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Research Article

Quality of Life Assessment of Patients Treated with Neuroleptics: A Comparison of Typical and Atypical Antipsychotics

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Abstract

Objective: The study was designed to compare the quality of life of psychiatric patients treated with typical antipsychotics with those on atypical antipsychotics at the University of Port Harcourt Teaching Hospital (UPTH) in Rivers state, Nigeria.

Materials and Methods: All psychiatric patients who attended the psychiatric clinic within the study period were included. Antipsychotic naïve patients and those who have been on antipsychotics for less than 6 months were excluded. Eighty consecutive patients (40 each on typical and atypical antipsychotics) who attended the Neuropsychiatric Department of UPTH from November 2018 and March 2019 were studied. The World Health Organization Quality of Life (WHOQOL)-Bref and a sociodemographic questionnaire were administered to each subject. The data was analyzed using the Statistical Package of the Social Sciences (version 16).

Results: The largest proportion of the study cohort were male (62.5%), unemployed (75.0%) and single (75.0%). Those on atypical antipsychotics and unemployed were significantly more than similar patients on typical antipsychotics ($X^2 = 4.267$, df = 1, p = 0.035)

There was no statistically significant difference in the mean quality of life measures across all the domains between the two groups of subjects.

Conclusion: Since no antipsychotic type has a superior advantage over the other in improving the quality of life of the patients, other measures to achieve this goal should be emphasized.

Keywords: *Atypical; Typical; Antipsychotics; Quality of Life; Nigeria*

Introduction

The World Health Organization (WHO) defines quality of life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns [1].

Quality of life of psychiatric patients is influenced by a myriad of factors including environmental as well as the type of neuroleptic medication used in managing them [2]. Some researchers have reported that apart from the combined effect on the severity of patient's symptoms, environmental support, educational level and the concept of the illness, proper selection of antipsychotics also exhibits a strong positive influence on the quality of life of these patients [3-6].

Many studies have been done in the developed world to compare the quality of life of patients on typical antipsychotics with atypical antipsychotic with many reporting a better quality of life for patients treated with the new generation or atypicals compared with the typical [7-9].

Nevertheless, there is paucity of such studies in sub-Saharan Africa; there's no known study on the comparison of the quality of life of patients on the two categories of antipsychotics in Nigeria's Niger delta region where the study was conducted. Considering the various socioeconomic and cultural differences between the developed and the undeveloped world, there's need to carry out similar studies in this environment.

Methodology

This prospective cross-sectional study took place at the Neuropsychiatric Department of the University of Port Harcourt Teaching Hospital (UPTH) in Rivers state, Nigeria from November 2018 to March 2019. This is part of a larger study on renal and thyroid function abnormalities carried out among psychiatric out patient attendees at the UPTH.

All psychiatric patients who attended the psychiatric clinic within the study period were included in the study. Antipsychotic naïve patients and those who had been on antipsychotic medications for less than 6 months were excluded. Subjects who were mute or whose mental status at the point of assessment could not allow for reasonable interview were excluded. Furthermore, those with comorbid medical conditions were also excluded. Two groups (forty in each) of psychiatric outpatients on typical and atypical antipsychotic medications who met the inclusion criteria were selected. The subjects were selected consecutively starting from the first day of the study.

Approval was obtained from the ethical committee of UPTH before the commencement of the study. Similarly, informed consent was obtained from the subjects selected for the study.

Psychiatric diagnosis was made using the International Classification of Diseases (ICD-10) diagnostic criteria. The instruments used in this study comprised a sociodemographic questionnaire (that also contains some clinical variables) designed by the authors and the WHO Quality of Life-Bref instrument (WHO QOL-BREF).

The WHO quality of life (WHOQOL) questionnaire is a 26 item self-administered instrument that comprehensively assesses and produces scores for the quality of life of the respondents in four domains (1) Physical health, (2) Psychological, (3) Social Relationships and (4) Environment [10].

The 'raw' scores obtained by administering the instrument are converted to transformed scores as prescribed by the scoring guidelines in the instrument. Those transformed scores reflect the quality of life of the respondents in the four domains under examination [10].

Forty consecutive patients on the typical antipsychotics such as haloperidol, chlorpromazine and fluphenazine decanoate injection and forty consecutive patients who were on risperidone, olanzapine or clozapine were clinically evaluated by the researchers. The sociodemographic and WHOQOL-Bref questionnaires were administered to each subject by the researchers. The data derived was analyzed using the Statistical Package of the Social Sciences (SPSS), version 16 at 5% level of significance and 95% confidence interval. Frequency tables were used to display the distribution of the various sociodemographic and clinical variables. One way ANOVA was used to test for statistically significant difference between the mean Quality of Life scores of the two groups of subjects (those on typical and atypical antipsychotics). A multiple regression was run to predict the relationship between the various domain scores and the sociodemographic variables.

Results

The mean age of the 80 subjects studied was 38.3 +9.8yrs. The minimum and maximum ages were 18 and 58yrs respectively.

Table 1 depicts the frequencies of the sociodemographic and clinical variables of the subjects. The largest proportions of the subjects were male (62.5%), Christian (97.5%), those with secondary education (67.5%), unemployed (7.0%), Single (75.0%), of Ibo ethnic nationality (42.5%); schizophrenic (32.5%) and had no history of comorbid psychoactive substance use disorder (62.5%).

		N = 80
Variables	**Frequency (n)**	**Prevalence (%)**
Gender		
Male	50	62.5
Female	30	37.5
Religion		
Christian	78	97.5
Islam	2	2.5
Education		
Primary	6	7.5
Secondary	54	67.5
Tertiary	20	25.0
Employment		
Employed	20	25.0
Unemployed	60	75.0
Marital Status		
Single	60	75.0
Married	18	22.5
Separated/Divorced	2	2.5
Ethnic nationality		
Ikwere	22	27.5
Ibo	34	42.5
Yoruba	6	7.5
Ogoni	2	2.5
Kalabari	8	10.0
Ijaw	4	5.0
others	4	5.0
Family History of mental Illness		
Yes	22	27.5
No	58	72.5
Diagnosis		
Schizophrenia	26	32.5
Depression	18	22.5
Bipolar Affective Disorder	20	25.0
Delusional Disorders	4	5.0
Others	12	15.0
Comorbid Substance		
Yes	30	37.5
No	50	62.5

Table 1: *Frequency of the sociodemographic and clinical variables of the subjects.*

Table 2 displays the comparison of the sociodemographic and clinical variables of the patients on the two types of antipsychotics. There was no statistically significant association between the use of any type of antipsychotic and any sociodemographic variable except for employment status. Those on atypical antipsychotics and unemployed were significantly more than similar patients on typical antipsychotics ($X^2 = 4.267$, df = 1, p = 0.035)

						N = 80
Variable (Age in years)	**Typical Antipsychotics n (%)**	**Atypical Antipsychotics n (%)**	**Total**	**X^2**	**df**	**P value**
11 - 20	1 (50.0)	1 (50.0)	2	1.766	1	0.184
21 - 30	10 (62.5)	6 (37.5)	16			
31 - 40	13 (43.4)	17 (56.7)	30			
41 - 50	10 (47.6)	11 (52.4)	21			
51 - 60	6 (54.5)	5 (45.5)	11			
Variable (Gender)	**Typical Antipsychotics n (%)**	**Typical Antipsychotics n (%)**	**Total**	**X^2**	**df**	**P value**
Male	24 (48.0)	26 (52.0)	50	1.818	1	0.409
Female	16 (53.3)	14 (46.7)	30			
Variable (Marital Status)	**Typical Antipsychotic n (%)**	**Typical Antipsychotic n (%)**	**Total**	**X^2**	**df**	**P value**
Single	30 (50.0)	30 (50.0)	60	2.222	2	0.329
Married	10 (55.6)	8 (44.4)	18			
Divorced/Separated	0 (0.0)	2 (100.0)	2			
Variable (Religion)	**Typical Antipsychotics n (%)**	**Typical Antipsychotics n (%)**	**Total**	**X^2**	**df**	**P value**
Christian	38 (48.7)	40 (51.3)	78	0.494	1	0.247
Islam	2 (100.0)	0 (0.0)	2			
Variable (Education)	**Typical Antipsychotics n (%)**	**Typical Antipsychotics n (%)**	**Total**	**X^2**	**df**	**P value**
Primary	2 (33.3)	4 (66.7)	6	1.541	2	0.463
Secondary	26 (48.1)	28 (51.9)	54			
Tertiary	12 (60.0)	8 (40.0)	20			
Variable (Employment	**Typical Antipsychotics n (%)**	**Typical Antipsychotics n (%)**	**Total**	**X^2**	**df**	**P value**
Employed	14 (70.0)	6 (30.0)	20	4.267	1	0.035*
Unemployed	26 (43.3)	34 (56.7)	60			
Variable (Family hx of mental illness)	**Typical Antipsychotics n (%)**	**Typical Antipsychotics n (%)**	**Total**	**X^2**	**df**	**P value**
Yes	10 (45.5)	12 (54.5)	22	0.251	1	0.401
No	30 (51.7)	28 (48.3)	58			

Table 2: *Association between sociodemographic/clinical variables and type of antipsychotic used.*

*Note: * = Significant.*

Table 3 shows the means of the domain scores of the subjects. Those on typical antipsychotics had higher mean scores than those on atypical antipsychotics on domains.

		N	Mean	Std. Deviation
Domain 1 Score	Typicals	40	68.000	10.218
	Atypicals	40	65.750	14.339
	Control	80	66.875	12.423
Domain 2 Score	Typicals	40	62.350	11.365
	Atypicals	40	57.050	17.161
	Control	40	59.700	14.706
Domain 3 Score	Typicals	40	48.500	19.349
	Atypicals	40	51.240	22.159
	Control	40	49.850	20.715
Domain 4 Score	Typicals	40	55.150	14.631
	Atypicals	40	54.500	15.847
	Control	40	54.825	15.158

Table 3: *Means of the domain scores of the subjects.*

- Domain 1: (Physical Health: 68.000 ±10.218),
- Domain 2: (Psychological; 62.350 ± 11.365) and
- Domain 4: (Environment: 55.150 ± 14.631).
- Those on atypical antipsychotics scored higher on Domain 3 (Social Relationship: 51:200 + 22).

Table 4 displays the table of ANOVA values for the two groups of subjects. The differences between the mean scores of those on typical and atypical antipsychotics were not statistically significant across all the four domains of quality of life.

		Sum of squares	df	Mean Square	F	Sig.
Domain 1 Score	Between Groups	101.250	1	101.250	.653	.421
	Within groups	12091.500	78	155.019		
	Total	12192.750	79			
Domain 2 Score	Between Groups	561.800	1	561.800	2.652	.107
	Within groups	16523.000	78	211.833		
	Total	17084.800	79			
Domain 3 Score	Between Groups	145.800	1	145.800	.337	.563
	Within groups	33752.400	78	432.723		
	Total	33898.200	79			
Domain 4 Score	Between Groups	8.450	1	8.450	.036	.849
	Within groups	18143.100	78	232.604		
	Total	18151.550	79			

Table 4: *Table of ANOVA values for groups of subjects on typical and atypical antipsychotics*

**Significant at p < 0.05.*

Table 5 depicts the results from the multiple regression analysis of the domain scores for sociodemographic variables. None of the socio-demographic variables statistically significantly predicted any domain score.

		Sum of squares	df	Mean Square	F	Sig.
Domain 1 Score	Regression	1575.011	7	225.002	1.526	.172
	Residual	10617.739	72	147.469		
	Total	12192.750	79			
Domain 2 Score	Regression	1463.439	7	209.063	.964	.464
	Residual	15621.361	72	216.963		
	Total	17084.800	79			
Domain 3 Score	Regression	4189.544	7	598.506	1.451	.199
	Residual	29708.656	72	412.620		
	Total	3398.200	79			
Domain 4 Score	Regression	1036.022	7	148.003	.623	.723
	Residual	17115.528	72	237.716		
	Total	18151.550	79			

Table 5: *ANOVA results from multiple regression of domain scores for sociodemographic variables.*

Dependent variables: Domain 1, 2, 3, 4 scores.

Predictors (Constant) - Independent variables: Ethnic Nationality, age, employment, Status, Gender, Religion, Education, Marital Status.

Discussion

Quality of life is a broad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment [1,10]. It is a subjective evaluation which can be affected by a number of factors including the individuals environment, the culture in which he finds himself as well as the perceived or real presence of disease.

A greater chunk of the study cohort were male, single, unemployed and primary education. These findings are similar to those reported by other researchers on the sociodemographic characteristics of psychiatric outpatient attendees [11,12]. They reflect how socially disadvantaged mentally ill patients are, as a result of a number of probable variables including the toll of their illness on their social and cognitive skills as well as the challenge by the stereotypes and prejudice that result from misconceptions about their mental illness [13]. More patients on atypical antipsychotics were unemployed compared to those on typical antipsychotics and the difference between the two groups is statistically significant. This is not surprising because the atypical antipsychotics are more likely to be used for chronic or refractory schizophrenia with a lot of negative symptoms which are less effectively managed with typical antipsychotics [11]. Moreover, the chronic schizophrenics are more likely to be unemployed as a result of the progressive biological and social disadvantage that results from the chronicity of their illnesses [12,13].

Results from this study show that the subjects on typical antipsychotics had higher mean scores on 75% of the domains of the quality of life assessment compared with those on typical antipsychotics. The former were found to score higher on the physical health, psychological and environment domain. This suggests that typical antipsychotics, tend to improve quality of life better than atypical medications; (even though the differences in the means scores were not statistically significant). This is at variance with the results of some studies done in this regard [2,7-9].

Mortimer., *et al.* stated that quality of life is genuinely superior on atypical treatment even allowing for the confounding effects of differential prescribing habits [8]. His view was supported by Fujimaki., *et al.* who stated that long term administration of typical antipsychotics has an unfavourable association with feelings of difficulties' mixing in social situations in patients with chronic schizophrenia and hence leads to worse quality of life compared with the use of typical antipsychotics [8]. Kitic., *et al.* pointed out that the better quality of life demonstrated by patients on atypical antipsychotics than those on typical neuroleptics may be due to the superior safety profile of atypical antipsychotics and a greater feeling of individual content [2]. His view was equally supported by Cook., *et al.* who reported that a switch from typical to atypical antipsychotics was associated with significant improvement in positive symptoms, in general psychopathology and in quality of life [7].

The difference in results of this study from the previous studies may be due to methodological differences including sample size variations as well as cultural and environmental factors.

Similarly, multiple regression analysis done revealed that none of the sociodemographic variables statistically significantly predicted any domain score. As was pointed out by other researchers, psychosocial and psychopathological factors were the most influential on quality of life followed by sociodemographic variables [14,15].

Conclusion

No antipsychotic type had any superior advantage over the other in influencing the quality of life of the patients using them positively. Therefore, there's need to focus on other environmental and psychological determinants to improve the quality of life of our patients placed on antipsychotic medications.

Limitation

This is a cross sectional study. A cause and effect is difficult to be concluded due to the small sample size and there's difficulty controlling for the wide range of confounders. Therefore, the application of the results of this study should be applied with caution to the general population. It is suggested that a similar research on a greater volume of patients may give a more representative results.

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