ORIGINAL RESEARCH

Attitude Towards Antipsychotic Medications and Reasons for Non-Compliance in Patients with Schizophrenia

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ABSTRACT
Background: Schizophrenia is a chronic illness with antipsychotic medications considered as first-line of treatment. Effective management requires a long-term treatment with mediations. Non-adherence to medications is an important area of concern as it can lead to higher disability, relapse and rehospitalization in patients with schizophrenia. Multiple factors determine medication adherence and understanding these can help in improving patients' compliance to prescribed medications. **Aims:** The aim of this study was to find the reasons of non-adherence and also the attitude of patient towards medications. **Materials and Methods:** The study was conducted on 40 follow up patients presenting to out-patient and in-patient setup of Department of Psychiatry, AVBRH, Wardha, who were diagnosed with Schizophrenia and fulfilled the Rosack's Criteria for Non-adherence. The study was conducted over a period of 6 months. Their socio-demographic details were noted. Attitude towards medication was assessed using the Drug Attitude Inventory Scale (DAI-10), and the reasons for non-adherence were assessed using Rating of Medication Influences scale (ROMI). **Results:** out of 40 participants, 70% of them were found to be non-compliant. the mean DAI-10 score of non-complaint participants (2.08 ± 0.39) was lower when compared with that of the compliant group (6.35 ± 0.30). Financial obstacles, denial of illness, stigma of medication use and feeling that medications are unnecessary were reported to be the most significant reasons on non-compliance among others. **Conclusion:** It can be suggested from the findings, that patients and relatives should be given a detailed explanation about the nature and course of illness, prognosis, need for treatment and treatment duration. Development of community mental health care facilities in rural areas can also help in improving patients' adherence to medications.

INTRODUCTION

Schizophrenia is characterized by impairment of thought, perception, emotion and cognitive function. It is a chronic psychotic disorder that affects an individual's overall functioning. The lifetime prevalence of schizophrenia is about 1.0%. [1] Antipsychotic medications are considered the first line treatment for patients with schizophrenia. These drugs play an important role in controlling the symptoms of schizophrenia and improving the individual's functionality and quality of life. Effective management of schizophrenia requires a long-term treatment with antipsychotic medications. Therefore, patient adherence to prescribed medications is critical. [2]

Attitude towards antipsychotic medications in patients with schizophrenia is affected by their subjective experience, feelings and beliefs towards the prescribed drugs. Negative attitude towards medications leads to non-adherence and increases the risk of relapse. [3]

Adherence has been defined as "the extent to which a person's behaviour, taking medication, following a diet, and/or executing lifestyle changes, corresponds with agreed recommendations from a health care provider."[4]

Previous research studies have estimated that 20% to 50% of patients are at least partially non-compliant to medications and treatment instructions and in patients with psychiatric illnesses these rates can be as high as 70% to 80%. [5]

Despite the critical importance of medication, nonadherence to prescribed antipsychotic drug treatment has been recognized as a significant problem when patients are required to continue use of medications for long periods of time. This poses a challenge in effective treatment and prevention of relapse in the course of illness. Among patients with schizophrenia, about 50% have been reported to be nonadherent to prescribed treatment. [6],[7]

Data from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) study reported that the rates of discontinuation of medications ranged from 64 – 82%, indicating a significant limitation in effectiveness of antipsychotic medications in management of schizophrenia. [8]

Non-compliance to prescribed medications in patients with schizophrenia can have a serious impact on the course of illness and limit the outcome of treatment. Discontinuation of antipsychotic medications has reported to increase the risk of relapse by 5 times. It can lead to worsening of symptoms, frequent rehospitalizations, poor functionality and higher disability. It can also be a predictor of poor prognosis, treatment resistance, medical comorbidities and suicide attempts. [9],[10]

A range of factors influencing medication adherence behaviour in patients with schizophrenia have been described in various studies.A systematic review by Lacro et al. in 2002 found that the rate of nonadherence in schizophrenia ranged from 41.2% to 49.5%. Factors that were found to be most consistently associated with nonadherence included shorter illness duration, negative attitude towards medications, comorbid substance abuse, poor insight, poor therapeutic alliance and inadequate discharge planning and aftercare. [11]Czobor et al. assessed data from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) and the European First Episode Schizophrenia Trial (EUFEST) studies and found an association between insight into illness and medication compliance. Using pill count as the method to assess adherence to medications, it was found that poor insight, hostility, younger age and substance use at baseline was associated with poor adherence at 6 and 12 months. [12]As antipsychotic medications are the mainstay for treatment in schizophrenia, it is important to consider side effects as one of the reasons for noncompliance. Studies have indicated that approximately 75% of patients with negative attitude towards antipsychotic medications

are poorly adherent. [13],[14] Side effects of antipsychotic drugs including sedation and extrapyramidal symptomshave been associated with poorer attitude and adherence to antipsychotic drugs. [3]Chandra I. S. et al. followed up on patients with schizophrenia for a period of 5 months and reported that 41.9% of them were non-compliant to medications. Factors that were found to be significantly associated with non-compliance were younger age group, early age of onset of illness, unemployment, poorer insight into illness and higher positive PANSS score. The most commonly reported reasons for noncompliance was denial of illness. Other reasons included financialburden, lack of knowledge of illness, poor access to treatment facilities, side-effects of the medications and substance abuse. [15]Assessment of treatment adherence pattern in patients with neuropsychiatric illness from a rural community centre in India, reported that 36.2% of patients dropped out of treatment after the first contact and 34.1% of patients discontinued treatment during follow up visits over a period of 1 week to 12 months. [16]

Improving compliance to medications is critical to reduce morbidity, disability and mortality associated with chronic schizophrenia. Steps to improve medication adherence in patients with schizophrenia requires a detailed understanding of the patients' attitude towards medications and reasons for nonadherence. This study attempts at identifying factors related to nonadherence to antipsychotic medications in patients with schizophrenia in the rural area of Wardha, Maharashtra

AIMS AND OBJECTIVES:
AIMS
To find out the attitudes of patients toward anti-psychotic medications and reasons for drug non-compliance in schizophrenia and its association with clinical and socio-demographic variables.

OBJECTIVES
1. To assess the attitude of patients towards anti-psychotic medications
2. To assess the reasons for non-compliance of medications in patients of schizophrenia &
3. its association with clinical and socio-demographic variables

METHODOLOGY
STUDY DESIGN
It was a cross sectional controlled study

STUDY SETTING

Study was conducted on Out Patients and In Patients admitted in Psychiatry Ward in Acharya Vinobha Bhave Rural Hospital, Sawangi (Meghe),Wardha.

SAMPLE SIZE

A sample size of 40 subjects was taken, which was completed within the time period of 6 months.

All participants were required to give a written, informed consent before taking part in this

study. They were informed of their opportunity to withdraw consent at any time, thereby being

excluded from the study.

INCLUSION CRITERIA

- Persons with ICD -10 Diagnosis of Schizophrenia
- Persons between the ages of 18 years to 60 years
- Patients who were non compliant to medication as given under Rosack's criterion
- Patients who give informed consent
- Patients who were physically fit to answer the questions
- Patients who understand English, Hindi and/or Marathi

EXCLUSION CRITERIA

- Patients with mental retardation or any other cognitive impairment
- Patients who were regularly compliant to their medications
- Patients who refused to give informed consent.
- Patients who were on medication for <6 months
- Patients who were in acute psychotic state
- Patients who required urgent attention for medical problems
- Patients without reliable informants

TOOLS

1) ICD-10 criteria for diagnosis of Schizophrenia
2) Semi Structured Proforma for socio demographic data
3) Rosack's criterion :

Rosack explained the phenomenon of adherence to medication in terms of refill rate.

Refill rate is the proportion of days of proper adherence to prescribed medication by the patient calculated in relation to the total days of advice.

Patients who had only 50% of their expected refill rate were termed "non-adherent." Those who filled prescriptions between 50% and 80% of the expected refill rate were termed "partially adherent." Those who filled their prescriptions at more than 110% of the expected rate were termed "excess fillers. [17]

4) Drug Attitude Inventory-10 (DAI-10)

This scale is being used to assess the attitude of patients toward antipsychotic medication. The DAI consists of a questionnaire that is completed by the patient. It includes a series of questions, each with true/false answers, pertaining to various aspects of the patient's perceptions and experiences of treatment. The DAI-10 scoring ranges from -10 to +10 with a total score >0 indicating a positive attitude toward psychiatric medications and a total score of <0 indicating a negative attitude toward psychiatric medications.[18]

5) Rating of Medication Influence (ROMI) scale

ROMI is divided into two parts: the Reasons for Compliance section (items 1-7) and the Reasons for Noncompliance section (items 8-20). The ROMI is a reliable and valid instrument that can be used to assess the patients' subjective reasons for medication compliance and noncompliance.[19]

The data was analyzed using SPSS version 21 software using appropriate statistical tools.

RESULTS

40 participants took part in the study, out of which 26 were male and 14 were female. The mean age of the participants was 40.5 years (SD=12.8), minimum age being 20 years and maximum being 68 years. 25 (62.5%) participants were employed while 15 (37.5%) participants were unemployed. (Table 1)

Out of 40 participants, 12 (30%) were compliant while 28 (70%) were non-compliant. (Table 2)

Among the non-compliant group of individuals, the mean DAI-10 score (2.08 ± 0.39) was lower when compared with that of the compliant group (6.35 ± 0.30), indicating a negative attitude towards medications in the non-compliant group. (Table 3)

Among the compliant group, the most significant reason for compliance was pressure / force by family members. Most of the compliant individuals reported perceived daily benefit to be the reason for compliance.

The most significant reasons for non-compliance were financial obstacles and denial of illness. Other important reasons included embarrassment or stigma over medications / illness and medications thought to be unnecessary. (Table 4)

Table 1: Socio demographic variables

Age	Mean- 40.5±2.03
Sex	Male: 26 (65%) Female: 14 (35%)
Education	Illiterate: 5 (12.5%) Primary: 19 (47.5%) Secondary: 12 (30%) Graduate: 4 (10%)
Occupation	Employed: 25(62.5%) Unemployed: 15(37.5%)
Family Income (Monthly)	Rs. ≤5000: 33(82.5) Rs. >5000: 7(17.5)
Marital status	Married: 29(72.5) Single/ Divorced: 11(27.5)

Table 2: Study Sample

Total number of patients included	40
Number of compliant participants	12 (30%)
Number of non-compliant participants	28 (70%)

Table 3: Attitude of Patient towards Medications: Drug Attitude Inventory-10 (DAI-10)

	Mean DAI-10 score
Compliant	6.35 ± 0.30
Non-compliant	2.08 ± 0.39

Table 4

Question	None (%)	Compliant Mild	Compliant Strong	Non-compliant None	Non-compliant Mild	Non-compliant Strong
Perceived Daily Benefit	2 (16.7)	8 (66.6)	2 (16.7)	16 (57.1)	11 (39.3)	1 (3.6)
Pressure / Force	1 (8.3)	4 (33.3)	7 (58.4)	4 (14.3)	17 (60.7)	7 (25)
Relapse Prevention	2 (16.7)	4(33.3)	6 (50)	17 (60.7)	11 (39.3)	0 (0)
Family/ Friends Opposed to Meds	10 (83.3)	1 (8.3)	1 (8.3)	12 (42.8)	10 (35.7)	6 (21.5)
Access to Treatment Problems	6 (50)	4 (33.3)	2 (16.7)	8 (28.6)	9 (32.1)	11 (39.3)
Financial Obstacles	4 (33.4)	2(16.6)	6(50)	2 (7.2)	9 (32.1)	17 (60.7)
Denial of Illness	4 (33.4)	3 (25)	5 (41.6)	1 (3.6)	11 (39.3)	16 (57.1)
Medications Currently Un-necessary	4 (33.4)	5 (41.6)	3 (25)	3 (10.7)	15 (53.6)	10 (35.7)
Distressed by Side-effects	6(50)	4 (33.4)	2(16.6)	9 (32.1)	13 (46.5)	6 (21.4)
Substance Abuse	11 (91.7)	1 (8.3)	0 (0)	19 (67.8)	5 (17.9)	4 (14.3)
Embarrassment or Stigma over Medications/ Illness	3 (25)	7 (58.3)	2(16.7)	8 (28.6)	16 (57.1)	4 (14.3)

DISCUSSION

In this study, 70% of participants were found to be adherent to medications. A review of 39 studies on medication adherence in patients of schizophrenia done by Lacro et al. reported a mean rate of nonadherence ranging from 20-89%. [11] In a study of 254 patients suffering from schizophrenia, conducted at SCARF (Schizophrenia Research Foundation), India, about 58% of them were reported to be non-compliant to medications. [20] Another similar study in India reported the rate of noncompliance as 42%. [15] The higher rate of noncompliance in this study can be

attributed to difference in study sampling. Patients and families from the rural areas of India have poor reachability, poor awareness of need of medications, stigma and financial obstacles which can all contribute to non-adherence.

Sociodemographic factors and adherence

A number of studies have reported an association between age, gender, education, occupation and other sociodemographic factors affecting patients' attitude towards medications and therefore compliance. Younger age, male gender, lower socioeconomic status, poor social functioning and minority status

have been significantly associated with non-adherence. [21]

A systematic review by Nosé et al. concluded that younger age and male gender were consistently associated with poor adherence to medications. [22]

In a comprehensive review of literature by Lacro et al. in 2002, factors including age, gender, ethnicity, marital status and education level were not found to be consistent variables in determining non-adherence to medications. [11]

A study done in Hyderabad, India by Chandra IS et al. found a statistically significant association of younger age unemployed status with non-adherence. [15]

This study could not determine any significant sociodemographic factors associated with non-adherence, which could be due to sampling differences.

Drug Attitude Inventory and Adherence

In previous studies, higher mean score on DAI-10 has been associated with positive attitude towards medications and therefore adherence. [20,23,24]

This study also reports similar findings as the compliant group of patients scored higher on the DAI-10 scale. This suggests that a positive subjective belief regarding medications contributes to adherence.

Rating of Medication Influence Scale

On assessing reasons for compliance, perceived daily benefit and pressure from family members were the most significant reasons to continue use of medications. Relapse prevention and positive family belief were other reported reasons for compliance. This finding is consistent with those reported in previous studies. [15] In a 2-year follow up study of patients suffering from schizophrenia, relapse prevention, fear of rehospitalization, perceived daily benefit and positive family belief were found to be the most frequently reported reasons for compliance. [25]

A study assessing family support in predicting medication adherence in patients with schizophrenia reported that assistance and supervision of intake of medication by a family caregiver increased the rates of adherence. [26]

Among reasons of non-compliance, financial obstacles, denial of illness and embarrassment / stigma of illness and taking medications were seen to be the most significant ones. Other highly reported reasons were medications felt to be unnecessary and distress caused by side effects. These findings are in agreement with other studies in the area although the degree of significance of the reasons may vary. In this study, 'financial obstacles' was reported to be the most significant reason for discontinuation of medications. This may be because the study was done in a rural community of Maharashtra, India, where most people belong to low socioeconomic status. A higher prevalence of stigma of mental illness and medications required for the same is also more commonly seen in these areas. In a study by Yamada K. et al. distress due to side effects was the most frequently reported reason for non-compliance. [25] In

another study, Saba NU et al. reported that about 7% patients were non-compliant due to side effects caused by antipsychotics. [27] Similar factors were reported to be the cause of non-adherence in a study done in a rural community of Karnataka, India. They reported lack of support and supervision by family members to be the most significant reason among others including lack of insight, adverse effects of medications and financial factors. [28]

Financial obstacles and lack of awareness regarding need to continue medications were the most frequently reported reasons of discontinuing medications in a prospective study of schizophrenia patients from a rural south Indian community. [29]

In conclusion, there are multiple factors that cause patients suffering from schizophrenia to discontinue medications. Understanding these factors is important to improve patient compliance and reduce the current treatment gap. This can be achieved by improving identification of subjective attitude towards medications, increasing awareness of mental illness and communicating the need for medications.

THE LIMITATIONS OF THIS STUDY WERE

- The use of self-report measures was done for the assessment of adherence to medications
- Patients were selected from a tertiary care hospital so the results cannot be generalized for the general population
- Degree of psychopathology and insight were not taken into account
- Difference in adherence rates between patients on first and second generation antipsychotics was not assessed

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