



Original Article

Factors Affecting the Regularity of Follow-Ups in Patients with Schizophrenia Attending a Tertiary Hospital Psychiatry Unit - A Chart Review

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Received: 05-11-2025

Accepted: 01-12-2025

Available online: 12-12-2025

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Medical and Pharmaceutical Research

ABSTRACT

Background: Schizophrenia is one of the most disabling chronic mental illnesses. It requires treatment with long-term antipsychotics, at times over one's lifespan. Among other factors, regular contact with the treating team can improve adherence to medication, thus defining the course and outcome of the illness. Adherence is in turn influenced by several key factors - gender, educational status, marital status, family support, type of schizophrenia, medication, its side effects etc.

Aim: To enumerate the factors influencing the regularity of contact in individuals with schizophrenia and the treating team.

Methods: Case-records of patients diagnosed with schizophrenia who received inpatient care at a tertiary care hospital over two years were reviewed. Socio-demographic data, illness-related factors and follow-up visit details noted.

Results: 109 case-records were reviewed of whom 42 had no further consultation following discharge. Of the remaining, a majority were females (78.12%) urban dwellers (75.8%) educated up to secondary levels (71.74%), married (65.85%) from nuclear families (69.23%). Most of them had a shorter duration of illness (70.37%), predominantly paranoid subtype (68.9%), were prescribed oral atypical antipsychotics, in remission/showed an improving trend in symptomatology (75%) during their last consultation. There were no statistically significant differences in socio-demographic profile and illness characteristics in both groups.

Conclusion: Regularity of patient follow-up cannot be predicted based on sociodemographic profile, subtype, phenomenology or route of medication administration. It thus becomes the responsibility of the treating team to counsel patient and caregivers about the nature of illness, the importance of regular follow-up and treatment adherence at the very first point of contact, to ensure a favourable course and outcome.

Keywords: Schizophrenia, Patient Compliance, Lost to Follow-Up, Tertiary Care Centres.

INTRODUCTION

Schizophrenia is a severe form of mental illness affecting about 24 million people globally. Although the incidence is low, the prevalence of schizophrenia is high as it is a long-term chronic illness.^[1] Effective management of schizophrenia requires continuous long-term treatment to keep symptoms under control and to prevent relapse.^{[2][3]} Regular contact with the treating team ensures medication adherence and probably a favourable outcome.

Non-attendance at scheduled appointments is a prevalent issue in health care. Each year countless patients in various healthcare settings do not attend scheduled appointments. The rate of missed appointments varies between 5% and 30%, across different countries. They interrupt continuity of care, delay necessary treatments, and significantly affect clinical outcomes.^[4] Missed appointments can cause non adherence to medication. Non-adherence to prescribed drug treatments has been recognized as a problem worldwide and may be the most challenging aspect of treating patients with schizophrenia. Non-adherence, encountered more often during maintenance treatment, adversely affects the prognosis, as

it exacerbates symptoms in the early period of the disease.^[5] Early follow-up after discharge, within 7 days, reduces risk of relapse and risk of suicide.^[6] Those who do not comply with this are more likely to be hospitalised.^[7] Non-adherence is associated with psychiatric readmission, is the most common stressor for recurrence, and results in the likelihood of poor health status.^{[8][9]}

Consistently reported factors influencing attendance to follow-up include insight, beliefs about treatment, medication side effects, and treatment efficacy. Apart from these other factors affecting non-attendance at scheduled appointments are gender, personality, family support, other demographic variables, age at onset, illness duration and service availability.^[10] Although research has improved our knowledge, adherence rates do not seem to have changed in the last 4 decades.^[11]

Studies aiming at recognising the factors responsible for irregular visits to the treating centre/ non-adherence, are few in the Indian context. The current study aims to look at these factors retrospectively, to gain insight into the same, and plan strategies for effective intervention to ensure regular follow-ups with the treating team and thereby adherence.

METHODOLOGY

Study Design

Case records of patients diagnosed with schizophrenia according to ICD 10 treated at the Department of Psychiatry at a tertiary care centre over a two-year period, were included in the study.

Socio demographic details, illness related data (subtype of schizophrenia, duration of illness), medication used (oral or injectable antipsychotics), occurrence of drug induced side effects, regularity in visiting the treating hospital, and clinical status during the last follow up were noted. Treatment dropouts were considered as those who did not return to the hospital following discharge. 3 or more visits per year were noted as regular follow up.

DATA ANALYSIS

The statistical software namely Statistical Package for the Social Sciences (SPSS) version 18.0 and R environment ver. 3.2.2 (SPSS inc, Chicago, United States of America) were used for the analysis of the data and Microsoft word and Excel have been used to generate graphs, tables, etc. Descriptive and inferential statistical analyses have been carried out in the present study. Results on continuous measurements are presented on mean $\pm$ standard deviation (min-max) and results on categorical measurements are presented in number (%). Significance is assessed at 5% level of significance. Student's *t*-test (two-tailed, independent) has been used to find the significance of study parameters on continuous scale between two groups (intergroup analysis) on metric parameters. Chi-square/Fisher's Exact test has been used to find the significance of study parameters on categorical scale between two or more groups, nonparametric setting for qualitative data analysis.

RESULTS

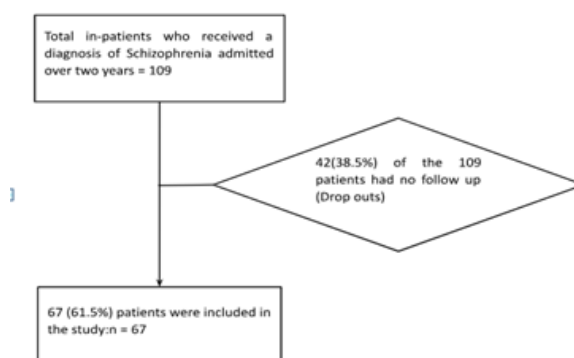


Figure 1: Selection of Study participants

Table 1: Socio-demographic and illness related details of the included patients are as follows(n=67)

	N (%)		(mean +/- SD)
Gender		Age	34.67 +/- 10.3
Male	35(52.23%)	Duration of illness	6.55 +/- 8.73
Female	32(47.76%)		
Educational status			
<SSLC	21(31.34%)		
>SSLC	46(68.66%)		
Marital status			
Single	20(29.85%)		
Married	41(61.19%)		

Widowed	1(1.49%)		
Separated	2(2.98%)		
Divorced	2(2.98%)		
Residential status			
Urban	35(52.23%)		
Rural	32(47.76%)		
Type of family			
Nuclear	54(80.6%)		
Joint/Extended	13(19.4%)		
Type of schizophrenia			
Paranoid	61(91.04%)		
Simple	5(7.4%)		
Undifferentiated	1(1.5%)		
Predominant symptoms			
Positive	61(91.04%)		
Negative	6(8.9%)		

Older age group, female, educated up to or beyond class 10, married, living in urban area, belonging to nuclear family, with paranoid subtype of schizophrenia, ill for less than 10 years, with predominant positive symptoms tended to have a regular follow up. They tended to be on injectable antipsychotics and asymptomatic at the last follow up, (Table 1)

Table 2: Factors affecting the regularity of follow-up

Factors	Regular Follow- up (i.e>3/y) n=45	Irregular follow- up (i.e<3/y) n=22	Chi-square analysis P value
Age: 11-40y 41-80y	33(63.46%) 12(80%)	19(36.64) 3(20%)	0.2489
Sex: Male Female	20(57.14%) 25(78.12%)	15(42.86%) 7(21.87%)	0.07553
Education: <SSLC >SSLC	12(60%) 34(72.34%)	8(40%) 13(27.65%)	0.338
Marital status: Single Married	17(68%) 28(66.66%)	8(32%) 14(33.33%)	0.9195
Residential status: Urban Rural	27(77.14%) 18(56.25%)	8(22.86%) 14(43.75%)	0.077
Family type: Nuclear Joint	38(69.09%) 7(58.33%)	17(30.90%) 5(41.67%)	0.489
Type of schizophrenia Paranoid Simple	42(68.9%) 3(50%)	19(31.1%) 3(50%)	0.389
Duration of illness 0-10y >10y	38(70.37%) 7(53.85%)	16(29.63%) 6(46.15%)	0.28
Predominant symptoms Positive Negative	42(68.86%) 3(50%)	19(31.15%) 3(50%)	0.389
Antipsychotic agents used Risperidone Olanzapine Amisulpride	19(57.58%) 11(73.33%) 6(85.71%)	14(42.42%) 4(26.67%) 1(14.29%)	-
Injectable antipsychotics	9(60%)	6(40%)	-
Clinical status at the last follow-up Asymptomatic Symptomatic	30(75%) 15(55.56%)	10(25%) 12(44.44%)	0.108

None of the above parameters were however statistically significant.

Table 3: Socio-demographic and illness-related details of the treatment drop-out group (N=42)

Factors	No follow-up (% of total treatment drop-out)
Age 11-40y 41-80y	34(80.95) 33/19=52 (77.6%) 8(19.05) 12/3=15 (22.4%)

Sex Male	24(57.14) 20/15 (52.2%)
Female	18(42.86) 25/7 (47.8%)
Education <SSLC	12(28.57) 12/8 (30%)
>SSLC	30(71.43) 34/13 (70%)
Marital status Single	18(42.86) 17/8 (37.3%)
Married	24(57.14) 28/14 (62.7%)
Resident Urban	24(57.14) 27/8 (52.2%)
Rural	18(42.86) 18/14 (47.8%)
Family type Nuclear	28(66.67) 38/17 (82%)
Joint	14(33.33) 7/5 (18%)
Type of schizophrenia	Paranoid
Paranoid	36(85.71) 42/19 (91%)
Simple	6(14.29) 3/5 (9%)
Duration of illness <10y	38(90.48) 38/16 (83.5%)
>10y	4(9.52) 7/6 (16.5%)
Predominant Positive	37(88.09) 42/19 (91%)
Negative	5(11.9) 3/5 (9%)

The socio demographic profile of the 42 patients considered treatment dropouts were almost similar to those who maintained frequent follow up, and were not distinctly different.

DISCUSSION

Non-attendance at scheduled appointments is a prevalent issue in healthcare. Each year countless patients in various healthcare settings do not attend scheduled appointments. The rate of missed appointments varies between 5% and 30%, across different countries, while in some up to 50%.^{[4][12][13]} Missed appointments can cause non-adherence.

Several factors influence the long-term course and outcome of schizophrenia, with missed appointments contributing to non-adherence being significant. Non-adherence is associated with psychiatric readmission, is the most common stressor for recurrence and results in the likelihood of poor health status.^{[8][9]} A recent review reported that non-adherence and partial adherence can set in motion a 'downward spiral' of events resulting in inconsistent symptom control, relapse, rehospitalization, which in turn can lead to long-term functional disabilities, loss of autonomy, education or employment possibilities, homelessness, a likelihood of dropping out of care completely and even suicide.^[14]

In the current study, it was found that the older age group, female, educated up to or beyond class 10, married, living in an urban area, belonging to a nuclear family, with the paranoid subtype of schizophrenia, ill for less than 10 years, having predominant positive symptoms tended to have a regular follow up. They also tended to be on injectable antipsychotics and asymptomatic at the last follow-up.

None of the above parameters were however statistically significant.

Age:

Research has varied findings regarding the influence of age on the regularity of follow-up. While some have found no significant correlation between age and missed appointments, some have found that older patients were more likely to miss appointments while others found that younger patients were more likely to do the same.^{[4][9][16]}

Older adults may have a poor understanding of their condition and fail to understand the need for continuous care. Certain older individuals may need to be accompanied for their hospital visits, and this may not always be possible. Difficulty in transportation or the presence of multiple health issues may also play a role.

The better-preserved younger individuals with schizophrenia on the other hand may have difficulty getting away from a job they need to keep. Those with a more severe form of the illness would need adults to accompany them, who may themselves be working. Hence the regularity of keeping appointments may not be specific to the age of the patient.

Gender:

Men were more likely to miss first appointments after discharge, while women had a higher likelihood of follow-up in the seven days after discharge. There is a likelihood that male schizophrenics are uncooperative for regular follow-up and the family has a difficult task bringing them.^{[4][6][8]}

Education:

Individuals with schizophrenia who had a higher level of education were less prone to miss appointments. The likelihood of missing an appointment increases three-fold among patients with lower levels of education.^[4] Lack of formal education increases the risk of missing an appointment by 30% and the risk increases by 60% when compared to

individuals with a university degree.^[15] Education levels were however not significantly related to missed appointments in some research.^[4] Higher levels of education in an individual facilitate a more comprehensive understanding of health, ensuring that they are committed to keeping appointments.

Marital status:

Married individuals were less likely to miss appointments, suggesting that support from a spouse, financial stability and a heightened sense of responsibility could contribute. Single, divorced, widowed or living alone had a higher tendency to miss appointments.^{[4][7]}

Location:

Studies report that patients admitted at a metropolitan city facility had a higher follow-up. Those admitted to rural hospitals had 26% lower odds of receiving outpatient care within seven days of discharge. Those living in urban locations have easier access to health care, and can sustain outpatient attendance.^[6]

Socioeconomic status:

Missed appointments were common among patients from a lower socio-economic status.^{[4][15]} Financial status of the patient probably influences regularity of follow-up as the expenses incurred during hospital visits are hard to bear along with the cost of medication and absenteeism from work for those who are employed.

Severity of illness

In a hospital-based research study the prevalence of missed first appointments was 31% and those who had higher BPRS scores were associated with missing the appointment. The reasons stated were forgetting the appointment, and patient's refusal to come to the clinic, probably contributed to by the presence of active psychotic features and absent insight.^{[16][17][18]}

Some other factors have also been found to play a role in missed appointments such as being on typical antipsychotics, comorbid substance abuse, and discharge against medical advice.^[6] The side effects of typical antipsychotics, and craving the substance of dependence probably favour the 'no show' on appointments.

Regularity of follow-up influenced relapses in patients with schizophrenia.^[19] Early out-patient follow up, within seven days of discharge has been found to be the core component to reduce relapse and suicide risk.^[6] Missed appointments significantly affect clinical outcomes, interrupt continuity, and delay necessary treatments.^[4] Those who did not comply with the first follow-up visit after discharge were more likely to be re-hospitalized.^[7]

In the current study, it was found that older age group, female, educated up to or beyond class 10, married, living in urban area, belonging to nuclear family, with paranoid subtype of schizophrenia, ill for less than 10 years, with predominant positive symptoms tended to have a regular follow up. They tended to be on injectable antipsychotics and asymptomatic at the last follow-up. Although some associations are present, none of these factors are of statistical significance, and hence it is not possible to conclude that any of them alone or in combination are associated with failure to attend the hospital, and subsequently of non-adherence of medications.

CONCLUSIONS

It is difficult to segregate patients into those who are likely to have regular/irregular follow-up based on sociodemographic profile, subtype, phenomenology (positive vs negative symptoms), or route of medication administration. Trends in these findings have not changed in the past few decades. It is possible that the input of the treating team, even at the level of a tertiary hospital, failed to lay stress upon factors affecting the course and outcome of the disorder, and the importance of treatment adherence and regular hospital visits. However, it is also possible that those who never visited the hospital again had a benign course of illness and remained asymptomatic after the index episode.

With the findings of the current study and available literature, it would be safe to conclude that for all individuals with schizophrenia, interventions addressing appointment attendance are best dealt with at the very first contact with the treating team. Significant caregivers would hence have to be counselled about the nature of the illness, the need for regular follow-up, the need for treatment adherence, and the importance of all these factors in the long-term course and outcome of the illness.

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