ISSN 2349-7203

IJPPR
INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH
An official Publication of Human Journals

HUMAN

Human Journals
Research Article
April 2018 Vol.:12, Issue:1

Socio-Demographic Factors and Clinical Characteristics Associated with Treatment Non-Adherence among Mood Disorder Patients in a Psychiatric Facility in North-Eastern Nigeria

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Submission: 25 March 2018
Accepted: 02 April 2018
Published: 30 April 2018


www.ijppr.humanjournals.com

Keywords: Mood Disorder, Socio-demographic factors, Clinical Characteristics, Treatment Non-adherence,

ABSTRACT

Introduction: A Successful Bio-psychosocial approach to treatment for mood disorders can only be achieved when utmost adherence to the various treatment regimens prescribed to patients is followed. **Objectives**: To determine the prevalence rate of non-adherence to treatment among patients with mood disorders. To determine the socio-demographic and clinical characteristics associated with non-adherence among mood disorder patients and also to determine reasons reported by the participants and caregivers also to determine other the efficacy of assistance given to patients to remain adherent to treatment. **Method**: This was a hospital-based retrospective cross-sectional study, in which randomly selected clinical case notes of participants attending outpatient clinics diagnosed with mood disorders based on ICD-10 diagnostic criteria from 1st September 2011 to 31st August 2014. The information retrieved includes the following; socio-demographic profile, clinical characteristics, failure to keep-up with medication or scheduled appointment. Reasons provided by participants for not keeping up with treatment were also noted. **Result**: The prevalence rate of non-adherence to the treatment of mood disorder was 35% in this study. Financial constrain was stated as the main reason for non-adherence among the participants. Socio-demographic and Clinical characteristics were found to be associated with non-adherence in mood disorder patients. **Conclusion**: Thus, it is evident from a study that the rate of non-adherence to treatment in mood disorder patient is high. Financial constrain is the factor responsible for treatment nonadherence in the majority of cases and organized pooled payment schemes assist in ensuring financial support vis-à-vis adherence to treatment among mood disorder patients.

INTRODUCTION

Adherence is defined as the extent to which a patient`s behaviour coincides with medical or prescribed health advice. The World Health Organisation defines adherence as the adherence level of behaviour displayed by an individual that is receiving treatment or is making changes in their lifestyle in accordance with the recommendation made by a health professional. The determinants of non-adherence to treatment can be categorized into five dimensions: social and economic, health system-related, therapy-related, condition-related and patient-related (WHO, 2003). The prevalence of medication non-adherence for unipolar and bipolar disorders range 10% to 60% (Lingam and Scott 2002). Prevalence among depressed patients varies widely ranging from 15% to 52% over the course of the lifetime (Julius et al. 2009).

Earlier studies showed that treatment non-adherence is associated with being unmarried (Scott and Pope 2002), male gender (Baldesarini, Perry and Pike 2008), young age (Sajatovic et al 2009) and low level of education (Scott and Pope 2002). A northern Nigerian study conducted by Ikwuagwu et al (1995) revealed that 46% patients defaulted from the follow-up, and the most important factor associated with default was patient's residence of 100 kilometers or more from the hospital.

In a study carried out by Hibdye et al 2013 in Ethiopia revealed that socio-demographic factors including sex, age, marital status, and educational level were not found to be significantly associated with drug non-adherence among patients with bipolar disorder, the finding is in line with previous but similar study conducted by Lama et al 2012 in China which also did not find any association between the demographic factors and non-compliance in psychiatric patients.

Non-adherence results in greater utilization of medical resources with increased emergency room visits and psychiatric hospitalizations (Weiden and Olison, 1995). It has been noticed that non-adherence to medication in mood disorder is common and a major barrier to treatment success (Nicole et al 2006). According to World Health Organization (2003), therapy-related factors such as high dosage frequency and co-prescribing of benzodiazepine were the main factors decreasing adherence in patients with depression. A Meta-analysis found that relationship between depression and non-adherence was substantial while the association between anxiety and non-adherence were variable (Dimatteo et al 2000). Non-adherence among patients with depression is associated with medication inefficacy. Forty-

four percent of depressed patients stop taking the antidepressant as early as 3 months after treatment initiation (Lin E.H et al, 1995).Patients that discontinue antidepressant medication early often experience the re-emergence of depressive symptoms(Melfi et al 1998). The recurrence of episodes that follow often occurs with increased frequency and are less responsive to subsequently administered antidepressant medications (Thase and Sullivan 1995).

Psychosocial intervention is a modality of treatment given as an adjuvant therapy or sometimes a standalone treatment for mood disorders. Therapeutic alliance is an important component of psychological intervention (Castonguay 2006), for it to be achieved in therapy; its components (task, goal, and bond) must be addressed. Studies have shown that outcome of the psychological intervention is strongly related to the therapeutic alliance between the client and the therapist(Barber 2000, Constantino 2002, Castonguay 2006). Resistance refers to behaviour that interferes with making progress toward desire change. Resistance to therapy often manifests as missed sessions as the way of indirectly expressing anger developed in previous sessions toward the therapist in which through transference has been linked to the problematic relationship with significant others (Messer, 2002). The behavioural clinician considers resistance as behavioural noncompliance that hinders treatment (Newman, 2002) while the traditional psychoanalytic therapist views resistance as the natural reflection of client`s internal conflicts and therefore as necessary part of the therapeutic process (Wachtel, 1982).

Low recognition of the need for treatment and lack of insight was found to be strongly associated with non-adherence within a sample of patients with Schizophrenia (Staring et al 2011). Psychiatric disorders with impaired judgment and insight could also result in drug non-adherence (Luecht and Heres 2006). Complex drug regimen is also a risk factor for drug non-adherence (Lam et al 2007). Co-morbid substance use, cardiovascular disease, and metabolic disorders were also found to be associated with non-adherence (Akincigil et al 2005).Patients who received systematic patients' education and ongoing monitoring of medication adherence and depressive symptoms had high rates of using maintenance pharmacotherapy when compared to standard care patients (Von Korf et al 2003).

The concern now is how the growing number of patients with chronic disorders like mood disorders maintain therapy at the available treatment facilities. The interest to conduct this study was because of lack of information on non-adherence to treatment in mood disorder

patients in Northeastern region of Nigeria. Findings from this study will contribute to the development of cost-effective mental health care services to the mood disorder patients attending clinics in the northeastern part of Nigeria.

Aim of Study

1) To determine the prevalence rate of non-adherence among mood disorder patients attending the clinic at the Federal Neuro-psychiatric Hospital Maiduguri.

2) Socio-demographic and clinical factors that are associated with non-adherence among mood disorder patients.

3) Reasons for non-adherence to treatment reported by participants and family members of participants receiving treatment for the mood disorder.

4) Services provided in the hospital to reduce treatment nonadherence among mood disorder patients.

MATERIALS AND METHODS

This was a hospital-based retrospective cross-sectional study, which utilized clinical case notes of participants attending outpatient clinics diagnosed with mood disorders based on ICD-10 diagnostic criteria retrieved from the Health Information Management Department of the hospital from 1st September 2011 to 31st August 2014. Participants mode of payment for services rendered out of pocket payment, and pooled payment e.g. NHIS, Hospital Paupers fund, NGO`s.

The information utilized includes socio-demographic profile, family history of mental illness, insight, diagnosis,co-morbid diagnosis, drug treatment participants were placed on, number of hospital admissions, number of relapse and recurrence. Records of use of medication, exhaustion of medication, number of missed clinical appointments, departure from recommended lifestyle or not carrying out home-based assignments, inconsistency from the treatment for the period of 14 days or more, failure to keep to scheduled appointment for therapy sessions or psychosocial intervention for two weeks or more were categorized as treatment non-adherent. Reasons provided by participants for not keeping up with treatment were also noted. The number of follow up examinations for the participants recorded were also obtained.

The permission to carry out the study was given by the hospital research and ethical committee, verbal consent from patients for their information to be used for the study was obtained. Parental consent was sought for patients less than 16 years of age and patients, who refused for their information to be used, were not required to explain withholding consent. The hospital is located in Maiduguri metropolis. It is the tertiary referral psychiatric institution in the Northeastern region of Nigeria providing services to a population of about25 million and the neighbouring countries Chad, Cameroun, and Niger.

Inclusion criteria:

The participants whose case notes were recruited into the study met the following inclusion criteria: primary diagnosis of unipolar depression or mania, bipolar affective disorder according to ICD-10 diagnostic criteria with well-documented treatment regimen and progress report on their management.

Exclusion criteria:

Clinical case note with missing or insufficient information was excluded from the study.

Statistical analysis:

The data was entered using statistical package for social science (SPSS) version 20. Descriptive statistics and inferential statistic (Z statistical test & Chi-squares) were applied.

RESULTS

At the end of the study, the data of 2611 cases were selected out of 2651 yielding 98% with complete analyzable data. The data of 40 were not analyzed due to refusal to give consent (n=9), and whose data are incomplete because of missing information (n=31).

In this study 940(35.1%) participants were treatment non-adherent. 1041 out of 2611 participants were males, and 1570 were females. Out of the 940 treatment non-adherent participants, 612(65%) were non-adherent to medication prescribed while 89(9.4%) were non-adherent to psychosocial (Psycho-education/ counselling/psychotherapy) intervention, 239 (25.4%) were non-adherent to both pharmacological and psychosocial aspects of intervention (Table 1).

There was no difference in age between the treatment adherent and the treatment non-adherent groups There was more treatment non-adherent male than female and with a statistically significant difference (X^2=9-532, df=1, p=0.002)(Table 2).

Participants that were single, low educational attainment, unemployed were non-adherent to their treatment regimen compared to those that were married, high education and employed respectively. However, there was no significant difference in adherence between the participants residing in the 100km radius of Maiduguri and those residing more than 100km away (X^2 =3.768. df=1 p=0.0524) (Table 2).

Our study did not show any significant difference in the rate of family history of mental illness between the treatment adherent and the non–adherent participants (X^2=3.090 DF=1 p=0.0788) (Table 3). Higher rates of co-morbidity and hospitalization were found among the drug non-adherent participants compared to the drug adherent group.506 (53.8%) of non-adherent participants attributed their non-adherence to factors that were related to themselves as patients, of which260 (27.7%) mentioned that they couldn't afford for the medication and services rendered. 201(21.4%) mentioned security challenges as a reason, only 81 (8.6%) were of the opinion that distance prevented them from coming regularly to the hospital (Table4) (Figure 3).

There was a statistically significant difference in treatment non-adherence between participant whose payment for treatment was from a pooled source (36) compared to those that paid out of pocket(904) (x^2 = 176.4, df=1, p = 0.0002) (Table 5).Non-adherence to treatment was found to be less among participants, who were represented by identified family members at some time in the course of treatment than those that did not, to collect prescription or medication refill with a statistically significant difference(x^2=881.4, df=1, p= 0.004) (Table 6).

Table 1: Non-adherence according to modalities Treatment of mood disorders

Intervention	**Number of Participants non-adherent**	**Percentage (%)**
Pharmacological	612	65
Psychosocial	89	9.5
Combined	239	25.5
Total	940	100

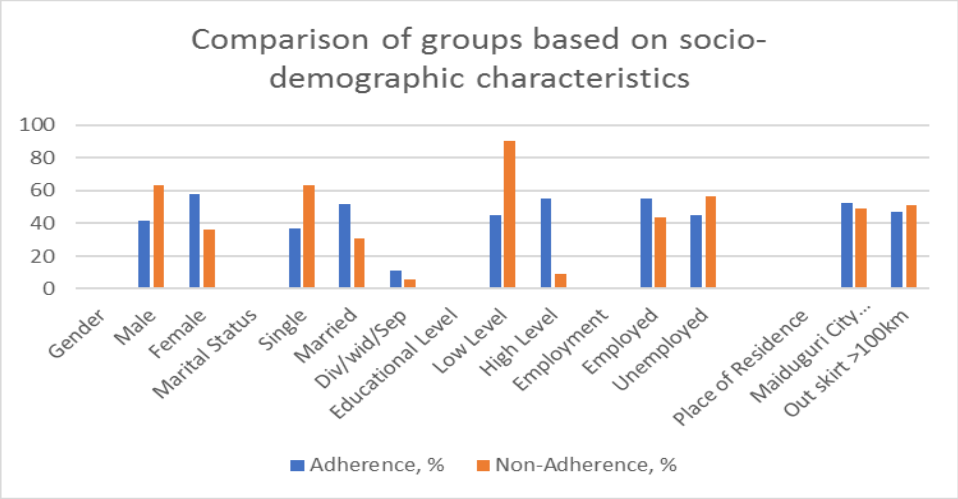

Figure 1: Comparison of groups based on socio-demographic characteristics

Table 2: Comparison of groups based on socio-demographic characteristics.

Socio-demographic characteristics	Non-adherent (n940)		adherent (n=1671)		Statistical Value		
Age (Average)	32.13		31.2		Z=- 0.339	p = 0.27	
Gender	N	%	N	%	X^2		p
Male	598	63.6	698	41.8	df		
Female	342	36.4	973	58.2	9.532	0.002	1
Marital Status							
Single	598	63.6	612	31.9	132.57	0.001	2
Married	289	30.7	732	36.6			
Div/wid/Sep	53	5.7	327	11. 5			
Educational Level							
Low Level	853	90.7	750	44.8	533.84	0.001	1
High Level	87	9.3	921	55.2			
Employment							
Employed	409	43.5	925	55.3	33.78	0.001	1
Unemployed	531	56.5	746	44.7			
Place of Residence							
Maiduguri City	459	48.8	882	52.8	3.763	0.0524	1
≤100km	481	51.2	789	47.2			
Out skirt >100km							

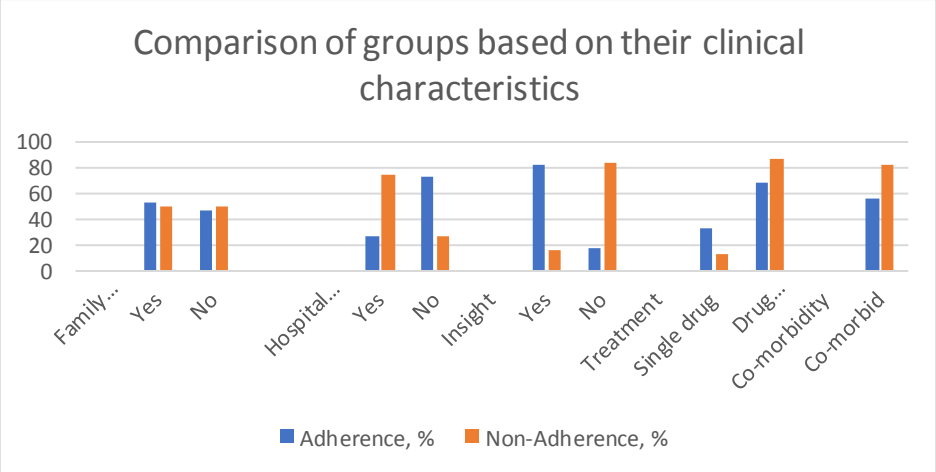

Figure 2: Comparison of groups based on the clinical characteristics

Table 3: Comparison of groups based on the clinical characteristics

Clinical characteristic	Non-adherent (n=940)		Adherent (n=1671)		Z	p	
No of follow up appointments missed (average)	3..4		7.9		-6.81	< 001	
	n	%	n	%	x^2	p	df
Family history of mental illness					3.090	0.0788	1
Yes	467	49.7	890	53.3			
No	473	50.3	781	46.7			
Hospital admission					477.15	0.001	1
Yes	692	73.6	456	27.2			
No	248	26.4	1215	72.8			
Insight					1088.61	0.001	1
Yes	150	16.0	1376	82.3			
No	790	84.0	297	17.7			
Diagnoses					39.4	0.003	1
Unipolar	1363	81.6	690	73.4			
Bipolar	308	18.4	250	26.6			
Treatment					412.65	0.004	1
Single drug	102	12.7	847	32.3			
Multiple drugs	838	87.3	824	67.7			
Co-morbidity					286.09	0.001	1
Co-morbid	796	81.8	860	55.2			
Non-co-morbid	144	18.2	811	44.8			

Level of Significance 0.05

Table 4: Reasons provided by participants for non-adherence

S/ No	Class of factors	Factor	Frequency	Percentage %
1	Drug factor	The side effect of medication	152	16.2
2	Patient factor	Feeling better	146	15.5
3		No reason	100	10,6
4		Financial	260	27.7
5	Environmental Factor	Distance	81	8.6
6		Security/Safety	201	21.4
7	Total		940	100

Table 5: Relationship between modalities of payment of treatment and treatment adherence

Modality of Payment	Adherent	Non-Adherent	df	Chi-square	P value
Out of Pocket payment	1273	904	1	176.42	0.0002
Pooled system of payment	398	36			

Level of significance 0.05

Table 6: Relationship between representation and non- adherence to treatment in mood disorder patients

attendance	Adherent	No n-Adherent	df	Chi-square	P Value
Self	2358	933	1	881.4	0.004
Represented by Significant Others	253	7			

Level of significance 0.05

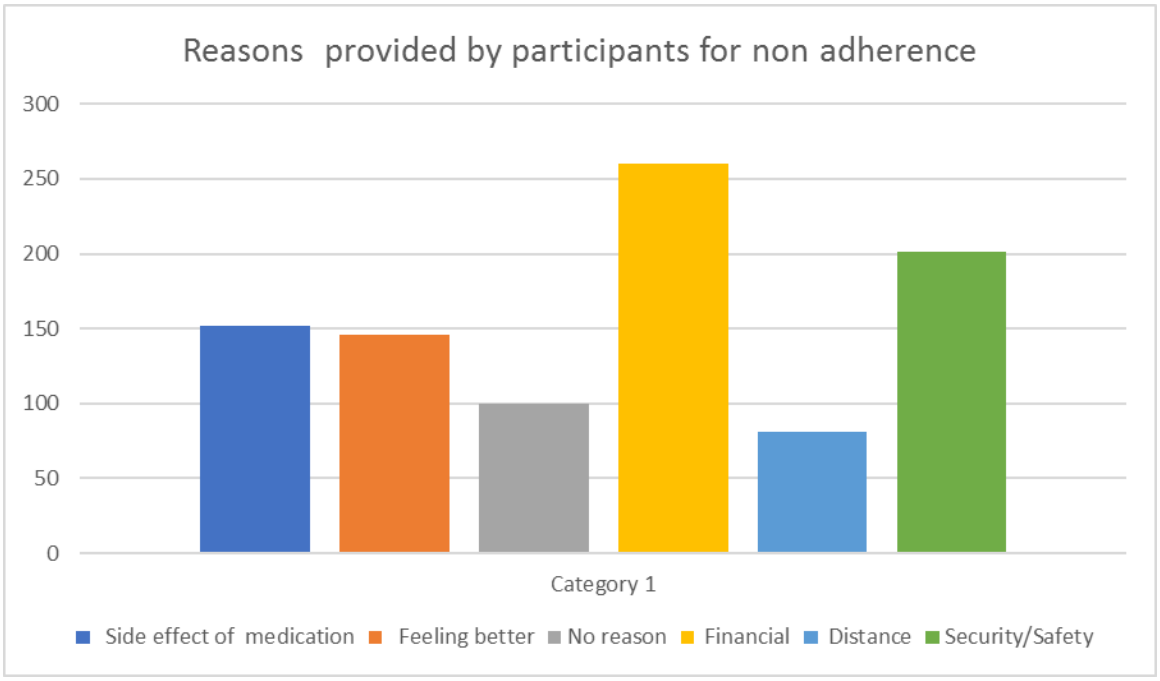

Figure 3: Reasons provided by participations

DISCUSSION

In our study, 35% of participants were non-adherent to treatment for mood disorders, which is lower than 50% obtained for all diagnosed psychiatric conditions in a study conducted by Ademola et al 2009. However, the result falls within the 10-60% determined by Lingam and Scott 2002. The process of determining non-adherence with precision is a challenging task. The patient disclosure or self-report remains the most subjective highly specific employed method of determining non-adherence in psychiatric patients' lingam et al 2007. Other more sensitive methods include pills counting, estimation of drug blood levels, metabolite or tracer substance, and use of electronic monitoring systems that record pills dispensing (Pumpili et al 2009).

In this study, males were found to be treatment non-adherent than the females, which concur with findings of a similar study in turkey carried out by Haluk et al 2011, and an earlier study by Scott and Pipe 2002. While being single, unemployed and low level of education were found to be associated with non-adherence in our study, which is in tandem with what Sajatovic et al 2007 found on bipolar patients in the United States, Alireza et al 2015 in Iran, Hibdye et al 2013 in Ethiopia and Lama et al 2012 in China found no relationship between non-adherence and socio-demographic profile .This might be as a result of methodological differences.

The plausible explanation is that the individuals that lack education have tendencies to harbour believes that likely to prevent them from having insight and thus less mindful of consequence of non-adherence, while the single participants non-adherence may be due to lack of family and social support which creates a gap in their emotional concern that enables them to bounce back. In this study being unemployed was an important factor for non-adherence, more than a quarter of the non-adherent participants reported financial problem as a major reason for not being able to continue treatment without interruption. This finding is in keeping with the fact that northeastern part of Nigeria is one of the poverty-stricken region of the country as stated in the Nigerian poverty profile 2012 by the National Bureau of statistics, thus buttressing the need for subsidizing and bringing mental health care services to communities (Gureje 2003) and incorporating it into the primary health care (Breen et al. 2007). The modalities introduced by the hospital in conjunction with Non-governmental organizations to cushion the effect of non-adherence were the pooled Pauper`s fund and treatment sponsorships to impoverished patients. The hospital has also allowed, based on the judgment of the clinician, in the best interest of patient for the family member or someone close to collect prescription and medication refill on behalf of the patient, even though the statuary laws in the health care provision in Nigeria is silent. As compared to the United States where it is stated as part of health insurance portability and accountability act (HHS.gov).

There were differences in the rate of hospitalization between the adherent and the non-adherent group in our study, which corroborates with findings of Kessing et al 2006, in which the non-adherent group had more hospital admissions than the adherent group. The non-adherent participants were likely to suffer more relapse that may be recalcitrant to treatment and thus the need for more frequent hospital admission. This study also revealed that insecurity as a result of insurgency going on in the north-eastern part of Nigeria has led to disruption of activities of inhabitants in the region preventing substantial number of sufferers of mood disorder from attending clinics for follow–up, access to health care has become increasingly difficult because40% of health facilities have been destroyed and 30% of skilled health workers have relocated to other parts of the country (Obi F.A and Eboreime E.). Participants that mentioned feeling better and those that gave no reason for discontinuing treatment were likely to have done so because of the good response to treatment perceived, which might have been subjectively misconstrued as the end point and that treatment is no longer necessary or the manifestation of deep-seated ambivalence toward treatment which

was suppressed by the influence of the carers on patients to accept it. Health care professionals need to understand that the process of accepting change often occurs in an oscillating manner rather than smooth progression.

CONCLUSION

Thus, our study concluded that the prevalence of treatment non-adherence among participants with the mood disorder was 35% and being male, single, uneducated, poor insight, as well as having co-morbid condition increases the chances of non-adherence to treatment. This study also revealed that financial constrain stood as the main barrier for patients with mood disorders to effectively utilize the readily available treatment for them in the Northeastern part of Nigeria.

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