Original Research Article

A retrospective study of treatment compliance in psychiatric patients and factors affecting the same

Umesh Atram[1], Sagar Karia[2], Nilesh Shah[3], Sushma Sonavane[4], Avinash De Sousa[5]

[1,2]Resident Doctor
[3]Professor and Head,
[4]Professor (Addl.),
[5]Research Associate,
Department of Psychiatry, Lokmanya Tilak Municipal Medical College, Mumbai
E-mail – avinashdes888@gmail.com

ABSTRACT

Background: Psychiatric disorders are usually long standing, requiring regular monitoring, follow up and medications for effective management of symptoms. This study was carried out to know the probable factors that affect the compliance to treatment. The aim of study is to assess the pattern and regularity of follow-ups in psychiatric patients while studying various factors affecting treatment compliance and long term compliance in patients attending psychiatry OPD.

Methodology: 200 old follow up cases were enrolled in the study with consent for collecting retrospective data on compliance (long term compliance). A special pro-forma was prepared to collect the following data: Socio – demographic aspects, diagnosis and follow up details, compliance and non-compliance factors. Patients were then interviewed using the special pro-forma and relevant data was collected for the individual case. The data was then pooled, tabulated and subjected to statistical analysis.

Results: Majority of patients with depressive and anxiety disorders and psychotic disorders had a good compliance while patients with substance related disorders had a poor compliance. The most frequently encountered reasons for long term poor compliance were financial constrains, busy schedule of the patients, uncooperative patients, availability of extra medications, etc.

Conclusion: Socio-demographic factors do not affect the compliance of patients with mental illness. Education seems to have a clinical impact on compliance in the long term. The most significant factor affecting compliance was found to be the clinical profile of the patient. Various reasons cited by patients for poor compliance included those related to the patient, to the caregiver, to the medications and to environmental factors. As expected, compliance of patients on ECTs was good, with very few patients having poor compliance.

Key words: compliance, retrospective, long term, psychiatry, factors.

INTRODUCTION

Adherence or compliance is defined as the extent to which patient's behavior coincides with medical or prescribed health advice [1]. For effective management of psychiatric disorders, regular monitoring, follow up and medications is required as they are usually long standing. The reasons for non compliance may include discomfort resulting from treatment, expense of treatment, decision based on personal values & judgments; or religious or cultural beliefs about the advantages and disadvantages of the proposed treatment, maladaptive personality traits or coping styles [2]. Faulty compliance is not a trivial issue. It accounts for a significant financial loss and clinical morbidity. As many as 1 in 10 hospital and 1 in 4

nursing home admissions may be wholly or partly due to poor compliance [3]. Considering the psychological, social and biological complexity and the long term nature of psychiatric disorder, the topic is of significant interest to the psychiatrist and so this study was done to study pattern and regularity of follow-ups in psychiatric patients, the long term compliance and to study various factors affecting treatment compliance in patients attending psychiatry OPD.

METHODOLOGY

This was a retrospective study conducted by department of Psychiatry of a tertiary teaching hospital after Institutional Ethics Committee approval. 200 old follow up cases were enrolled in the study with consent for collecting retrospective data on compliance (long term compliance). The inclusion criteria were all patients attending the psychiatry OPD and diagnosed as having psychiatric disorders according to DSM-IV-TR criteria [4], patients of either sex and of any age, all the patients and/or relatives willing to participate in the study and giving informed consent for same, all patients with reliable and adequate data regarding compliance to treatment. The exclusion criteria include patients lacking objective data regarding compliance to treatment and patients not suitable for study for any other reason as per discretion of the investigators.

The following materials were used for assessment of the patients:
1) A special proforma was prepared to collect the following data:-
    a) Socio – demographic details.
    b) Diagnosis and follow up details over last 2 years.
    c) Compliance and noncompliance factors.
2) DSM-IV-TR criteria for diagnosing patients.

Patients and/or relatives were explained the nature of the study. An informed consent was taken from the patient and/or relatives. Patients were then interviewed using the special Performa and relevant data was collected for the individual case.

The population was further divided into three groups depending on compliance (number of appointments missed over 6 months) on various treatment modalities into:
    a) Good compliance: missed only 1 -2 appointments, did not miss their medications or if, missed, then not for more than 6 days
    b) Moderate compliance: missed 3 – 4 appointments, having missed medication for more than or equal to 7 days but less than a month
    c) Poor compliance: missed 5 or more appointments, having missed medications for more than a month or discontinued medications

Factors affecting compliance were cross – tabulated with these three groups and subjected to statistical analysis using computerized software.

RESULTS

Sociodemographic profile of the retrospective population (n = 200)

The sample consisted of 200 patients with a mean age of 40.42 yrs, the age range being between 15 to 82 years. It comprised of 115 (57.5%) females and 85 (42.5%) males. 46 (23%) of patients were unmarried, 134 (67%) were married and 20 (10%) were widows, separated or divorced. There were 69 (34.5%) uneducated patients, 107 (53.5%) school educate patients and 24 (12%) college educated patients. 137 (68.5%) patients were unemployed, 40 (20%) patients engaged in unskilled work, 15 (7.5%) in semi – skilled work and 8 (4%) in skilled work. 71.5%, i.e., 143 patients belonged to the lower class, 22.5%, i.e., 45 belonging to middle class and only 6% , i.e., 12 patients belonging to upper class in the study. The sample consisted of 154 (77%) Hindu's, 43 (21.5%) Muslims and 3 (1.5%) following other religions. 154 (77%) patients came from nuclear families while 46 (23%) came from joint families.

Diagnostic profile of the population

115 (57.5%) patients were diagnosed as having psychotic disorders. Around 59 (29.5%) patients were diagnosed as suffering from the various depressive and anxiety disorders. There were 9 (4.5%) patients enrolled in the study diagnosed with substance related disorders. 17 (8.5%) patients received diagnosis other than these three categories such as personality disorders, impulse control disorders, adjustment disorders, migraine, tension headaches, etc. The first consultation that the patients sought for their symptoms were also studied and it was found that 89 (44.5%) patients first consulted a general practitioner for their complaints, 73 (36.5%) went to faith healers initially and only 38 (19%) patients came directly to a psychiatrist for their symptoms. The mean duration of the various mental illnesses in the study population was 7.77 years with a range of 2 – 27 years.

Compliance on various treatment modalities

Of the 200 patients studied for follow up at appropriate intervals, 92 (46%) showed good compliance, i.e., those patients who didn't miss any appointments they were given or missed only 1 -2 appointments; 88 (44%) had moderate compliance, i.e., those patients who missed 3 – 4 appointments; and patients having poor compliance were 20 (10%), who missed 5 or more appointments. All 200 patients studied were prescribed medications, amongst these 169 (84.5%) had good compliance, i.e., did not miss their medications or if, missed, then not for more than 6 days; 24 (12%) had moderate compliance, having missed medication for more than or equal to 7 days but less than a month; and only 7 (3.5%) patients had poor compliance on medications having missed medications for more than a month or discontinued medications. As can be seen from the table, almost 81% or 38 out of 47 patients put on ECT had good compliance , i.e., did not miss more than 1- 2 ECTs, 6 (12.76%) had moderate compliance, missing 3 – 4 ECTs and 3 (6.38%) had poor compliance. The probable reasons for this could be that more severely ill patients are put on ECT's, more frequent follow up for ECT's, quicker improvement seen on ECT's as compared to other treatment modalities.

Reasons for non – compliance

Most reasons quoted were patient related, of which, maximum (65) times the reason given was the patient having a busy schedule, either due to work or other obligations. 57 times patients were uncooperative for treatment. 55 times the reason given was that patients went out of town and couldn't come for treatment as advised, followed by poor compliance due to having forgotten the appointments (45 times), relapse of symptoms (37 times), medical co- morbidities in the patients (24 times) and patients having lost medical records (18 times). The top ranking caregiver related reason quoted on long term compliance was financial constraints (74 times), followed by lack of a caregiver (37 times) and medical illness in the caregivers (21 times). The drug related reasons cited by the patients included availability of extra medications (46 times), claiming to feel 100% better with medications and so feeling that they can be discontinued (42 times) and unavailability of prescribed medications free of cost from the health care facility (10 times). Certain environmental reasons like bad weather (24 times) and living at a long distance from mental healthcare facilities (44 times) were also on the list of reasons for poor compliance.

Factors affecting compliance on follow up

The factors like age, sex, marital status, occupation, socio-economic status, religion, type of family, first consultation and duration of illness do not affect the compliance on follow up. Education does play an important role. Almost 50% of the educated population had a good compliance and only 7.6% had poor compliance as compared to the uneducated patients, amongst which almost 15% had poor compliance and only 39% had good compliance. This difference was also found to be statistically significant. The most significant factor affecting the long term compliance is diagnosis. Patients having substance related disorders had a very high poor compliance – 33.3%, while patients with psychotic disorders mostly had a

good compliance – 45%. Surprisingly, most patients with depressive and anxiety disorders had moderate compliance – 52.5%. This could be because patients with depressive and anxiety disorders tend to recover better on treatment and remain better for a longer time, which might make them lax in regular follow up. This difference was found to be highly statistical significant (p < 0.01) [Table 1a & b].

Factors affecting compliance on medication

All the 200 patients studied retrospectively had received medications. Since only those patients who took treatment for a long time got enrolled in the study, when they were divided into 3 groups, viz, good compliance, moderate compliance and poor compliance; only 7 fell into the category of poor compliance. So, for the purpose of studying the various factors affecting compliance on medication, patients with moderate and poor compliance were grouped together into one group of 31 patients. The factors like age, sex, marital status, education, occupation, socio-economic status, and religion, type of family, first consultation, diagnosis and duration of illness do not affect the compliance on medications [Table 2a & b].

Table 1a - Demographic Factors affecting compliance on follow up

Parameter		Good compliance (N = 92)	Moderate compliance (N = 88)	Poor compliance (N = 20)	Test, p value
Age (Mean ± S.D.)		38.59 ± 12.83	42.55± 14.54	39.4 ± 17.43	ANOVA, p = 0.163
Sex	Female	51 (55.4%)	56 (63.63%)	8 (40%)	Chi square
	Male	41 (44.6%)	32 (36.37%)	12 (60%)	p= 0.134
Marital Status	Unmarried	19 (20.65%)	19 (21.6%)	8 (40%)	Chi square
	Married	65 (70.65%)	58 (65.9%)	11 (55%)	p= 0.326
	Widow#	8 (8.7%)	11 (12.5%)	1 (5%)	
Education	Educated	65 (70.65%)	56 (63.63%)	10 (50%)	Chi sqquare
	Uneducated	27 (29.35%)	32 (36.37%)	10 (50%)	p= 0.05*
Occupation	Skilled	3 (3.27%)	4 (4.5%)	1 (5%)	Chi square
	Semi-skilled	7 (7.6%)	6 (6.8%)	2 (10%)	p= 0.997
	Unskilled	19 (20.65%)	17 (19.32%)	4 (20%)	
	Unemployed	63 (68.48%)	61 (69.32%)	13 (65%)	
Socio – economic status	Upper class	8 (8.7%)	3 (3.40%)	1 (5%)	Chi square
	Middle class	23 (25%)	19 (21.60%)	3 (15%)	p= 0.46
	Lower class	61 (66.30%)	66 (75%)	16 (80%)	

Also includes divorced or separated patients (*statistically significant at p<0.05)

Table 1b - Diagnosis affecting compliance on follow up

Diagnosis	Good compliance (N = 92)	Moderate compliance (N = 88)	Poor compliance (N = 20)
Depressive & anxiety disorders	22 (23.92%)	31 (35.23%)	6 (30%)
Schizophrenia and other psychotic disorders	52 (56.52%)	52 (59.10%)	11 (55%)
Substance related disorders	4 (4.34%)	2 (2.27%)	3 (15%)
Others	14 (15.22%)	3 (3.40%)	0 (0%)
χ^2 = 17.171; df = 6; p < 0.01 (significant)			

Table 2a - Demographic Factors affecting compliance on medications

Parameter		Good compliance (N = 169)	Moderate to poor compliance (N = 31)	Test, p value
Age (Mean ± S.D.)		40.9 ± 14.1	38 ± 14.7	ANOVA, p = 0.31
Sex	Female	97 (57.40%)	18 (58.06%)	χ^2,
	Male	72 (42.60%)	13 (41.94%)	p= 0.945
Marital Status	Unmarried	35 (20.71%)	11 (35.49%)	χ^2,
	Married	117 (69.24%)	17 (54.84%)	p= 0.192
	Widow#	17 (10.05%)	3 (9.67%)	
Education	Educated	111 (65.68%)	20 (64.52%)	χ^2,
	Uneducated	58 (34.32%)	11 (35.48%)	p= 0.9
Occupation	Skilled	7 (4.14%)	1 (3.23%)	χ^2,
	Semi-skilled	12 (7.1%)	3 (9.68%)	p= 0.898
	Unskilled	35 (20.72%)	5 (16.13%)	
	Unemployed	115 (68.04%)	22 (70.96%)	
Socio – economic status	Upper class	11 (6.5%)	1 (3.23%)	χ^2,
	Middle class	39 (23.08%)	6 (19.35%)	p= 0.666
	Lower class	119 (70.42%)	24 (77.42%)	

Also includes divorced or separated patients (* statistically significant at p<0.05)

Table 2b - Diagnosis affecting compliance on medications.

Diagnosis	Good compliance (N = 169)	Moderate to poor compliance (N = 31)
Depressive & anxiety disorders	49 (29%)	10 (32.26%)
Schizophrenia and other psychotic disorders	97 (57.39%)	18 (58.06%)
Substance related disorders	7 (4.14%)	2 (6.45%)
Others	16 (9.47%)	1 (3.23%)
χ^2 = 1.608; df = 3; p = 0.658 (Not significant)		

DISCUSSION

Our study shows that age distribution does not affect the compliance in long term follow-ups and this is in agreement with the study by Sreenivasmoorthy and others who observed that the distribution of age groups did not differentiate the treatment acceptors from the drop outs [5]. Few studies however have found that age did play a role in compliance. In one study it was found that patients of age group 31-40 years were most non-compliant [6] while in another one non-compliance was maximum in age group 21-30 years [7]. An Indian study on follow ups in a rural psychiatric clinic reported that the number of males and females attending follow up clinic is almost similar which is in agreement with our study [8]. Findings of our study are in disagreement with the study of attitudes and drug acceptance by Richards who commented that male patients who mask doubt about their masculinity behind social outgoings may find the "chemical restraint" produced by tranquilizers particularly threatening [9]. Our results of sex distribution are also in disagreement with a review of literature by Milton Davis who reported that females are more likely to default [10]. This may be due to difference in the population under study. The study of dropouts from psychiatric walk in clinic pointed out that acceptance of treatment was greater among females and reflected that it could be either due to a lesser degree of tolerance of aberrant behavior in

females by the community or a greater ease on the part of females to accept the 'sick role' and the attendant benefits in a stressful situation [5].

Our study does not show any effect of married status or type of family on outcome of compliance, which is in agreement with Kulhara who studied the pattern of follow up visits in a rural psychiatric clinic over 2 years reported that single and married patients attended the clinic in almost equal proportions [8]. Our results differ from the results of a study of Willcox and others on compliance in psychiatric outpatients conducted at Maudsley hospital, London, pointed out that men living alone defaulted more often than those living with their wives, which suggest a beneficial influence of supervision [11]. This may be because, in India, married patients tend to hide their illness due to the social implications of having a mental illness.

Gustavo Quesada in his first attempt to conceptualize some of the language and communication barriers existing between health providers and an ethnic minority group, concluded that cultural and language differences produce perceptual differences which affect the health status of minority group in terms of access, compliance and follow up in the dominant health system which is not in agreement with our study as our study did not show any relation between religion and outcome of compliance, this may be due to better linguistic communication between the health care providers and various ethnicities in our study [12]. Milton Davis had reported that barriers in doctor patient communication did not have a significant role in patient non compliance and that communication between doctor and patient is less important than the psychological readiness of the patient to accept treatment [10]. Gill and others in their study of drop outs from psychiatric clinic of a general hospital noted that the lower income group as well as the higher income group was significantly more likely to drop out than the middle range income group, which in disagreement with our study, as our results showed that socioeconomic status did not have any effect on the outcome of compliance, this may be due to difference in population under study [13].

Our study showed that level of education had no significant influence on the outcome of compliance in long term, which is in agreement with a study of drop outs from a psychiatric walk in clinic noted a tendency towards lower acceptance in those with no education compared to those with college education and professional qualifications although the differences was not statistically significant [5].

Kulhara and others in a study on follow up in rural psychiatric clinic observed that schizophrenic patients and bipolar depressed patients attended the clinic regularly and more frequently throughout year, our study is in agreement with this study [6]. Maximum non-compliance was seen in patients having schizophrenia followed by depressive disorders which is similar to findings of another study [6]. A study done in outpatient department of Pakistan Institute of Medical Sciences found that depressive disorder patients (31.5%) were more non-compliant followed by schizophrenia (19.5%) and Bipolar affective disorder (19%) [14].

Reasons for non-compliance mainly were busy schedule, uncooperative patient and financial constraints. Similarly studies found that major reasons for non-compliance were irregular attendance to clinics, ignorance about side effects of medicines and lack of education of medicines [6].

Our study had limitations in form that it was conducted in the OPD of tertiary hospital and so the results cannot be generalised as the patient flow may differ from other hospitals. The number of patients advised electroconvulsive therapy and counselling were very less so they could not be separately analysed. Several other factors affecting compliance on follow up and medications were not studied.

CONCLUSIONS

Following recommendations can be proposed by our study:
- Most frequent reasons for poor compliance include patient related factors such as busy schedule, being out of town, forgetting appointments, etc. These can be addressed by fixing appointments keeping in mind patient's schedule and having in place reminder systems such as telephonic or email reminders to patients.
- For factors related to caregivers like lack of caregivers, lack of knowledge among caregivers about illness and treatment, financial constrains and family stress; improving awareness about mental

illness, involving the entire family in treatment planning and psycho educating family members about need for proper compliance are some of the measure that can be taken.

- Medication related factors like availability of extra medications, side effects of medications, ineffectiveness of medication or in some cases 100% improvement with medications all form important factors leading to poor compliance. These can also be dealt by explaining the need and expected side effects of the prescribed medications to patient and family members, using pill

- Boxes, controlling prescription to avoid patients getting extra medications and explaining the need for continued treatment even after remission is achieved.

- As compliance has shown to be affected by diagnosis in our study, it is more important to psycho educate patients and relatives of patients with substance related disorder , personality disorders, impulse control disorders , adjustment disorders, etc., about the nature of illness and placing strategies for improving compliance in these patients early on.

- In a broader sense, encouraging education can be a community based approach which can improve compliance and in turn, prognosis of mental illness.

REFERENCES

1. Julius RJ, Novitsky MA Jr, Dubin WR. Medication adherence: a review of the literature and implications for clinical practice. J Psychiatr Pract 2009;15(1):34-44.
2. Roy R, Jahan M, Sushma Kumari S, Chakraborty P. Reasons for Drug Non-Compliance of Psychiatric Patients: A Centre Based Study. J Indian Acad Appl Psychol 2005;31(1-2):24-38.
3. Haynes RB, Taylor DW, Sackett DL, Gibson ES, Bernholz CD, Mukherjee J. Can simple clinical measurements detect patient noncompliance? Hypertension 1980;2(6):757-64.
4. Diagnostic and statistical manual of mental disorders, 4th ed, text rev. Washington, DC: American Psychiatric Publishing; 2000.
5. Sreenivasmoorthy R, Gosh A, Wig NN. Dropouts from psychiatric walk in Clinic. Indian J Psychiatry 1977; 19(2):11-7.
6. Bener A, Dafeeah EE, Salem MO. A study of reasons of non-compliance of psychiatric treatment and patients' attitudes towards illness and treatment in Qatar. Issues Ment Health Nurs 2013;34(4):273-80.
7. Maan CG, Hussain M, Heramani N, Lenin RK. Factors Affecting Non-Compliance among Psychiatric Patients in the Regional Institute of Medical Sciences, Imphal. IOSR J Pharmacy 2015;5(1),1-7.
8. Kulhara P, Chandramani K, Matoo SK, Varma VK. Pattern of follow up visits in a rural psychiatric clinic. Indian J Psychiatry 1987;29(3):189-95.
9. Richards AD. Attitude and Drug Acceptance. Br J Psychiatry 1964;110:46-52.
10. Davis MS. Variations in patients' compliance with doctor's advice: an empirical analysis of patterns of communication. Am J Pub Health 1968;58:274 -88.
11. Willcox DR, Gillan R, Hare EH. Do psyhiatric out-patients take their drugs? Br Med J 1965;2(5465):790–2.
12. Quesada GM. Language and communication barriers for health delivery to a minority group. Soc Sci Med 1976;10(6):323-27.
13. Gill HPS, Singh G, Sharma KK. Study of drop outs from a psychiatric clinic of a general hospital. Indian J Psychiatry 1990;32(2):152-8.
14. Taj R, Khan S. A study of reasons of non-compliance to psychiatric treatment. J Ayub Med Coll Abbottabad 2005;17(2):26-8.