unemployed further confirming the study of Harvey[20] that rural/urban disparity in the occurrence of schizophrenia is remarkable and that prevalence and incidence rates have been repeatedly found higher in urban areas. Urban births and upbringing have been associated with increased risk of developing schizophrenia in adulthood although some researchers disagreed with this view and said that Finland

appears to be exceptional in this regard as both the prevalence and incidence rates of schizophrenia have been higher in rural areas[21].

Two early life exposures have been found to be associated with schizophrenia i.e. season of birth and urban city (place) of birth although they are very crude risk factors and in the two population-based studies (Holland and Denmark) it has been found that a person's relative risk of developing schizophrenia when he or she is born in the city versus the country is about 2.4 and that evidence has been found linking schizophrenia to serologically confirmed parental exposure to herpes simplex, it was then suggested that exposure to feminine prenatally is associated with an increased risk of schizophrenia[22].

[23] In the study of association of pregnancy and birth complications with risk of schizophrenia reported that some groups of obstetric complications were associated with an increased risk of schizophrenia which included ante-partum haemorrhage, maternal diabetes, rhesus incompatibility, pre-eclampsia, uterine atony, asphyxia and emergency caesarean section and that a significant association exists between low birth weight (less than 2.5kg) and increased risk of schizophrenia. However, the study also reported an association between heavier birth weights (greater than 14kg) and increased risk of schizophrenia.

V. Conclusion

Schizophrenia is a very severe mental illness which constitutes a great economic burden all over the world. In the United States of America, it accounts for 2-5% of all health care expenditures and costs about fifty billion dollars annually. Moreover, about 75% of persons with Schizophrenia cannot work and are unemployed and the social drift hypothesis proposes that persons with schizophrenia are unable to compete for resources resulting in a downward social mobility. A higher prevalence of psychotic disorders will be translated into a greater disease-burden as measured by personal suffering, disability and increased demand on services. The study will provide information on the prevalence of schizophrenia in relation to location, sex, urbanization and occupation and will also assist the health care providers and policy makers for prompt intervention

5.2 Limitation of Study
The study assessed the patients that had records with the hospital only either admitted or treated as out-patients within the study period.

5.3 Recommendations
- The youths, especially the males should be encouraged to dissipate their youthful energy on profitable things that will better their living rather engaging in substance abuses that will eventually affect their health.
- Employment should be created for the members of the community as underemployment or unemployment can lead to idleness and illicit behaviours which consequently affects mental health.
- The government should encourage programmes that will lead to self-reliance of the youths.
- More psychiatric hospitals need to be established especially in each state of the federation, well equipped and made accessible to all.
- Mass health education is required on prevention, early detection of mental disorders and better patronage of modern health facilities.
- Community-based mental health should be encouraged to enhance individual participation in the care of mental illness.
- Mental health-mental illness should be included in the various educational curricula so that students are well taught in school as this will assist in the prevention and early detection of mental illness.

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