

Prescribing pattern of antipsychotic medications in patients with schizophrenia in a tertiary care hospital

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ABSTRACT

Background: The objective of this study was to study the prescribing pattern of antipsychotic medications in patients with schizophrenia in a tertiary care hospital.

Methods: An observational study was conducted in psychiatry outpatient department (OPD) of Bapuji and Chigateri hospital attached to Jagadguru Jayadeva Murugarajendra medical college, Davangere. The data collected, had information about age, gender, education, occupation, marital status and drug prescription that included trade name, generic name, dosage and frequency of administration of 100 outpatients who attended the psychiatry OPD.

Results: A total of 100 prescriptions were analyzed of which 6% was monotherapy, where Asenapine was the only drug used and rest 94% was combination therapy. About 94% of the combination therapy included the use of single antipsychotic with anticholinergic drug and multiple antipsychotics with anticholinergic drug. A combination of multiple antipsychotics with anticholinergic was most commonly used, that is trifluoperazine and chlorpromazine (36%), followed by trifluoperazine and risperidone (13%), trifluoperazine and quetiapine (8%), risperidone and quetiapine (7%), trifluoperazine, chlorpromazine along with quetiapine (3%). Among single antipsychotic with anticholinergic, risperidone (20%) was most commonly used, followed by Trifluoperazine (7%). Use of the anticholinergic drug, Trihexyphenidyl accounts to 94% of the total prescriptions.

Conclusions: Schizophrenia is mostly seen in males, middle age group and unemployed people. The present study showed that combination therapy is preferred for the treatment of Schizophrenia. Despite several side-effects, typical antipsychotics, especially trifluoperazine was the most commonly used drug, followed by chlorpromazine either alone or in combination. Among atypical antipsychotics, risperidone was commonly used followed by quetiapine and asenapine. Most of the patients received trihexyphenidyl, an anticholinergic drug along with antipsychotics to reduce extra pyramidal side-effects.

Keywords: Atypical antipsychotics, Prescribing pattern, Schizophrenia

INTRODUCTION

Schizophrenia is a chronic frequently disabling major psychiatric disorder with a complex etiology, involving multiple and heterogeneous genetic factors. Globally the prevalence of schizophrenia shows a wide range of differences. Approximately, it affects about 1% of the world's population.¹⁻⁴

It is associated with positive symptoms such as hallucinations, delusions, cognitive impairment, disorganized thoughts and negative symptoms such as social withdrawal, affective

flattening, loss of interest, alogia and amotivation. There are five subtypes of schizophrenia, depending on symptoms like paranoid, catatonic, disorganized, undifferentiated and residual type.^{5,6} Patients with schizophrenia are at an increased risk for numerous other medical illnesses, suicide, substance abuse, homelessness, unemployment, and premature death.⁷

It is associated with a huge personal, social, and economic burden. These patients have difficulty in succeeding at school, obtaining or maintaining a job, having social relationships, living independently, and even in taking care

of their basic daily needs. Cognitive deficits are believed to be core features in schizophrenia.⁸⁻¹¹

Treatment of schizophrenic patients, at an early stage improves productivity, decreases morbidity and mortality. However Schizophrenia is a chronic debilitating major psychiatric disorder, which may require lifelong treatment.¹²

Until date, pharmacotherapy remains the mainstay of treatment in schizophrenia patients as they target the characteristic symptoms of the disease.^{3,12,13}

Currently, a wide variety of antipsychotic agents are available, so it is difficult to select a particular antipsychotic on a rational basis. Older conventional drugs are highly efficacious, but they are associated with distressing extra pyramidal side-effects such as rigidity, tremors, and tardive dyskinesia. This leads to an active search for better agents.^{13,14}

The newer drugs had a different mechanism of action than conventional antipsychotics. They have been associated with a low probability of extrapyramidal symptoms, but a better efficacy over negative symptoms, depression, hostility and in resistant schizophrenia. These medications have also been found to be associated with less cognitive impairment, even producing improvement in some cases.¹⁵⁻¹⁷

With the advent of newer antipsychotic agents in 1980, there have been major changes in prescribing pattern in schizophrenia.^{12,17,18}

Aims and Objectives

To study the prescribing pattern of antipsychotic medications in patients with schizophrenia in a tertiary care hospital.

METHODS

An observational study was conducted at psychiatry outpatient department (OPD) in Bapuji Hospital and Chigateri General Hospital, attached to JJM medical college from April to August 2013 (5 months). Adult outpatients who have been diagnosed to have schizophrenia are identified and prescribing pattern was studied.

Inclusion criteria

1. All patients who attend the psychiatry OPD of the hospital.
2. All patients who were diagnosed to have schizophrenia according to DSM-IV criteria.⁷

Exclusion criteria

- 1) Schizophrenia existing with other disorders like depression, anxiety.
- 2) Patients with cardiovascular or any other comorbidity.

The data which were collected includes information about patient's age, gender, education, occupation, marital status and drug prescription included trade name, generic name, dosage and frequency. Prescription of all patients was entered in a preformed proforma and was analyzed using descriptive statistics.

Statistical analysis

An observational study was done. A descriptive statistical analysis was applied in the present study.

RESULTS

In the present study, Schizophrenia was more commonly seen in the patients in the age group of 20-40 years with a male preponderance of 71%. 31% of cases were in the age group of 41-60 and females constituted 29% of the cases (Table 1). Schizophrenia was more commonly seen in unemployed people (39%), students (27%), followed by home makers and job holders (Table 2).

In the present study, 76 patients were married, and 24 were unmarried with predominance of married males comprising of 54 cases (Table 3). Further schizophrenia was found to be more common in Hindus (93%) compared with Muslims (7%) and it was more commonly seen in people from urban area (66%) than rural (44%).

Combination therapy (94%) was more preferred, than monotherapy (6%) in the present study (Figure 1). In monotherapy Asenapine was the only drug. The 94% was

Table 1: Age and sex wise distribution of cases.

Age (years)	Male	Female	Total
20-40	52	18	69
41 and above	19	11	31
Total	71	29	100

Table 2: Distribution of cases according to occupation.

Occupation	Male	Female	Total
Unemployed	36	3	39
Students	22	5	27
Homemaker	Nil	19	19
Job holders	13	2	15
Total	71	29	100

Table 3: Distribution of cases according to marital status.

Gender	Married	Unmarried	Total
Male	54	17	71
Female	22	7	29
Total	76	24	100

combination therapy included either single antipsychotic with anticholinergic drug or multiple antipsychotics with anticholinergic drug. A combination of multiple antipsychotics with anticholinergic was most commonly used, that is trifluoperazine and chlorpromazine (36%), followed by trifluoperazine and risperidone (13%), trifluoperazine and quetiapine (8%), risperidone and quetiapine (7%), trifluoperazine, chlorpromazine along with quetiapine (3%).

Among single antipsychotic with anticholinergic, risperidone (20%) was most commonly used, followed by trifluoperazine (7%). Use of anticholinergic drug, trihexyphenidyl accounts to 94% of the total prescriptions (Figure 2).

DISCUSSION

Drug utilization focus on factors related to prescribing, dispensing, administering and taking of medication, and its associated events. Patient files and computer registries are widely used as instruments for collecting information on drug.¹⁹

It plays a key role in helping the healthcare system to understand, interpret and improve the prescription, administration and use of medications whose principal aim is to facilitate rational use of drugs.²⁰

Considering the socio demographic variables of the patients included in the study, out of 100 cases 71% were males and 29% were female, this finding has resemblance with the research study conducted in Bangladesh as there also

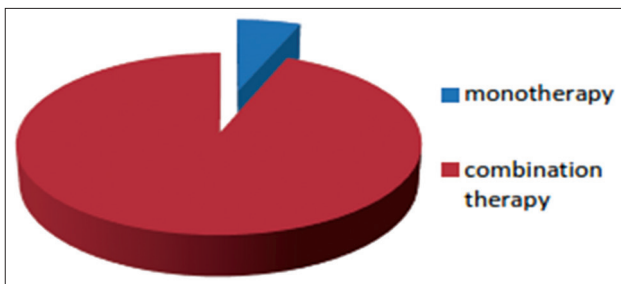


Figure 1: Pie diagram showing distribution of prescribing pattern.

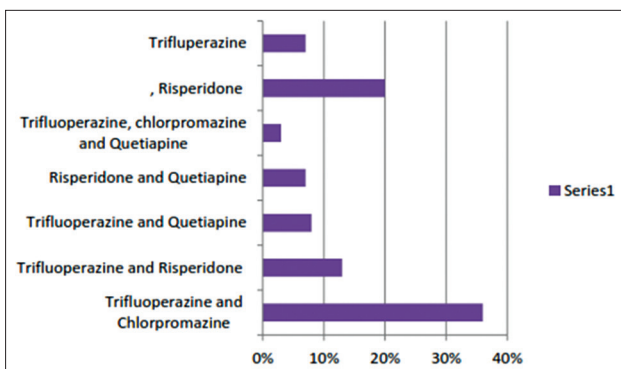


Figure 2: Chart showing distribution of drugs prescribed in combination therapy.

males suffer more with psychiatric disorder as compared to females²¹ and also Nepal where in the course of research, it was noticed that out of 210 cases of Schizophrenia, 58.76% of the cases involved males, followed by 41.24% of females.²²

About 69% of the patients were in the age group of 20-40 years and rest 31% were above 40 years. Similar nature of finding was reported by Maki et al. that schizophrenia is commonly prevalent among the adolescence.²³

Comparable findings were observed in age-wise and gender distribution in a study conducted among schizophrenics in a tertiary care hospital at Uttaranchal.¹²

As far as occupation is concerned, schizophrenia is commonly seen in unemployed people, students, followed by home makers and job holders. This is similar to the conclusion of research done by Banerjee et al. as it revealed that psychiatric disorders in Nepal found among housewives and students.^{24,25} Another study conducted in Nepal also observed the increased prevalence of schizophrenia in students 46.2%, followed by housewives 25.2%.²²

The leading occurrence of schizophrenia is seen among Hindus and in married people, similar to finding of Nepal study. Because India and Nepal are Hindu dominated countries so obviously most of the patients are expected to be from Hindu religion.²²

In our study, combination therapy is more frequently being used making up to 94%, and the rest monotherapy. Two longitudinal studies from the United States (US) reported that 9.5% to 22.0% of patients with schizophrenia received two antipsychotic agents concurrently,^{26,27} Overall, prevalence rates of antipsychotic polypharmacy range from 4% to 58%, and rates up to 69% have been reported, depending on treatment setting and patient population. The reasons for this increasing prevalence of polypharmacy may be because the combination of two antipsychotic medications to achieve greater therapeutic response when there has been an unsatisfactory response to a single antipsychotic.²⁸

First generation antipsychotics with anticholinergic were more commonly used than atypical antipsychotics. Anticholinergics were added in most of the cases to reduce extrapyramidal side-effects associated with the first generation drugs. Our finding is similar to the finding in the study by Thakkar et al. in the Psychiatry Outpatient Department of a Tertiary Care Hospital, where the most commonly prescribed drugs were conventional/1st generation anti-psychotics.²⁹

The results of the study are unlike many other studies where atypical antipsychotics are most commonly prescribed. Prescriptions showed trend of atypical antipsychotics in a study conducted in Nepal by Banerjee et al. and also in

a study conducted in St. John's Medical College, India by Devi et al.^{3,22}

Preponderance of atypical antipsychotics in many published studies may be due to reduced incidences of extrapyramidal side-effects associated with them, but they are associated with a different spectrum of side-effects, including weight gain, alterations in glucose metabolism, increased concentrations of blood cholesterol and lipids, myocarditis, and cardiomyopathy. These metabolic effects may pose a burden as serious as the extrapyramidal effects.³⁰⁻³⁵

Use of typical antipsychotics in our study is, as per the current recommendations and may be because they were available in hospital drug house.²⁹

For many years, it was believed that the newer/2nd generation drugs were more effective, but that belief is now fading. The high cost of the atypical/2nd generation antipsychotics is a matter of concern. There have been some important studies which brought to light the finding that first generation drugs are as useful as the 2nd generation drugs, with the exception of clozapine which outperforms all.^{36,37} In 2009 the American Psychiatric Association accepted the fact that the distinction between first- and second-generation antipsychotics appear to have limited clinical utility³⁸ Furthermore, the National Institute of Clinical Excellence guidelines - 2010, suggested that there it is no longer essential to prescribe an "atypical" agent as first line treatment.³⁹

CONCLUSIONS

Schizophrenia is mostly seen in males, middle age group and unemployed people. In the present study, combination therapy is preferred for the treatment of Schizophrenia. Despite several side-effects, typical antipsychotics, especially trifluoperazine was the most commonly used drug; followed by chlorpromazine either alone or in combination was used. Among atypical antipsychotics, risperidone was commonly used, followed by quetiapine and Asenapine. Most of the patients received Trihexyphenidyl, an anticholinergic drug along with antipsychotics to reduce extrapyramidal side-effects associated with typical antipsychotics.

This study can serve as an outline for drug prescribing pattern and further research is required in this direction to improve the practice of prescribing pattern and to establish and standardize the treatment of schizophrenia.

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