African Journal of Biological Sciences

Journal homepage: http://www.afjbs.com

Research Paper   Open Access

Medication adherence patterns and factors associated with non – adherence among patients receiving psychotropic medication in a tertiary care hospital

Dr.Pulkit Raviprakash Kedia[1], Dr,Netravathi Basavaraj Angadi[2*], Dr.Sandeep Patil[3]

Dept of Pharmacology, KAHERs JNMC, Belagavi, India , 590010,

Dept of Pharmacology, KAHERs JNMC, Belagavi, India 590010

Dept of Psychiatry, KAHERs JNMC, Belagavi, India   590010,

Corresponding Author Email :drnetravathiab@jnmc.edu

ABSTRACT

Psychosis, characterized by a departure from reality, can occur in a range of psychiatric and medical conditions. Non-adherence to prescribed medication is a prevalent issue among individuals with psychosis. This leads to outcomes such as symptom recurrence, functional decline, and increased healthcare costs. Understanding the factors contributing to non-adherence and implementing strategies to promote medication adherence are crucial steps toward improving treatment outcomes. A questionnaire which inquired about their overall sociodemographic profile, comorbidities, prescription information, and awareness of the consequences of not taking psychiatric drugs as prescribed was used to gather data. The Medication Adherence Scale was used to evaluate therapeutic adherence. The study aimed to assess adherence among 201 patients on psychotropic drugs, revealing 76.6% patients had low adherence. Education level significantly influenced adherence (p=0.002), with a higher prevalence of low adherence in less educated patients. Moreover, there was a significant difference in adherence among different psychotropic medications (p=0.007). Notably, 32.8% of participants were unaware of the consequences of non-adherence. The primary reasons for non-adherence included symptom disappearance and forgetfulness. Our study's results imply that patient education should place emphasis on keeping track of medicines along and importance of maintaining a regimen of medication even after symptoms have disappeared.

Keywords : psychosis, adherence, psychotropic medicines, awareness

Introduction:

A combination of psychiatric symptoms that cause a person to lose touch with reality is called psychosis as suggested by Calabrese J and Al Khalili Y (2022).[1] The study by Calabrese J and Al Khalili Y (2022) further suggests that it is currently believed that a substantially higher, variable proportion of people may have at least one psychotic symptom in their lifetime, even though between 1.5 and 3.5% of people will satisfy diagnostic criteria for a psychotic condition. Bipolar disorder is a group of brain disorders that cause extreme fluctuation in a person's mood, energy, and ability to function. Numerous mental, neuropsychiatric, neurologic, neurodevelopmental, and medical disorders have psychosis as a common trait. It is a defining characteristic of

the schizophrenia spectrum and other psychotic illnesses, a co-occurring component of bipolar disorder and substance abuse disorder, and an associated symptom of other medical and neurological diseases. Psychosis has been a major focus of therapy for medical experts due to its potential to cause extreme distress for patients and their loved ones. (Calabrese J and Al Khalili Y. 2022)[1]

McGrath et al.(2004) suggest that approximately 50 out of 100,000 individuals experience psychosis for the first time, compared to approximately 15 out of 100,000 people who suffer from schizophrenia.[2] For males, the peak age of onset is often in their teens to mid-20s, whereas for females, it typically occurs in their teens to late-20s. While early intervention is associated with better results, earlier onset is associated with worse consequences. (Calabrese J and Al Khalili Y. 2022)[1]

Within a year, up to 75% of individuals with psychotic illnesses stop taking their prescription medicine or alter it; this tendency is known as non-adherence. The patient's choice is responsible for around one-third of drug discontinuations. Forsman et al. (2019)[3] have demonstrated that non-adherence is linked to greater rates of recurrence, later remission, worse functioning, the emergence of symptoms resistant to treatment, higher health care system expenses, and completed suicide. Having said that, the World Health Organization has highlighted the urgent need for a deeper comprehension of the many aspects influencing adherence. The WHO analysis suggests that increasing adherence to current treatment alternatives may be even more crucial to achieving better treatment outcomes than coming up with brand-new treatment approaches. (Surmann et al)[4]

However, in India there are few studies with variable and inconsistent findings regarding non-adherence to treatment for psychosis. Therefore, this study is aimed to estimate the prevalence of adherence to psychotropic medications and factors associated with non-adherence among patients with psychosis in tertiary care hospital. A better understanding of the magnitude and reasons for non-adherence to psychosis treatment will help in planning and implementing future strategies for the better outcome of the disease treatment.

Materials and Method

This was a cross sectional study. It included patients who were aged 18 years and above who were attending OPD and were admitted to IPD in the psychiatric ward in a tertiary care hospital in Belagavi, Karnataka, receiving psychotropic medications for atleast a month. Study was approved by Institutional Ethics Committee for Human Subjects' Research of the affiliated Medical College with Reference number MDC/JNMCIEC/165. A written informed consent was obtained from every participant before the initiation of the study.

Universal sampling was done for the study which lasted for 4 months in which 230 patients were screened, of which 201 patients were included based on the inclusion criteria of the study. Individuals were excluded if they

appeared intoxicated with drugs or alcohol or had diagnosis of mental impairment which may limit their cognitive ability to participate.

Data was collected using a questionnaire which included general sociodemographic profile (age, sex, educational level), comorbidities, details of their medication and awareness of the consequences of non-adherence to psychotropic medications. Therapeutic adherence was assessed using Medication Adherence Scale. (Thompson et al)[5] Health Education was imparted to those with low adherence, so as to prevent the consequences associated with it.

Adherence tool – Medication adherence was assessed using medication adherence rating scale (MARS). The scale included 10 items to which patient answers as Yes or No. A score of 1 is given for each question if answer indicates adherence. Based on the scores of the patients', adherence is categorised into low (score <6), moderate (score 6 to 8) or high (score 9,10).

Data was coded and entered on the excel spread sheet. Analysis of the data was performed using Statistical Package for Social Sciences (SPSS), version 20.0. Chi square test was used to find the association between the factors responsible for therapeutic non-adherence. $p < 0.5$ was considered as statistically significant.

Results:

The study was done to carry out to determine the level of adherence among patients on psychotropic drugs. A total of 230 patients were screened, of which 201 patients were included based on the inclusion criteria of the study.

The mean age of the patients was 35 years old. The majority of the patients were male. Of 201 patients 114(56.7%) of the population were males and 87(43.3%) were females. (Table 1). Among the various drugs received by the study participants, Of the 201 participants , typical antipsychotics were prescribed to 42(20.9%) patients, whereas 137(68.2%) patients were prescribed atypical antipsychotics and 22(10.9%) patients were prescribed antimanic drugs. (Table 1). From the 201 patients, 154(76.6%) patients had low adherence to psychotropic medications, 40(19.9%) patients had moderate adherence and 7(3.5%) patients had high adherence.

Non-adherence of patients to psychotropic drugs was significantly more in case of polytherapy. Of the 99 patients on polytherapy, 83 (83.8%) of them had low adherence and of the 102 patients on monotherapy, 71 (69.6%) of them had low adherence. Prevalence of therapeutic adherence to psychotropic medicines was

determined according to gender and it was found that of the 114 males, 91(79.8%) had low adherence, and of the 87 females, 63(72.4%) had low adherence. (Table 2)

Association between level of education and therapeutic adherence to psychotropic medicines was analyzed using Spearman's correlation test and a significant difference was found between the two groups with p value of 0.002 (Table 3). Medication adherence was compared between different psychotropic medications received by the patients using Chi square test and a significant difference was found between them with a p value of 0.007 was found. (Table 4)

Of the total 201 participants, 66 (32.8%) were unaware of consequences of non-adherence to psychotropic drugs whereas 135(67.2%) were aware of the consequences of non-adherence to psychotropic drugs. The most common cause of non-adherence was disappearance of symptoms (23.23% participants) followed by forgetfulness (20.93% participants) followed by other causes. (Figure 1)

Discussion

Psychosis is the term for a group of mental health conditions that make a person lose their sense of reality. It is currently considered that a much greater, variable number of persons could display at least one psychotic symptom in their lifetime, even though between 1.5 and 3.5% of people would fulfill diagnostic criteria for a psychotic disorder. Psychosis is a prevalent feature of many mental, neuropsychiatric, neurologic, neurodevelopmental, and medical illnesses. (Calabrese J and Al Khalili Y. 2022)[1]

According to studies by Julius, Novitsky and Dubin.(2015), in general and specialized clinical practices, one of the most frequent reasons for treatment failure is nonadherence.[6] Ensuring treatment adherence, which is defined as "the extent to which the patient follows medical instructions," has shown to be one of the major obstacles to the efficacy of psychiatric drugs as suggested by Teferra et al (2013)[7]

Our study explored the magnitude of non-adherence among patients receiving various psychotropic medications and the factors associated with it. The magnitude of Low adherence was 76.6%. According to previous studies by Julius, Novitsky and Dubin.(2015) the range of medication nonadherence is 20-50% for bipolar illness, 20-72% for schizophrenia, 57% for anxiety disorders, and 28-52% for major depressive disorder. [6]About 40% of patients cease taking the psychiatric drug they were prescribed during the first year, and approximately 75% stop by the second year according to study done by Perkins DO. 1999[8] Disappearance of symptoms was the most predominant reason for non-adherence.

We also explored if the patients knew about the consequences of non-adherence. Majority of the patients were unaware of the consequences of non-adherence. This points towards increased need of patient education. Especially because sub-optimal adherence to psychotropic medications has been associated with relapse, significantly more psychiatric hospitalizations, emergency room visits, poorer mental functioning, lower life satisfaction, more disability-related absences from work, greater substance use, increased suicidal behavior, poorer adherence to medications for comorbid medical conditions, and increased health-care costs.(Lucca et al. 2015.)[9]

We determined if there was a disease prevalence based on gender and found that majority of the patients were male and the most common age group of patients was 26-40. This finding is in accordance with the earlier studies by Chandra et al.(2014)[10]

The patients on atypical anti-psychotics had higher non-adherence than those compared to patients on typical antipsychotics and antimanic drugs. This may be due to the disappearance of symptoms which was the most common factor for being non adherent among the patients. This is similar to previous studies on developing countries in Asia where it was reported that illiteracy, financial problems, distance from hospitals were the reasons for non-adherence. (Lucca et al. 2015.)[9]

Statistical correlation was found between the education status and the adherence levels where in it was found that lower education was associated with non-adherence.

Various research findings have demonstrated that sub-optimal adherence to psychotropic medications has been associated with relapse, significantly more psychiatric hospitalizations, emergency room visits, poorer mental functioning, lower life satisfaction, more disability-related absences from work, greater substance use, increased suicidal behavior, poorer adherence to medications for comorbid medical conditions, and increased health-care costs.(Lucca et al. 2015.)[9]

Conclusion

Our study findings suggest that there is a need to provide adequate information about consequences of non-adherence to the patients who are treated with psychotropic medications. Patient education in this regard should especially focus on continuation of medicine even on disappearance of symptoms and about ways in which the patients don't forget about taking the medicines.

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Table 1 : Demographic and clinical profile of the patients receiving psychotropic medicines in a tertiary care hospital.

Variable		Frequency	Percentage(%)
Age in years	<25	43	21.4%
	26-40	94	46.8%
	41-60	56	27.9%
	>60	8	3.9%
Sex	Male	114	56.7%
	Female	87	43.3%
Educational status	Primary, Secondary, High school	143	71.1%
	College Degree	48	28.9%
Type of psychotropic medicines	Typical antipsychotics	42	20.9%
	Atypical antipsychotics	137	68.2%
	Antimanic drugs	22	10.9%
Psychotropic polytherapy	Yes	99	49.3%
	No	102	50.7%

Table 2. Prevalence of therapeutic adherence (%) to psychotropic medicines in a tertiary care hospital among study participants based on gender

Gender	Low Adherence	Moderate Adherence	High Adherence
Male	79.8%	19.3%	0.9%
Females	72.4%	20.7%	6.9%
Total	76.6%	19.9%	3.5%

Table 3. Association between level of education and therapeutic adherence (%) to psychotropic medicines in a tertiary care hospital among study participants
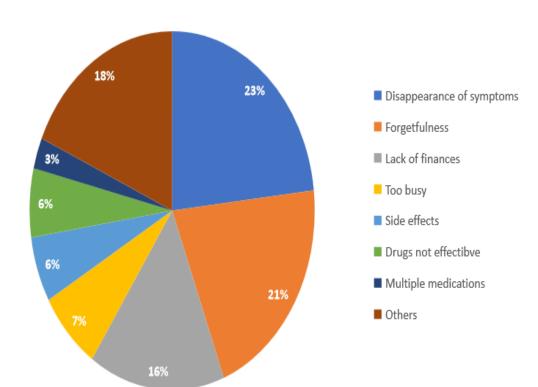
Education	Low Adherence	Moderate adherence	High Adherence	
Primary / Secondary / High school	82.5%	14.7%	2.8%	r=0.012 p= 0.002
+ College / Degree	62.1%	32.8%	5.2%	

Spaerman's Correlation analysis

Table 4 . Association between type of psychotropic medication and therapeutic adherence (%) to psychotropic medicines in a tertiary care hospital among study participants

Psychotropic drugs	Low Adherence	Moderate adherent	High Adherence
Typical Antipsychotics	59.5%	38.1%	2.4%
Atypical antipsychotics	82.5%	13.1%	4.4%
Antimanic drugs	72.7%	19.9%	0.0
	Chi square value – 14.224 p=0.007*		

Fig 1. Reasons for non-adherence to psychotropic medicines in a tertiary care hospital among study participants.