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RESEARCH ARTICLE

Pharmacological factors influencing drug compliance among patients taking psychotropic drugs – A cross-sectional study

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ABSTRACT

Background: Patients non-compliance with medication regimens is one of the most common reasons for the relapse of psychiatric symptoms and the need for repeated hospitalization. The present study examines the pharmacological factors associated with poor drug compliance. **Aim and Objective:** The aim of this study was to evaluate the pharmacological factors contributing to non-compliance among psychiatric patients taking psychotropic drugs. **Materials and Methods:** A hospital outpatient-based and cross-sectional observational study was carried out in the Department of Psychiatry, Tirunelveli Medical College Hospital, Tirunelveli, after the approval from IEC. Totally 200 patients on various psychotropic drugs with poor drug compliance were included in the study. Data were collected by face-to-face interview using a semi-structured questionnaire. **Results:** Non-compliance was more among males (55.3%), coolie/daily wage laborers (33.1%), and unemployed (31.6%). The major pharmacological factors affecting compliance with intake of psychotropic drugs: Adverse drug reactions due to drug (33.7%), Unpalatability (25.6%), and longer treatment duration (18.1%). **Conclusion:** Low medication adherence is a common problem among psychiatric patients. Adverse drug reactions are the most common pharmacological factor influencing drug compliance.

KEY WORDS: Pharmacological Factors; Psychotropic Drugs; Non-compliance

INTRODUCTION

The patient compliance means the ability and willingness of a particular individual to follow-up the advice of health-care providers properly, to take the prescribed drug as scheduled, to attend the clinic appointments regularly as scheduled, and also the follow-ups.[1] There is always an increasing need for psychotrophic medications which are used for the treatment of anxiety, mood, and various psychiatric disorders. The main goal of the treatment is improving side-effects and cure of the symptoms which are underlying the development of new psychotropic drugs, the medications remain ineffective if the patients fail to take medicines properly. Pharmacological treatment is the mainstay for most of the psychiatric illness. Correctly administrating and taking up reliably, the prescribed medications can prevent worsening of psychotic symptoms, can also reduce relapse, and reduce rehospitalization.[2]

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Medication non-compliance is defined as a "discontinuation or failure of proper medication intake without prior approval from the treating physician.[3]" The discontinuation of a prescribed antipsychotic medications may lead to the exacerbation of psychiatric symptoms, increased rate of relapse so that patients may need an increased hospital stay and poor course of the disease.[4]

Non-compliance rates in schizophrenia vary widely, ranging from 20% to 89%.[5] Various reasons have been cited in the

literature for non-compliance. The compliance among patients with bipolar disease is also quite higher. Montoya *et al*. reported that nearly 40% of patients under treatment for bipolar disease are partially or completely non-compliant to their medications.[6] About 20–70% of patients with bipolar patients are seemed to be poorly adherent.[7] According to Taylor and Guscott, poor compliance is the main reason for the relapse of symptoms in patients with bipolar diseases.[8] There are multiple factors which may influence the adherence of prescribed psychiatric medications. These factors can be categorized as various factors such as related to medications, illness, treating physicians, patients, and environmental and social.[9] As medication-related factors significantly affect drug compliance in many studies, it has been decided to study exclusively about the pharmacological factors influencing drug compliance in patients on psychotropic drugs.

The study is aimed to evaluate the pharmacological factors contributing to non-compliance among psychiatric patients taking psychotropic drugs.

MATERIALS AND METHODS

This cross-sectional semi-structured questionnaire-based study was conducted from June 2019 to August 2019. The study was carried out at the outpatient Psychiatric Department of Tirunelveli Medical College Hospital, Tirunelveli, India. A total of 200 patients were enrolled in this study, and the sampling technique used was convenient sampling. Patients who were already diagnosed to have psychiatric illness but not taking their medicines regularly as prescribed by physicians and patients who were already treated with psychotropic medicines and default for more than two regular scheduled visits were included in this study. Patients who were taking their medicines regularly were excluded from the study.

The study was conducted after receiving Institutional Ethical Committee approval. The informed written consent in local vernacular language was obtained from every patient or their relatives included in the study at the time of enrollment.

Design of Questionnaire

Semi-structured interviewing questionnaire was generated from the review of literature and adaptations from the previous studies which included socio-demographic data, medical history, history of the disease, drug intake, and number of tablets intake and various questions related to pharmacological factors affecting compliance.

Data Collection

The study participants were briefed about the purpose of the study, and the data were collected from the participants by face-to-face interview using the questionnaire approved by IEC.

Data Analysis

Collected data were entered in Excel sheet form and were analyzed, using SPSS version 20. The presentation of analysis was done by percentages, figures, and frequency tables.

RESULTS

A total of 200 patients who were non-compliant were selected for the study. Table 1 shows the basic socio-demographic characteristics of the participants. The mean age of the study participants was 41.31 years and according to the age distribution of study participants, which shows the following: Age <18 years (7%), 19–40 years (46.2%), 41–60 years (35.2%), and >60 years (11.6%). Among the study participants, 110 were male (55%) and 90 were female (45%). Most of them were coolie by occupation (33%), while 32% were unemployed, whereas 17.5% of females were housewives, 13.5% were self-employed, and 4.3% were students.

Figure 1 shows that non-compliance was found to be more with bipolar affective disorder (34.7%) followed by schizophrenia

Table 1: Basic demographic profile (*n*=200)

Variables	Frequency	Percentage
Age in years		
<18	14	7
19–40	92	46.2
41–60	72	35.2
>60	23	11.6
Sex		
Male	110	55.3
Female	90	44.7
Occupation		
Unemployed	63	31.6
Coolie/laborer	66	33.1
Housewife	35	17.5
Self-employed	27	13.5
Student	8	4.3

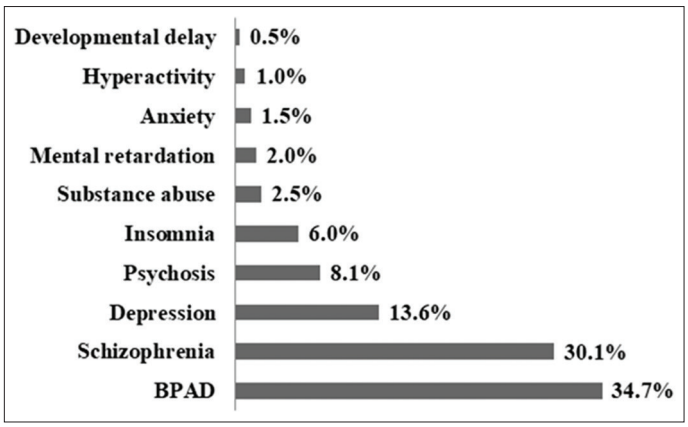

Figure 1: Non-compliance among different illness

(30.1%), depression (13.6%), psychosis (8.1%), insomnia (6.0%), substance abuse (2.5%), mental retardation (2%), anxiety (1.5%), and developmental delay (0.5%).

Table 2 shows the relationship between duration of illness and number of tablets per day. Figure 2 depicts pharmacological factors influencing the drug compliance, which shows that reasons for non-compliance are side effects due to the drugs (33.7%), whereas 30.7% comprises reasons other than pharmacological factors such as difficulty in getting drugs, lack of accompany, and distance from home; palatability affected compliance by 25.6%, longer duration of treatment by 18.1%, difficulty to swallow due to the size of tablet affected compliance by 14.1%, and dosage schedule by 12.1%. Feeling of dissatisfaction with the treatment contributes to 10.6% and fear of getting side effects 8%.

DISCUSSION

The "Global Burden of Disease" in psychiatric disorders was found to increase to about 15% by 2020 from 12% by 1990.[10] Non-compliance with medication is common among psychiatric patients, which is considered a major problem. The present study was an attempt to evaluate exclusively the pharmacological factors influencing drug compliance among psychiatric patients. In this study, we noted that the non-compliance to medication could be attributed mainly to side effects of the drugs followed by reasons other than pharmacological factors.

Non-compliance was evaluated using semi-structured questionnaire. This study shows that non-compliance was more between 19 and 40 years age groups (35.2%), which was similar to Loong study[7] and was more among males (55%) which were inconsistent with selen study findings.[8] Drug compliance is poor among patients with bipolar disorder (34.7%) which is similar to Alshiekh *et al*.[11] study and is consistent with Nagesh *et al*.[12] study, where non-adherence to the therapy was high in patients with major depression, then bipolar disorder and schizophrenia. Occupation wise non-compliance was found to be more common among coolie (33%), followed by unemployed patients (32%). In the present study, non-compliance was found to be more among unemployed and daily laborers. Financial status and lack of awareness about their health issues might have contributed to this observation. The patient compliance is the only measure for the effectiveness of therapeutic regimens. The therapeutic goals cannot be achieved until the compliance is met or else may result in poorer outcomes. Non-compliance is the major challenge of the health-care team. The reason for the non-compliance among psychiatric patients is due to the side effects caused by the drugs or also unawareness of illness by the patients.[13] In this study, side effects due to drug (33.7%) were the leading factor for non-compliance which was inconsistent with Saba *et al*. study.[14] An increase in duration of illness with an increase in the number of tablets to be consumed also affects the compliance of study participants.

Table 2: Illness- and drug-related profile

Variables	Mean±SD	Range (minimum–maximum)
Duration of illness (in years)	6.85±5.0	1–30
Number of tablets per day	5.8±2.9	2–19

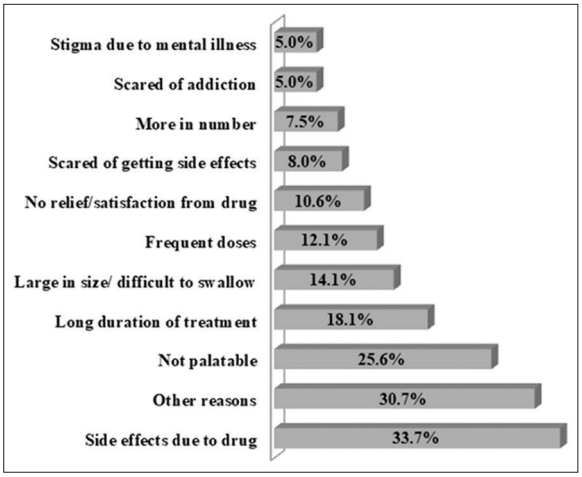

Figure 2: Pharmacological factors influencing drug compliance

The other factors include other than pharmacological reasons (30.7%), non-palatable (25.6%), longer duration of treatment (18.1%), larger size of medicines (14.1%), frequency of doses (12.1%), dissatisfaction due to drug intake (10.6%), fear of getting side effects due to drug intake (8%), more of tablets (7.5%), fear of addiction to medicine and stigma due to mental illness each 5% were inconsistent to Pareek and Kalia, study, who found that there are also other factors which contribute to non-compliance due to the difference in culture and tradition.[15] Clinical improvement among patients with psychiatric illness is largely influenced by drug compliance. Hence, it is also the responsibility of treating physician to educate the patients as well as their attendants regarding the need for regular treatment. The literature review revealed that most of the similar studies have included all the factors influencing compliance among psychiatric patients in general. This study was one among those who was conducted to evaluate the pharmacological factors influencing drug compliance exclusively.

Strength and Limitations

The strength of the study is that all the pharmacological factors influencing compliance among psychiatric patients have been analyzed. The limitation of the study is that the study has been conducted for a shorter period of time and limited number of patients. The questionnaire used was self-designed and not standardized.

CONCLUSION

Low medication adherence is a common problem among psychiatric patients. Adverse drug reactions due to the drug are the most common pharmacological factor influencing drug compliance. Knowledge about psychotropic illness and significance of drug compliance among patients shall be improved through the training program and proper counseling.

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ETHICAL APPROVAL

The study was approved by Institutional Ethics Committee.

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