



NON-ADHERENCE TO TREATMENT AMONG SCHIZOPHRENIC PATIENTS

Rameshwar S Manhas,¹ Angli Manhas,^{2*} Rukhsana Akhter,³ Jagdish R Thappa,⁴ Gaurav S Manhas⁵

¹Senior Resident, Department of Psychiatry, Government Medical College, Jammu, J&K, India.

²Senior Resident, Department of Ophthalmology, Government Medical College Jammu, J&K, India.

³MA in Psychology, Intern, Department of Psychiatry, Government Medical College, Jammu, J&K, India.

⁴Prof & HOD, Department of Psychiatry, Government Medical College, Jammu, J&K, India.

⁵Resident Scholar, Department of Radiodiagnosis, Government Medical College Jammu, J&K, India

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Corresponding author: Dr Angli Manhas

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Abstract

Background: One of the frequent problem in schizophrenic patients is non adherence to treatment which can be partial or complete and can leads to poor clinical outcomes. Non adherence to antipsychotic medications can lead to increased episodes of violent behavior, exacerbation of psychotic symptoms, increased rates of suicidal/homicidal behavior and resistance to drugs.

Aims: To find prevalence of non adherence to treatment in schizophrenic patients.

Materials & Methods: This is an observational, cross-sectional study which was conducted over a period of two months, on schizophrenic patients attending the outpatient department (OPD) of tertiary care hospital, Jammu. After meeting inclusion and exclusion criteria, total of 131 patients were selected for the study. Various parameters like age, sex, education, marital status etc were collected. A patient is said to be non adherent if he takes less than 80% of prescribed medication or have gaps in medication of at least 7 days.

Results: 64.9% schizophrenic patients were non adherent to their treatment. Prevalence of non adherence was higher in those schizophrenic patients who were males, unmarried, uneducated, unemployed, from rural areas, below 20 years of age and belongs to lower socioeconomic status whereas it was low in those who had parents as their caretakers.

Conclusion: In the present study it is concluded that the prevalence of non adherence among schizophrenic patients is high which may hamper treatment outcome, worsens the prognosis of the disease and produces excessive burden on the caretakers of these patients. Hence it is suggested that in addition to providing treatment to these patients, necessary initiatives must be taken by health care professionals to prevent relapses of symptoms by maintaining treatment compliance.

Keywords: Non Adherence, Prevalence. Schizophrenia

Introduction

In the present world scenario, one of the most severe mental disorder is schizophrenia which have a complex aetiology involving multiple and heterogeneous genetic factors.¹ It is a chronic disabling psychiatric disorder associated with significant challenges, not only significant in terms of its psychosocial consequences but also in its clinical management.²

The main aims of managing schizophrenia is to achieve and maintain remission of symptoms followed by reduction in the accompanying impairments.³ Along with non-pharmacological modalities, psychotropic medications forms the cornerstones in the management of schizophrenia.⁴

Since the schizophrenia is a chronically disabling disorder, its management specifically with medications is also longstanding which can be lifelong in some cases. For the success of pharmacotherapy in patients with schizophrenia, one of the key determinant is their adherence to the medication regimen, which is defined as the extent to which medication intake behaviour corresponds with the recommendations of the health care provider.^{5,6}

One of the frequent problem in schizophrenic patients is non adherence to treatment which can be partial or complete⁷ and can leads to poor clinical outcomes.⁸ Non adherence to antipsychotic medications can lead to increased episodes of violent behavior, exacerbation of psychotic symptoms, increased rates of suicidal/homicidal behavior and

resistance to drugs. Moreover non adherence is also associated with frequent relapse of symptoms, longer time to remission and rehospitalization which leads to increased costs to healthcare system putting excessive burden on caretakers.^{9,10}

Since non adherence to psychotropic medication in schizophrenic patients can be attributed to multifactorial influences such as; age, gender, education, employment, social support etc¹¹ and has severe consequences on patients and their families.¹² Hence this study was conducted to find prevalence of non adherence to treatment in schizophrenic patients.

Methodology:

This is an observational, cross-sectional study which was conducted over a period of two months, on schizophrenic patients attending the outpatient department (OPD) of tertiary care hospital, Jammu. After meeting inclusion and exclusion criteria, total of 131 patients were selected for the study. Various parameters like age, sex, education, marital status etc were collected. A patient is said to be non adherent if he takes less than 80% of prescribed medication or have gaps in medication of at least 7 days.¹³

Inclusion criteria

- Diagnosed cases of schizophrenia
- Patients above 18 years of either sex
- Patients who had been receiving treatment for at least 2 months
- Those patients/attendants who gave consent.

Exclusion criteria:

- Those having comorbid medical illness
- Those suffering from acute psychotic episode
- Any organic causes for their behavioural disturbance
- Those suffering from organic brain syndromes or mental retardation.

Statistical analysis:

Analysis of data was done using statistical software MS Excel / SPSS version 17.0 for windows. Data presented as percentage (%) as discussed appropriate for quantitative and qualitative variables.

Observations and results:

Prevalence of non adherence to treatment among the schizophrenic patients in the present study was 64.9%.

Table 1 shows that majority of the schizophrenic patients i.e. 82.1% patients who were below 20 years of age were non adherent to treatment followed by 70.6% between 21 to 40 years, 53.3% who were above 60 years and 48.6% who were between 41 to 60 years of age. As per sex of the patient is concerned 68.4% males whereas 59.6% females were non adherent to treatment. There were 74.1% rural patients and 47.8% urban patients who were non adherent to treatment. Prevalence of non adherence was higher in uneducated patients (71.1%) than in educated patients (62.4%). 80.8% unemployed and 44.8% employed schizophrenic patients were non adherent to their treatment. There were about 75% unmarried and 58.2% married patients who were non adherent. Prevalence of non adherence was higher in those schizophrenic patients who belongs to lower socioeconomic class (80.8%) followed by middle socioeconomic class (49%) and upper class (22.2%). Patients who had parents as their caretakers have lower rates of non adherence (49.1%) compared to spouses (75.5%), siblings (78.6%), and others (81.8%).

Table 1: shows prevalence of non adherence to treatment in schizophrenic

	Number of patients	Treatment adherent	Treatment non adherent
Age (in years)			
Below 20	28	5(17.9%)	23(82.1%)
21-40	51	15(29.4%)	36(70.6%)
41-60	37	19(51.4%)	18(48.6%)
Above 60	15	7(46.7%)	8(53.3%)
Sex			
Male	79	25(31.6%)	54(68.4%)
Female	52	21(40.4%)	31(59.6%)
Residence			
Rural	85	22(25.9%)	63(74.1%)
Urban	46	24(52.2%)	22(47.8%)
Education			
Educated	93	35(37.6%)	58(62.4%)
Uneducated	38	11(28.9%)	27(71.1%)
Employment status			
Employed	58	32(55.2%)	26(44.8%)
Unemployed	73	14(19.2%)	59(80.8%)
Marital status			
Married	79	33(41.8%)	46(58.2%)
Unmarried	52	13(25%)	39(75%)
Socio economic class			
Upper	9	7(77.8%)	2(22.2%)
Middle	49	25(51%)	24(49%)
Lower	73	14(19.2%)	59(80.8%)
Relation of the caretaker			
Parents	57	29(50.9%)	28(49.1%)
Spouses	49	12(24.5%)	37(75.5%)
Siblings	14	3(21.4%)	11(78.6%)
Others	11	2(18.2%)	9(81.8%)
Total	131	46(35.1%)	85(64.9%)

Discussion:

In the present study, the prevalence of non adherence to the medications in schizophrenic patients was 64.9% as 85 out of 131 patients were non compliant to their medications. Many factors which are consistently associated with non-adherence in patients with schizophrenia includes adverse drug reactions, lack of social support, substance abuse, attitudes towards their illness and the medication, past experiences with their illness and its treatment, lack of insight, inadequate availability of food, medication side effects, failure to improve with treatment and dissatisfaction with the attitude of health care providers.^{9,14-16} Our finding is in accordance with Lacro JP et al who in his review had stated that the estimated rates of non adherence in schizophrenic patients were about 50% widely ranging from 4% to 72%.¹⁷ Higher prevalence of non adherence to medications in schizophrenic patients were also observed in other studies.^{12,18}

As per the age, majority of the patients i.e. 82.1% below 20 years were non adherent to treatment compared to 70.6% between 21 to 40 years, 48.6% between 41 to 60 years and 53.3% patients who were above 60 years. Being young is an independent risk factor associated non adherence to treatment⁷ as there is more concern about the initial side effects of medications among the young patients.¹⁹ Our finding is in agreement with Sharma S et al who observed that the prevalence of treatment non adherence is higher in young schizophrenic patients compared to older ones.¹² Our finding can further be supported by Hui CL et al who also found that the younger schizophrenic patients had higher prevalence of nonadherence.²⁰ Other studies had also found similar results.²¹⁻²⁴ However Eticha T et al had observed higher prevalence of treatment adherence in younger schizophrenic patients²⁵ which can be explained by Dolder CR et al according to whom age had no significant effect on treatment adherence.²⁶

In the present study 68.4% males and only 59.6% females were non adherent to medications. Being female is a patient related risk factor for non adherence.⁷ Further the risk factors for non adherence such as alcohol and substance abuse were more associated with males compared to females.^{22,27} Moreover due to absence of caretaker there may be more missing of medications in males as in Indian culture males usually perform outside work and females performs household work.²⁸ Our finding is in

accordance with Eticha T et al who observed higher prevalence of non adherence in males compared to female schizophrenic patients.²⁵ Similarly Sharma S et al, Fleischhacker WW et al and Velligan DI et al had also found that prevalence treatment non adherence was higher in male schizophrenic patients than in females.^{12,13,29} Similar findings were also observed in other studies.^{23,30}

74.1% schizophrenic patients with rural background were non adherent to treatment whereas only 47.8% patients from urban areas were non adherent to treatment. Many factors which are associated with poor adherence to treatment among patients with rural background includes the long distance travelled to hospital, lack of psychiatric medication in government dispensaries and rural medical shops, and lack of money for buying medicines.¹² Our finding is in accordance with Manhas RS et al who also had observed higher prevalence of non adherence among psychiatric patients who belongs to rural areas.³¹

71.1% uneducated schizophrenic patients were non adherent to medications as compared to 62.4% of educated patients who were non adherent. Low education level is an independent patient related risk factor for non adherence in schizophrenic patients.⁷ Moreover with the increase in education, patients gain more knowledge regarding the course of the disease, importance of medication and harmful consequences which may arise following the discontinuation of medication which may results in higher treatment adherence rates among educated patients.³¹ Our finding is in accordance to Eticha T et al who observed that non adherence to medication was present in 67.9% of uneducated schizophrenic patients.²⁵ Nakonezny PA and Byerly MJ had also found higher prevalence of non adherence among uneducated schizophrenic patients.³² Similar observations were also made in other studies.^{12,33} However some studies had observed that adherence rate among psychiatric patients is not affected by their educational status.¹⁷

In the present study 80.8% patients who were unemployed were non adherent to medication whereas only 44.8% employed patients were non adherent to medication. Unemployment results in financial difficulties which itself is a risk factor for non adherence.⁷ Moreover unemployment is associated with reduction in the purchasing power of the patient and their families resulting in increase in non adherence to medication.³¹ Our finding is in

agreement with Eticha T et al who observed higher prevalence of non adherence to treatment in schizophrenic patients who were unemployed.²⁵ Other studies had also made similar observations.¹²

75% of unmarried schizophrenic patients were non adherent compared to only 58.2% married patients who were non adherent. Non adherence among unmarried patients occurs due to many factors which includes feeling of being a mental patient by taking medication on long term, fear of sexual side effects due to medication, negative attitudes to long-term prophylaxis.³¹ Moreover there is negative association between treatment adherence and being single whereas there is positive association between treatment adherence and being married.³³ Our finding is in accordance with Manhas RS et al who found higher prevalence of non adherence among unmarried psychiatric patients.³¹ However our finding is in contrast to Sharma S et al and Eticha T et al who observed higher prevalence of non adherence among married schizophrenic patients compared to unmarried one's^{12,25} which can be explained by Acosta FJ et al according to whom marriage is not a risk factor associated with treatment adherence.⁷

80.8% of schizophrenic patients of lower socioeconomic status were non adherent to their treatment followed by 49% patients of middle and 22.2% patients of lower socioeconomic status. Patients with lower socioeconomic status were usually uneducated and unemployed^{31,34} and both of them are independent risk factor for non adherence.⁷ Our finding is in accordance with Manhas RS et al who also observed higher prevalence of non adherence among psychiatric patients who belongs to lower socioeconomic status.³¹

Only 49.1% of schizophrenic patients who had parents as their caretakers were non adherent to treatments whereas there are high rates of non adherence among the patients who had spouses (75.5%), siblings (78.6%) and others (81.8%) as their caretakers. In Indian culture, the parents usually takes the illnesses of their child seriously³⁴ as they brings the patients regularly for follow ups and treatment and ensure compliance by supervising medication intake at home.¹² Our finding is in agreement with Manhas RS et al who found that rate of non adherence were low in patients who had parents as their caretakers.³¹ Similar results were also observed in other study.¹²

Conclusion

In the present study it is concluded that the prevalence of non adherence among schizophrenic patients is high which may hamper treatment outcome, worsens the prognosis of the disease and produces excessive burden on the caretakers of these patients. Patients who were young, living in rural areas, males, unmarried, unemployed, uneducated, and those who belongs to lower socioeconomic status have higher prevalence of non adherence to treatment. Hence it is suggested that in addition to providing treatment to these patients, necessary initiatives must be taken by health care professionals to prevent relapses of symptoms by maintaining treatment compliance.

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References:

1. Purcel MS et al. A polygenic burden of rare disruptive mutations in schizophrenia. *Nature* volume 2014; 506: 185–190.
2. Awad GA and Voruganti LNP. The Burden of Schizophrenia on Caregivers. *Pharmacoeconomics* 2008; 26 (2): 149-162.
3. Mcknight PE, Kashdan TB. The importance of functional impairments to mental health outcomes: a case for reassessing our goals in depression treatment research. *Clinical Psychology Review*. 2009; 29: 243 - 259.
4. Engel GL. The Clinical Application of the biopsychosocial model. *The American Journal of Psychiatry*. 1980; 137(5): 535-544.
5. Mahaye S, Mayime T, Nkosi S, Mahomed FN et al. Medication adherence of psychiatric patients in an outpatient setting. *African Journal of Pharmacy and Pharmacology*. 2012; 6(9): 608 - 612.
6. Cramer JA, Roy A, Burrell A, Fairchild CJ et al. Medication compliance and persistence: terminology and definitions. *Value Health*. 2008; 11(1): 44-47.
7. Acosta FJ, Hernández JL, Pereira J, Herrera J, Rodríguez CJ. Medication adherence in schizophrenia. *World J. Psychiatry* 2012; 2(5): 74–82.
8. Novick D, Haro JM, Suarze D, Perez V, Dittmann RW, Haddad PM. Predictors and clinical consequences of non-adherence with antipsychotic medication in the outpatient treatment of schizophrenia. *Psychiatry Res*. 2010; 176: 109–113.
9. Higashi K, Medic G, Diez T, Granström O, De Hert M, Littlewood KJ. Medication adherence in schizophrenia: factors influencing adherence and consequences of nonadherence, a systematic

- literature review. *Ther Adv Psychopharmacol* 2013; 3(4): 200–218.
10. Morken G, Widen JH, Grawe RW. Non-adherence to antipsychotic medication, relapse and rehospitalisation in recent-onset schizophrenia. *BMC Psychiatry* 2008; 8(32): 1-7.
 11. Ibrahim WA *et al.* Prevalence and predictors of sub-optimal medication adherence among patients with severe mental illnesses in a tertiary psychiatric facility in Maiduguri, North-eastern Nigeria. *Pan African Medical Journal*. 2015; 21(39): 1-11
 12. Sharma S *et al.* Prevalence and factors associated with medication compliance in Indian patients suffering from mental disorders. *Trop Doct* 2012; 42: 28-31.
 13. Velligan DI, Weiden PJ, Sajatovic M, Scott J, Carpenter D, Ross R, Docherty JP. The expert consensus guideline series: adherence problems in patients with serious and persistent mental illness. *J Clin Psychiatry* 2009; 70(4): 1-46; 47-48.
 14. Kane JM, Kishimoto T, Correll CU. Non-adherence to medication in patients with psychotic disorders: epidemiology, contributing factors and management strategies. *World Psychiatry* 2013; 12(3): 216–226.
 15. Birnbaum M, Sharif Z. Medication adherence in schizophrenia: patient perspectives and the clinical utility of paliperidone ER. *Patient Prefer Adherence* 2008; 2: 233–240.
 16. Teferra S, Hanlon C, Beyero T, Jacobsson L, Shibre T. Perspectives on reasons for nonadherence to medication in persons with schizophrenia in Ethiopia: a qualitative study of patients, caregivers and health workers. *BMC Psychiatry* 2013; 13(168): 1-9.
 17. Lacro JP, Dunn LB, Dolder CR, Leckband SG, Jeste DV. Prevalence of and risk factors for medication nonadherence in patients with schizophrenia: a comprehensive review of recent literature. *J Clin Psychiatry* 2002; 63: 892-909.
 18. Fenton WS, Blyer CR, Heinssen RK. Determinants of medication compliance in schizophrenia: empirical and clinical findings. *Schizophr Bull* 1997; 23: 637–51.
 19. Lingam R, Scott J. Treatment non-adherence in affective disorders. *Acta Psychiatra Scandinavia* 2002; 105: 164–172.
 20. Hui CL, Chen EY, Kan C, Yip K, Law C, Chiu CP. Anti-psychotics adherence among out-patients with schizophrenia in Hong Kong. *Keio J Med* 2006; 55: 9-14.
 21. Berk M *et al.* A collaborative approach to the treatment alliance in bipolar disorder. *Bipolar Disorders* 2004; 6: 504–518.
 22. Keck PE *et al.* Compliance with maintenance treatment in bipolar disorder. *Psychopharmacol Bull* 1997; 33: 87–91.
 23. Goodwin F *et al.* *Manic Depressive illness*. New York: Oxford University Press, 1990.
 24. Ritchie CW *et al.* Predictors of adherence to atypical antipsychotics (risperidone or olanzapine) in older patients with schizophrenia: an open study of 3 1/2 years duration. *Int J Geriatr Psychiatry* 2010; 25: 411–18.
 25. Eticha T, Teklu A, Ali D, Solomon G, Alemayehu A. Factors associated with medication adherence among patients with schizophrenia in mekelle, northern Ethiopia. *PLoS ONE* 2015; 10(3): 1-11.
 26. Dolder CR *et al.* Interventions to improve antipsychotic medication adherence: review of recent literature. *J Clin Psychopharmacol* 2003; 23: 389–99.
 27. Swartz M *et al.* Violence and severe mental illness: the effects of substance misuse and non-adherence to medication. *Am J Psychiatry* 1998; 155: 226-231.
 28. Trivedi JK. Prescription pattern of mood stabilizers for bipolar disorder at a tertiary health care centre in north India. *Indian journal of psychiatry* 2013; 55(2): 131-134.
 29. Fleischhacker WW, Oehl MA, Hummer M. Factors influencing compliance in schizophrenia patients. *J Clin Psychiatry* 2003; 64(16): 10-13.
 30. Danion JM, Neunrither C, Krieger-Finance F *et al.* Compliance with long-term lithium treatment in major affective disorders. *Pharmacopsychiatry* 1987; 20: 230–231.
 31. Manhas RS *et al.* Prevalence of non-adherence to treatment among patients of bipolar affective disorder. *Journal of medical science and clinical research* 2019; 7(6): 623-628
 32. Nakonezny PA, Byerly MJ. Electronically monitored adherence in outpatients with schizophrenia or schizoaffective disorder: a comparison of first- vs. second-generation antipsychotics. *Schizophr Res* 2006; 82: 107-114.
 33. Frank E, Prien RF, Kupfer DJ, Alberts L. Implication of non-compliance in research in affective disorders. *Psychopharmacological. Bulletin* 1985; 21: 37–42.
 34. Chadda RK. Caring for the family caregivers of persons with mental illness. *Indian Journal of Psychiatry* 2014;56(3):221-227.