



RESEARCH ARTICLE

**PRESCRIBING PATTERN OF ANTIPSYCHOTICS FOR SCHIZOPHRENIA :
A PROSPECTIVE STUDY**

Senthil Raja M., Ashli Raj Vettikkadan and Limna A.L

Department of Pharmacy Practice JKKN College Of Pharmacy Komarapalayam

ARTICLE INFO

Received 11 th, June, 2016,
Received in revised form 13 th,
July, 2016, Accepted 29th, August, 2016,
Published online 23rd, September, 2016

Keywords:

Drug Induced Psychosis, Treatment Modality

ABSTRACT

Antipsychotics are a class of agents which are able to reduce psychotic symptoms in a wide range of conditions like schizophrenia, bipolar disorder, psychotic depression, senile psychosis, various organic psychosis and drug induced psychosis. A case study was conducted between February 2014 and August 2014. This study was carried out at the tertiary care hospital, Erode. 25 patients were included. On reviewing the prescription the most common disease was found to be schizophrenia followed by acute and chronic psychosis. Age wise it was seen that the diseases were most common in 30 – 40 years age group. The psychiatric diseases were found to be in males (44%) compared to females (56%). The total no. of drugs prescribed is 135. Of which oral medications 131 (97.03%) and parenteral medications 4 (2.96%). To conclude, our study shows that these were the most common drugs prescribed in patients with and was in accordance with the treatment done in our country and abroad also it was at par with treatment protocol. Olanzapine was the most common medication used followed by risperidone orally. This was a study which was carried out to view treatment schedule in our hospital and its stand with respect to rest of the country.

Copyright © 2016 Senthil Raja M., Ashli Raj Vettikkadan and Limna A.L., This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Antipsychotics are a class of agents which are able to reduce psychotic symptoms in a wide range of conditions like schizophrenia, bipolar disorder, psychotic depression, senile psychosis, various organic psychosis and drug induced psychosis. Antipsychotic prescription patterns are fundamentally different across the countries and even regions due to variations in factors including health care policies, availability and cost of drugs, psychiatric training and preferred treatment modalities. Schizophrenia has a worldwide prevalence of 1% and is considered the prototypic disorder for understanding the phenomenology of psychosis and the impact of antipsychotic treatment, but patients with schizophrenia exhibit features that extend beyond those seen in other psychotic illnesses. Hallucinations, delusions, disorganized speech, and disorganized or agitated behaviour comprise the types of psychotic symptoms found individually, or rarely together, in all psychotic disorders, and are typically responsive to pharmacotherapy. In addition to positive symptoms, schizophrenia patients also suffer from negative symptoms (like apathy, avolition, anergia), and cognitive deficits, particularly deficits in

working memory, processing speed, social cognition, and problem solving that test 1.5-2 standard deviations below population norms. Over the years many antipsychotics were made available in India some of which have stood the test of time and still used while some are no more marketed. Which is typically begins in late adolescence or early adulthood. Successful treatment of schizophrenia, therefore, depends upon a life-long regimen of both drug and psychosocial, support therapies. The medical management of schizophrenia often requires a combination of antipsychotic, antidepressant, and anti anxiety medication. One of the biggest challenges of treatment is that many people don't keep taking the medications prescribed for the disorder. After the first year of treatment, most people will discontinue their use of medications, especially ones where the side effects are difficult to tolerate.¹⁻⁴

Antipsychotic medications have been the main therapeutic approaches for schizophrenia and their diversity can represent the current options of antipsychotic therapies. Since chlorpromazine had been introduced to psychiatric realms in the 1950s, haloperidol, loxapine, perphenazine, molindone and other first-generation antipsychotics followed chlorpromazine in the 1960s. However, first-generation antipsychotics have resulted in several adverse effects including tardive dyskinesia

*✉ **Corresponding author: Senthil Raja M**

Department of Pharmacy Practice JKKN College Of Pharmacy Komarapalayam

and less therapeutic effects on the negative symptoms and cognitive deficits of schizophrenia.⁵ Clozapine, which was produced as the atypical first antipsychotics in 1971 and consigned into oblivion because of occurrence of agranulocytosis, was reintroduced in 1989. Moreover, development of second-generation antipsychotics have been followed in the 1990s (risperidone, olanzapine, quetiapine and ziprasidone) and the 2000s (aripiprazole and paliperidone). Superior efficacy and effectiveness of second-generation antipsychotics compared with first generation antipsychotics have been consistently demonstrated.⁶⁻⁸

However, costs of second-generation antipsychotics have been 10 times more than those of first-generation antipsychotics. These cost differences have been one of contributors to relatively low prescription of antipsychotics in some countries. Moreover, the mental health system, traditional medicines, clinicians or patients' preferences, overall socioeconomic or cultural underpinnings and other factors have also influenced the patterns of antipsychotic prescription to patients with schizophrenia.⁹⁻¹¹

Successful treatment of schizophrenia, therefore, depends upon a life-long regimen of both drug and psychosocial, support therapies. While the medication helps control the psychosis associated with schizophrenia (e.g., the delusions and hallucinations), it cannot help the person find a job, learn to be effective in social relationships, increase the individual's coping skills, and help them learn to communicate and work well with others. Poverty, homelessness, and unemployment are often associated with this disorder, but they don't have to be. If the individual finds appropriate treatment and sticks with it, a person with schizophrenia can lead a happy and successful life.¹² But the initial recovery from the first symptoms of schizophrenia can be an extremely lonely experience. Individuals coping with the onset of schizophrenia for the first time in their lives require all the support that their families, friends, and communities can provide.¹³

METHODS

A case study was conducted between February 2014 and august 2014. This study was carried out at the tertiary care hospital, erode. Therefore, we needed a sample size of at least 15 samples. The final sample collected during the study period was 25 clients. We developed data collection forms to cover all data items needed. The form covered the following areas: sociodemographic variables, psychiatric history, antipsychotic medication currently being used, and history of psychiatric hospitalization. Data from the pretest evaluation were not included in the final analysis. Focus group discussions were continuously held between research team to identify any problems in data collection or interpretation of definitions or application of study criteria.

Selection criteria

Prescriptions of patients of both sexes and all ages, suffering from a psychiatric illness and started on at least one psychotropic drug, were selected.

Sample size

Twenty five prescriptions were analyzed as per the WHO recommendations on conducting retrospective DUS from medical databases/registries.

Study Procedure

The data of the patients attending during a period of February 2014 to august 2014 was collected from the psychiatric ward and was recorded in a structured case record form.

Data Analysis

The following data were collected:

- a. Patient details like age, gender and registration number.
- b. Patient diagnosis.
- c. Prescription details like date, number of drugs, names of individual drugs (generic/brand), dose, dosage form, dosing schedule and duration of treatment.

RESULTS

On reviewing the prescription the most common disease was found to be schizophrenia followed by acute and chronic psychosis. Age wise it was seen that the diseases were most common in 30 – 40 years age group. The psychiatric diseases were found to be in males (44%) compared to females (56%). The total no. of drugs prescribed is 135. Of which oral medications 131 (97.03%) and parenteral medications 4 (2.96%). Average number of drugs per prescription was 5.4. Drugs prescribed along with the percentage are as follows:

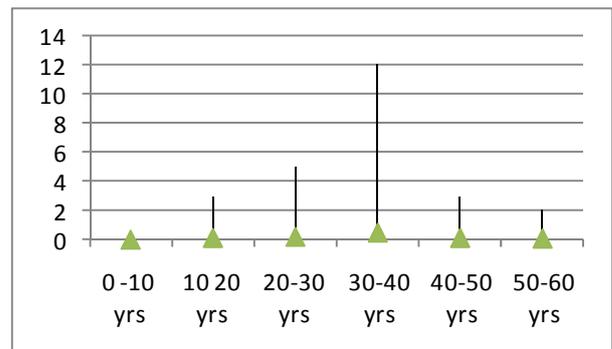


Fig. 1 Distribution of diseases in the various age groups

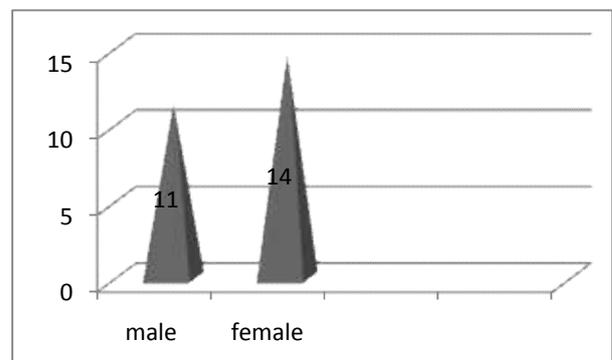


Figure 2 Distribution of disease in both sexes

Antipsychotics 27 (20%), central anticholinergic 19 (14.07%), sedative hypnotics 25 (18.01%), antidepressants 22 (16.29%), anticonvulsants 22 (16.29%), Other adjuvant drugs 21(15.55%)

Antipsychotic given orally were 27, of which risperidone 23 (85.15%), chlorpromazine 2 (7.40%) and haloperidol 2(7.40 %) were seen.

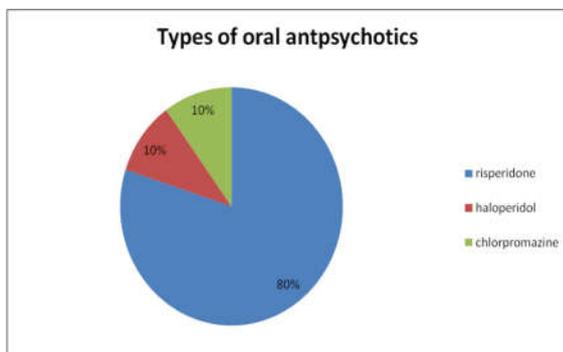


Fig. 3 Frequency of use of antipsychotic drugs

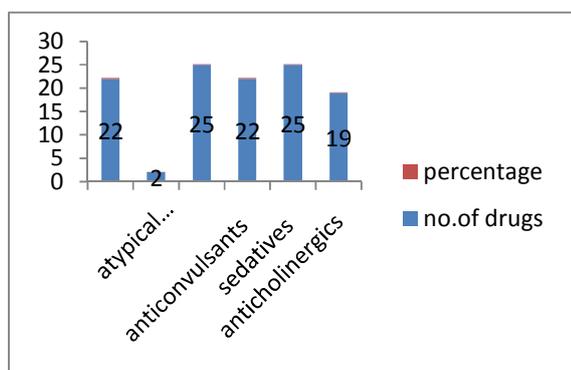


Fig. 4 Frequency of use of various classes of agents being prescribed

DISCUSSION

As per the NATIONAL HEALTH SERVICES regarding the use of antipsychotics as first line agents, first and second generation antipsychotics are equally efficacious but when no consensus is reached between them to start the second generation. Various studies have seen that the second generation antipsychotics were having and though both groups were equally efficacious antipsychotics and sedatives are to be used when there is extreme agitated behaviour and a component of anxiety it was seen that the second generation antipsychotics were used to treat the above mentioned conditions. And this has been suggested by other studies also.¹⁴ The most common antipsychotic prescribed was risperidone followed by haloperidol and chlorpromazine. The no. Of drugs per prescription was found to be 5.54.

The percentage of injectable antipsychotics in our study was 2.96%. This study was carried out with a relatively small sample size and for a very short period of time. As such factors like drug overdose, adverse effect profile, previous antipsychotic intake history as that would affect the prescribing pattern of the antipsychotic medications were needed to be evaluated. Also the various drug indicators like defined daily dose, indicators of patient compliance like

availability of medicines and their cost also have significant influences in these studies. Our study is an attempt to look at scenario of drug usage in the hospital and further prospective studies can be carried out to get a more comprehensive data so that we can improve the drug utilization in our hospital. Polypharmacy is an irrational use of drugs which is often seen in case of antipsychotic prescription.¹⁵

The definition of polypharmacy says that the use of six drugs or more per prescription, In our study it was found to be two and at the maximum five. Hence it can be said that polypharmacy was not done in our cases. Studies have clearly shown that polypharmacy was directly proportional to under prescribing. As it was seen that the probability of under prescription increased significantly as the no. of medicines prescribed was increased^{9, 10}. Also the use of central anticholinergic drugs like trihexyphenidyl took care of the anti parkinsonian symptoms of the drugs; the use of sedatives along with antipsychotics was prescribed in acute cases along with mood stabilizers to ward of acute episodes that are in accordance with the studies done in India.¹⁶

CONCLUSION

To conclude, our study shows that a were the most common drugs prescribed in patients with and was in accordance with the treatment done in our country and abroad also it was at par with treatment protocol. Olanzapine was the most common medication used followed by risperidone orally. This was a study which was carried out to view treatment schedule in our hospital and its stand with respect to rest of the country.

A more detailed study is necessary to see the efficacy, adverse reactions and usage of various other psychotropic medications in this part of the country

References

1. Pranab KP, Mahanjit K, Swarnamoni D. To study the prescribing pattern of antipsychotic drugs in a tertiary care hospital of Assam. *Int j pharm pharm.* 2014 ; 6: 435- 437.
2. Banerjee *et al*: Sociodemographic profile and utilization of antipsychotic drugs in schizophrenic inpatients: a cross sectional study from western region of Nepal. *BMC Psychiatry.* 2013; 13: 1-2.
3. Seon CP, Myung SL, Seung GK, Seung HL. Patterns of Antipsychotic Prescription to Patients with Schizophrenia in Korea: Results from the Health Insurance Review & Assessment Service-National Patient Sample. *J Korean Med Sci.* 2014; 29: 719-728.
4. Koen L, Magni P, Niehaus DJH, A le Roux. Antipsychotic prescription patterns in Xhosa patients with schizophrenia or schizoaffective disorder. *Afr J Psychiatry.* 2008; 11:287-290.
5. Chiu PH, Loh EW, Lan TY, *et al*. Changes in the prescription pattern of antipsychotics for schizophrenic outpatients after the implementation of a global budgeting program. *JCMA.* 2014; 7: 325- 332.
6. Aas IH. Incentives and financing methods. *Health Policy.* 1995; 34:205-220.

7. Weinbrenner S, Assion HJ, Stargardt T, et al. Drug Prescription Patterns in Schizophrenia Outpatients: Analysis of Data from a German Health Insurance Fund. *Pharmacopsychiatry*. 2008; 41: 1 – 6.
8. Ballerini A, Boccalon RM, Boncompagnie G et al. Clinical features and therapeutic management of patients admitted to Italian acute hospital psychiatric units, the PERSEO (psychiatric emergency study and epidemiology) survey. *Ann Gen Psychiatry*. 2007; 6: 29.
9. Bagnall AM, Jones L, Ginnelly L et al. A systematic review of atypical antipsychotic drugs in schizophrenia. *Health Technol Assess*. 2003; 7: 1 – 193.
10. Bromet EJ, Fennig S. Epidemiology and natural history of schizophrenia. *Biol Psychiatry*. 1999; 46: 871 – 88.
11. Liebermann JA, Stroup TS, MacEvoy JP et al. Effectiveness of antipsychotic drugs in patients with chronic schizophrenia. *N Engl J Med*. 2005; 353: 1209 – 1223.
12. Marder SR, Meibach RC. Risperidone in the treatment of schizophrenia. *Am J Psychiatry*. 1994; 151: 825 – 835.
13. Murray CJ, Lopez AD. Alternative projections of mortality and disability by cause 1990-2020: Global Burden of Disease Study. *Lancet*. 1997; 349: 1498 – 1504.
14. Tang YL, Mao PX, Jiang F. Clozapine in China. *Pharmacopsychiatry*. 2008; 41: 1 – 9.
15. Xiang YT, Weng YZ, Leung CM. Clinical and social determinants of antipsychotic polypharmacy for Chinese patients with schizophrenia. *Pharmacopsychiatry*. 2007; 40: 47 – 52.
16. Tollefson GD, Beasley JM, Tran PV. Olanzapine versus haloperidol in the treatment of schizophrenia and schizoaffective disorders and schizophreniform disorders: results of an international collaborative trial. *Am J Psychiatry*. 1997; 154: 457 – 465
