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Adherence among psychiatric outpatients in psychiatric hospital Uselu, Benin City, Nigeria

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ABSTRACT

Patients adherence studies are essential for evaluating the quality of care delivery of a health facility and patients' role in improving their conditions. To determine the adherence level of psychiatric out-patients to prescribed medications and impacting factors. A cross-sectional study was done from April to September, 2013. Consecutive sampling method was used for data collection. A total of 250 adult patients (18years and above) attending the psychiatric clinic with various psychiatric illnesses participated in the study. A well-structured self-report 10-item Medication Adherence Rating Scale (MARS) was used. Information gathered were socio demographics and clinical variables affecting patient's adherence to medications. Data was analyzed with respect to gender, adherence level and factors affecting patient's adherence. Patients' adherence to psychotropic medication was 63.6% and affecting factors were amount spent per clinic visit, perception of social support, alcohol intake, medications side-effects existing denial of illness and use of traditional medicine. Adherence level to psychotropic medications was high and affecting factors were amount spent per clinic visit, perception of social support alcohol intake, medication side-effects, existing denial of illness, insight into illness, use of alternative and/ or traditional medicine.

Key Words: Psychiatric Out-patient, Psychotropic Medications, Adherence.

INTRODUCTION

Studies have repeatedly shown that non-adherence with antipsychotic medication has a range of negative consequences in schizophrenia [1, 2, 3]. Therefore, overall responsiveness to antipsychotic drug treatment and lifetime prognosis and treatment adherence is extremely important [4]. Relapse which is majorly caused by discontinuation of drug therapy is frequently linked to either insufficiently controlled symptoms of psychotic disorders (schizophrenia, major depression and bipolar disorder) or specific side effects of antipsychotics [5]. Adherence can be defined as the extent to which a person's behaviour conforms to medical or health advice [6] concerning prescribed medications and maintain the indicated treatment regimen. Patients who do not comply with treatment schedule and drug regimens prescribed by their physicians are said to be non-compliant or non-adherent [7]. Non-adherence is a poly-faceted problem but a triadic model relating therapeutic relationship between the patient and clinician, factors related to the medications and factors related to the patients and their illness help explain the non-adherent behaviour.

Justification: There are many studies on adherence of antiretroviral therapy in Nigeria but only a few studies have been done on the adherence of psychiatric patients to their medication. Non adherence is a significant problem in all patient populations ranging from children [8] to the elderly [9]. Adherence rates are usually higher among patients with acute conditions as compared to those with chronic conditions [10] and this tends to worsen, the longer a patient continues drug therapy [11]. Also, non-adherence is associated with worse clinical and economic outcomes. Furthermore, non-adherence to medication regimen is linked with worse prognosis, greater probability of relapse, rehospitalization and increased resource consumption [12, 13]. In the United States, poor

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adherence to medication regimen is responsible for substantial worsening of disease state, death and increased health care cost [14]. As a result, cost of treatment and medication in less developed parts of the world deserves greater attention as patients pay exclusively out-of-the pocket in the absence of well-developed public health care and insurance cover. Many chronically ill patients take less of their medication than has been prescribed owing to cost concerns, especially those patients with low incomes, multiple chronic health problems or prescription coverage [15]. And the consequences of medication under use include increased emergency department visit, psychiatric admissions, nursing home admission as well as increased heath cost [16]. Therefore, information about factors that influence adherence and methods for facilitating optimal use of medication is necessary in order to reduce rate of hospitalization and improve quality of life. This study hypothesizes that side effect, younger age, presence of substance abuse, and dually diagnosed illness will be associated with poor treatment adherence. It also hypothesizes that patients with high income are more adherent to their psychiatric medication. Also, those patients prescribed with a single medication will be more adherent than those prescribed multiple medications.

Objectives of Study

- To determine the factors that affect patients adherence to psychotropic medications using the Medication Adherence Rating Scale (MARS).
- To determine the level of adherence of psychiatric out-patients to their medication.

METHODS

Setting: This study was conducted at the Federal Psychiatric Hospital, Uselu, Benin City. The Psychiatric Hospital Uselu is a tertiary health care delivery Centre and is one of the eight Mental Health Institutions owned by the Federal Government of Nigeria. The Psychiatric Hospital caters for the needs of the people living in Edo State and neighboring states including Delta State; and has a daily out-patient and in-patient services, apart from specialist psychiatry and training services. The hospital has a 220-bed capacity.

Study Population: The participants were adult patients (18 years and above) attending the outpatient psychiatric clinic of the hospital, with a diagnosis of various psychiatric illnesses. A total of 250 patients participated in the prospective study. Patients were first adequately informed about the study before interview. Only the patients that gave informed consent were interviewed.

Inclusion Criteria

The inclusion criteria include:

i) Being 18 years and above
ii) Outpatient clinic attendance of at least 6 months duration
iii) At least four various outpatient clinic appointments

Exclusion Criteria

Patients were excluded from the study if:

i) They do not understand or speak English
ii) They appeared intoxicated on drugs or alcohol
iii) They were unable or refused to give informed consent.
iv) Patients have cognitive defect or acute psychosis
v) Patients present for the first time

Ethics and Informed Consent: Ethical permit was obtained from the Hospital Ethical Committee and verbal informed consent was equally obtained from all the patients (participants) after explaining the aim and objective of the study to them.

Study Design/Procedure: The research work was a six months cross-sectional study conducted at the outpatient department of the Hospital. Consecutive sampling method was used in data collection.

Data Collection: A face-to-face interview was conducted with the two hundred and fifty (250) psychiatric outpatients with a closed-ended item questionnaire. Verbal informed consents were obtained from the patients before the questionnaires were filled. In order to maintain accuracy and precision, patients were informed of the benefits of the research as honest reply would be appreciated. The patients were assured of confidentiality. For patients with low or no formal educational qualification, questions were read, explained in pidgin and duly filled for them after answers were given by them.

Medication Adherence Rating Scale (MARS): The adherence level of patient was determined with the use of the MARS. The MARS is a reliable and a validated 10-item, self- reported measure of medication use patterns . Each item on the MARS measures a specific medication taking behaviour. Each of the item is presented in a “yes” or “No” format. These involve asking the patient about the extent and tendency to forget to take their medication and their discontinuance of medication treatment upon feeling that their condition has improved or alternatively worsened. It further includes patients’ belief on if they view their treatment plans as an inconvenience. The questions on the MARS are appropriately phrased in a particular manner to prevent the occurrence of

patients giving false positive answer since there is a tendency for them to do so. Answers were scored as O or 1, with score 1 corresponding to positive answer and score O corresponding to negative answer. The item scores obtained from the MARS are summed to indicate an overall level of medication adherence. The MARS score range from zero (O) to ten (10) and have been dichotomized into two levels to classify adherence levels. High adherence: - MARS score of less than 5, and low adherence: MARS score of greater or equal to 5.

Statistical Analysis: The data collected were carefully entered into a bio-statistical table and analyzed using Statistical Package of Social Science (SPSS) software version 20 (Chicago, IL, USA). Descriptive statistics such as frequency and percentage were applied. All results were represented in table. The relationship between medication adherence rating scale (MARS) and various variables that affect adherence were equally assessed where MARS is the dependent variable and other variable that affect adherence is the independent variable. Absolute numbers and simple percentages were used to describe categorical variables. The chi-square (X^2) test was used in assessing the significance of associations between categorical variables. Level of statistical significance was set at p-value of <0.05.

RESULTS

In this study, 250 patients were interviewed. The socio-demographic variables are clearly presented in table 1. Majority of the patients were between the ages of 25-34years old, Christians, Benin/Edo by tribe, had secondary level of education, single, self-employed, live with others in their homes and refused to disclose their monthly income for reasons best known to them. Sex and residential area were almost equally distributed. Table 2 displays the level of adherence to psychotropic medications. More than half of the respondents were adherent to their psychotropic medications (63.6%), while 36.4% of the respondents were non-adherent based on Medication Adherence Rating Scale (MARS). Table 3 shows the relationship between patients' gender and adherent status. Female patients were more adherent than the male patients. Table 4 shows the correlational analysis of socio-demographic variables of psychiatric out-patients in the health facility and degree of adherence to prescribed medications. Using Chi-Square analysis, amount spent per clinic visit, perception of social support and intake of alcohol were significantly associated with medication adherence. Other factors were not significantly related to adherence. Table 5 displays the correlational analysis of clinical/health-related variables that affect adherence to degree of adherence to prescribed medications using the Chi-Square analysis. Medication side effects, existing denial of illness and use of traditional and/or alternative medicine were found to be significantly related to medication adherence. Other clinical variables were not significantly related to adherence status.

DISCUSSION

The study was conducted to determine the level of adherence and factors associated with adherence to antipsychotic medications. The study result showed that 63.6% (n=159) patients surveyed were adherent to their prescribed medications by self-report using Medication Adherence Rating Scale (MARS) variables. The adherence level is closely related to 65.8% reported by a similar study done in North Central Nigeria but higher than that found in a previous work done in South Western Nigeria in which the level of adherence was found to be 48% [17].

The good adherence level reported may be a reflection of good perception of social support, high level of patients satisfaction with out-patient services, effective adherence, counseling by pharmacists on timing of medication administration, effective counseling by the pharmacist on the benefits and side effects of medications prescribed, good relationship between the physician and patient, patients' awareness and/or insight of their medical condition, lesser amount spent per clinic visit and patients' disuse of alternative and/or traditional medicine. Social support has been identified by previous studies to be constantly associated with better out-patient adherence [18]. The findings of this study are in line with these previous studies. Perception of social support showed significant association with adherence status of patients. This may reflect the high level of support from health care providers, proper supervision of medication administration by family and low level of stigma. As the amount spent by patient per clinic visit increased, the level of adherence significantly decreased. This is probably because some patients stopped their medications primarily because of inability to pay [19].The current result showed that the use of alternative medicine and intake of alcohol (drinking status) showed a significant association with adherence status. The study result showed that higher percentage of patients who admitted the use of alternative medicine and alcohol intake was non-adherent to treatment. This finding is consistent with most previous studies that showed substance abuse to be a strong predictor of non-compliance

[20, 3].However, the study result should be interpreted with caution as higher percentage of the study population did not use alternative medicine (84.8%) or take alcohol (85.9%).

Insight into the illness is a strong predictor of complaint behaviours; lack of insight significantly predicts non-compliance [21]. The study finding supports the previous findings as existing denial of illness was found to be associated with adherence status. More than half of the patients on the non-adherent group denied the existence of their illness. Denial of illness leads to refusal to take medications due to patients unawareness of the disease. Medication side effects were found to significantly affect adherence. Previous studies identified side effects as a very important factor affecting adherence [22]. Drowsiness, dry mouth, headache, weight gain, blurred vision and muscle rigidity were the most prevalent side effects and these side effects, possibly, show that first generation antipsychotics were more commonly used in the health facility compared to the second generational antipsychotics. Though not significantly associated with patients' adherence, it is of concern to note that the attitude of health care providers (physicians, pharmacists and nurses) is an important factor affecting adherence. Several previous studies have shown that therapeutic relationship with the patient plays an important role in adherence to treatment [23]. The study result is consistent with these previous findings in that higher adherence level was reported by patients who were satisfied with pharmacist out-patient services, effectively counseled by pharmacist on time of medication administration, told the benefits and side effects of their prescribed medications and who had good relationship with physician compared to those that were not satisfied, counseled effectively on medication timing, told the benefits and side effects of medication or had poor relationship with the physician.

CONCLUSION

More than half (63.6%) of the patients that were interviewed adhered to their medications. The factors shown to be significantly related to medication adherence include amount spent per clinic visit, perception of social support, drinking skills, medications side effects, existing denial of illness and use of alternative medicine. Though majority of patients were adherents (63.6%), 36.4% of the patients still do not adhere to treatment regimen, which is a disturbing finding that needs urgent attention. Therefore, the health care team needs to collectively device means of improving the health care condition of these high risks potentially relapsing group.

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TABLE 1a: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE PATIENTS.

CHARACTERISTICS	FREQUENCY	PERCENTAGE (%)
AGE		
18-24	25	10
25-34	117	46.8
35-44	62	24
45-54	20	8
55-64	19	7.6
>65	7	2.8
RELIGION		
Christian	228	93.1
Islam	11	4.5
Traditional	11	2.4
TRIBE		
Benin/Edo	154	61.6
Yoruba	5	2
Igbo/Ika/Kwale	48	19.2
Urhobo	33	13.2
Hausa	9	3.6

Ijaw	1	0.4
SEX		
Male	121	48.4
Female	129	51.6
EDUCATIONAL LEVEL		
No formal education	5	2
Primary	28	11.2
Secondary	117	46.8
Tertiary	100	40
OCCUPATION		
Trader	20	8
Civil servants	32	12.8
Self employed	67	26.8

TABLE 1b: SOCIO-DEMOCRAPHIC CHARACTERISTICS OF PATIENTS CONTINUED.

OCCUPATION	FREQUENCY	PERCENTAGE	4
House wife	10		
Not employed	82	32.8	
Business executive	1	0.4	
Farmer	6	2.6	
MONHLY INCOME			
<5,000	9	3.6	
5,000-10,000	14	5.6	
10,000-20,000	11	4.4	
20,000-30,000	1	0.4	
30,000-40,000	12	4.8	
40,000-50,000	8	3.2	
>50,000	11	4.4	
Don’t want to state my income	184	73.6	
MARITAL STATUS			
Single	134	54.3	
Married	92	37.2	
Widow/Widower	14	5.7	
Divorced/Separated	7	2.8	
RESIDENTIAL AREA			
Within Benin City	129	51.8	
Outside Benin City	120	48.2	
TABLE 1c. LIVING ARRANGEMENT			
Lives Alone	10	4.2	
Lives with Family	230	95.8	

Table 2: Level of Adherence To Psychotropic Medications		
	Frequency	**Percentage (%)**
Adherence	159	63.6
Non-adherence	91	36.4
Total	**250**	**100**

Table 3: Analysis of sex of patients and adherence status.					
Sex	**Adherent**	**Percentage Adherent**	**Non-adherent**	**Percentage Non-adherent**	**Percentage**
Male	72	46	49	54	100
Female	87	54	42	46	100
Total	**159**		**91**		**250**
Percent	63.6	**100**	**36.4**	**100**	**100**

Table 4a: CORRELATIONAL ANALYSIS OF SOCIO-DEMOGRAPHIC FACTORS OF PSYCHIATRIC					
	Degree of adherence to antipsychotic drugs				
Socio demographics	**Adherence**	**Percent**	**Non-adherence**	**X^2**	**P-Value**
Age Group of Patient					
18-24	18	11.4	7	2.310	0.805
25-34	71	44.9	46		
35-44	42	2.6	20		
45-54	11	7.0	9		
55-64	12	7.6	7		
65 & above	4	2.5	2		
TOTAL	**158**	**100**	**91**		
Sex of Patient					
Male	72	45.3	49	1.699	0.192
Female	87	54.7	42		
TOTAL	**159**	**100.0**	**91**		
Religion of Patient					
Christianity	149	94.3	79	1.099	0.577
Islam	6	3.8	5		
Traditional/No	3	1.9	3		
TOTAL	**158**	**100.0**	**87**		
TRIBE					
Yoruba	1	0.6	4	8.088	0.150
Igbo	28	17.7	20		
Hausa	4	2.5	5		
Urhobo	21	13.3	12		
Edo/Benin	103	85.2	48		
Ijaw	1	0.6	0		
TOTAL	**158**	**100.0**	**89**		
Marital Status					
Single	82	52.2	52	1.658	0.646
Married	63	40.1	29		
Widow/Widower	8	5.1	6		

Divorced/Sparated	4	2.5	3		
TOTAL	**157**	**100.0**	**90**		
Occupation of Patient					
Trader	13	8.2	7	1.831	0.969
Civil Servant	22	13.9	10		
Self Employed	44	27.8	23		
Student	20	12.7	12		
House Wife	6	3.8	4		
Not Employed	48	30.4	33		
Business Executives	1	0.6	0		
Farmer	4	2.5	2		
TOTAL	**158**	**100.0**	**91**		
Table 4b. Educational Level of Patient					
No Formal Education	4	2.5	1	2.250	0.522
Primary	20	12.7	8		
Secondary	69	43.7	47		
Tertiary	65	41.1	35		
TOTAL	**158**	**100.0**	**91**		
Monthly Income of Patient					
Less than 5000	6	16.7	3	7.683	0.626
5000-10000	6	16.7	8		
10001-20000	8	22.2	3		
20001-30000	0	0.0	1		
30001-40000	4	11.1	8		
40001-50000	4	11.1	4		
Above 50000	8	22.2	3		
TOTAL	**36**	**100.0**	**30**		
Residential Area of Patient					
Within Benin	88	55.3	41	2.206	0.137
Outside Benin	71	44	49		
TOTAL	**159**	**10**	**90**		
Living Arrangement					
Living Alone	5	3.3	5	0.799	0.371
Living with Family	147	96.7	83		
TOTAL	**152**	**100.0**	**88**		
Table 4c. Amount Spent Per Clinic Visit					
Less than 1000	89	57.1	29		
1001-5000	42	26.9	38	13.603	0.003
5001-10000	24	15.4	21		
Above 10000	1	0.6	1		
TOTAL	**156**	**100.0**	**89**		
Source of Treatment Finance to Treatment					
First Degree Relative	124	78.0	72	4.071	0.254
Self Only	31	19.5	17		
Others	4	2.5	1		
TOTAL	**159**	**100.0**	**90**		
Perception Social Support					

Good	142	90.4	63	11.432	0.003
Fair	14	8.9	21		
Poor	1	0.6	1		
TOTAL	**157**	**100.0**	**85**		
Drinking Status					
Yes	11	7.0	24	18.011	0.000
No	147	93.0	67		
TOTAL	**158**	**100.0**	**91**		
Smoking Status					
Yes	8	5.1	10	3.116	0.078
No	150	94.9	80		
TOTAL	**158**	**100.0**	**90**		

Table 5a: CORRELATIONAL ANALYSIS OF CLINICAL/HEALTH-RELATED FACTORS OF PSYCHIATRIC OUTPATIENTS IN PSYCHIATRIC HOSPITAL, USELU AND DEGREE OF ADHERENCE TO PRESCRIBED MEDICATIONS.

Degree of adherence to antipsychotic drugs prescribed						
Clinical Factor	**Adherence Frequency**	**Percent (%)**	**Non-adherence Frequency**	**Percent (%)**	**X^2**	**P-Value**
Duration of illness (years)						
Less than 1	43	28.7	20	23.3	6.251	0.100
1-4	63	42.0	31	36.0		
5-9	29	19.3	29	33.7		
10 & above	15	10.0	6	7.0		
TOTAL	**150**	**100.0**	**86**	**100.0**		
Previously Admitted						
Yes	66	44.0	41	47.7	0.298	0.585
No	84	56.0	45	52.3		
TOTAL	**150**	**100.0**	**86**	**100.0**		
Symptom Severity						
Very severe	29	19.2	13	15.1	3.378	0.185
Moderately severe	30	19.9	26	30.2		
Not severe	92	60.9	47	54.7		
TOTAL	**151**	**100.0**	**86**	**100.0**		
Level Satisfaction						
Very Satisfied	123	82.0	59	69.4	4.702	0.095
Moderately Satisfied	22	14.7	21	24.7		
Not Satisfied	5	3.3	5	5.9		
TOTAL	**150**	**100.0**	**85**	**100.0**		
Existing Denial of Illness						
Yes	15	10.9	22	26.2		
No	22	89.1	62	73.8	8.678	0.003
Table 5b. Side Effect from Medication						
Yes	92	57.9	71	78.0	10.376	0.001
No	67	42.1	20	22.0		
TOTAL	**159**	**100.0**	**91**	**100.0**		
Pharmacist Effective Communication on Timing of Medication Administration						
Yes	138	95.2	80	93.0	0.469	0.493
No	7	4.8	6	7.0		
TOTAL	**145**	**100.0**	**86**	**100.0**		
Pharmacist Tells Benefits and Side Effects of Medication						
Yes	139	94.6	76	89.4	2.100	0.147

No	8	5.4	9	10.6		
TOTAL	**147**	**100.0**	**85**	**100.0**		
Relationship with Physicians						
Poor	8	5.4	7	8.2	0.695	0.405
Good	139	94.6	78	91.8		
TOTAL	**147**	**100.0**	**85**	**100.0**		
Use of Alternative Medicine						
Yes	12	8.3	23	26.7		
No	132	91.7	63	73.3	14.146	0.000
TOTAL	**144**	**100**	**86**	**100**		

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