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Prescribing Patterns of Antipsychotics in Psychiatry Outpatient Department in Tertiary Care Teaching Hospital: A Descriptive Observational Study

M.Vinodkumar*[1],K.Ravishankar[2], A.Bharathkumar[1], G.H.R.R.Manoj[1], P.Aswinichand[1]
1-Aditya Institute of Pharmaceutical Sciences& Research, Surampalem, Kakinada
2-Sri Sai Aditya institute of Pharmaceutical Sciences & Research, Surampalem, Kakinada

ABSTRACT

Drug utilization study is one of the fundamental watchtowers of promoting rational use of medicine for the treatment of various diseases. Often drugs are not used keeping in mind their safety and efficacy. To study the drug utilization pattern of psychotropic drugs in psychiatric outpatient department of Government General Hospital, Kakinada. A Descriptive observational study was carried out in psychiatric outpatient department for duration of 3months.patients of either sex and ages in between 15-80years suffering from a psychiatric illness and started on atleast one psychotropic drug were selected. Patients below 15years age, pregnant and lactating women, patients who are not willing to co-operate, patients with intellectual disability were excluded from the study. 202 patients were enrolled for 3months study. The most affected gender was females (59.4%).commonly affected age group was between 26-35 years(30.6%).the average number of drugs per encounter for males is 3.158 and for females is 3.291.the percentage of drugs supplied form hospital pharmacy and percentage of drugs prescribed by generic names was 95.4%.all the drugs were prescribed from National Essential List Of Medicines (100%). Schizophrenia was the most commonly diagnosed psychiatric disorders followed by mood disorders. Antipsychotics (35.7%) are most commonly prescribed class of drugs followed by Benzodiazepines (21.2%), Olanzapine (19.2%) was most commonly prescribed antipsychotic drug. All the psychotropic drugs were prescribed from National Essential List Of Medicines. Atypical antipsychotics were prescribed more often than typical antipsychotics Owing to their fewer incidences of extra pyramidal side effects. Among atypical antipsychotics olanzapine was commonly prescribed.

Keywords: Drug utilization, psychotropic drugs, rational prescribing.

*Corresponding Author Email: mugadavinodkumar18@gmail.com
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INTRODUCTION

The world health organization (WHO) defines drug utilization as the marketing, distribution, prescription and the use of drugs in a society, with special emphasis on the resulting medical, social and economic consequences[1].drug utilization study is one of the fundamental watchtowers of promoting rational use of medicine for treatment of various diseases, surveying the field of healthcare and leading to a greater understanding of the development that underlies it[8.] rational drug prescribing is the use of the least number of drugs to obtain the best possible effect in the shortest period and at a reasonable cost[3]. Irrational prescribing and disparity between the prescription and the consumption of medicines may offset the benefits which are demonstrated by randomized controlled trails on the drug efficacy[4-7]. Often drugs are not used, keeping in mind their safety and efficacy[2]. The increased interest in DUR has resulted from recognition of the virtual explosion in the marketing of new drugs, the wide variations in the patterns of drug prescribing and consumption, and the increasing concern about the cost of drugs[9]. A prescription-based survey is considered to be one of the most effective methods to assess and evaluate the prescribing attitude of physicians with the aim to provide drugs rationally. The result of these types of studies, which were carried out at different health care centers are used to evaluate and analyze the medical, social and economic outcomes of the drug therapy[10]. Many drug utilization studies have shown considerable variations in prescribing practices with high rate of polypharmacy, which is generally used when there is failure to control symptoms[15] prospective drug utilization study can have an immediate and direct effect on patient care by detecting problems before a prescription is dispensed[16]. Mental illness is associated with high levels of health service utilization and associated costs, and in developing countries these costs are mostly paid by the patient[12]. Of the top ten health conditions contributing to the disability adjusted life years (DALYs), four are psychiatric disorders[11]. For the treatment of psychiatric disorders, a wide array of psychotropic drugs is available[13]. Data from different parts of the world indicate increasing prescriptions for drugs used for mental disorders, particularly antidepressants and antipsychotics. Data from the USA found an increase in the proportion of people prescribed antidepressants from 5.84% in 1996 to 10.12% in 2005[14]. During the past two decades, the development of newer drugs like Selective Serotonin Reuptake inhibitors (SSRI's) and atypical antipsychotics have drastically changed the drug therapy protocols. However, their utilization in actual clinical practice, effectiveness and safety in real life situations need continuous study[18].Following the recent evidences of a systemic review and meta-analysis on antipsychotics among adults with schizophrenia, it has shown that the

benefits of atypical antipsychotics over typical antipsychotics remain indecisive because of discrepancies in assessing the result[19]

Aim and Objectives

To study the drug utilization pattern of psychotropic drugs in psychiatric outpatient department of government general hospital.

MATERIALS AND METHOD

The study was carried out in Government General Hospital, Kakinada. The Study duration was three months .It was a descriptive observational study. The project was approved by the Institutional Ethical Committee. The data was collected from the case sheets of the patients attending the psychiatric outpatient department. A prestructured data collection form was prepared to collect the data. Informed Consent form was waived since there was no interaction with the patients. Inclusion Criteria for this study was patients who are suffering from psychiatric illness and taking at least one psychotropic drug. Exclusion criteria for this study was patients with Intellectual disability(previously known as Mental retardation),patients below 15years of age ,in patients.

RESULTS AND DISCUSSION

A total of 202 prescriptions (n=202) were reviewed during the 3months period of study. Demographic details of the psychiatric patients

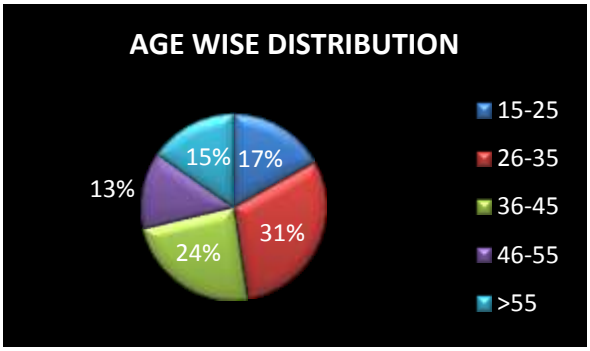

Figure 1: Age wise distribution

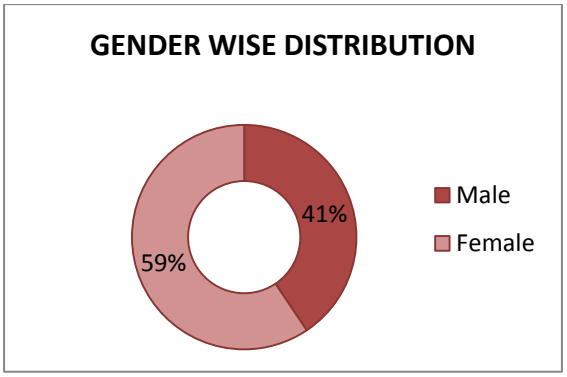

Figure 2: Gender wise distribution

Table3: Prescribing pattern as per various drug use indicators

S. No.	Drug use indicators	Result
1	Average number of drugs per encounter	Males-3.158 Females -3.291
2	Percentage of the drugs supplied from hospital pharmacy	624/654(95.4%)
3	Percentage of drugs prescribed by generic name	624/654(95.4%)
4	Percentage of drugs from essential drugs list	654(100%)

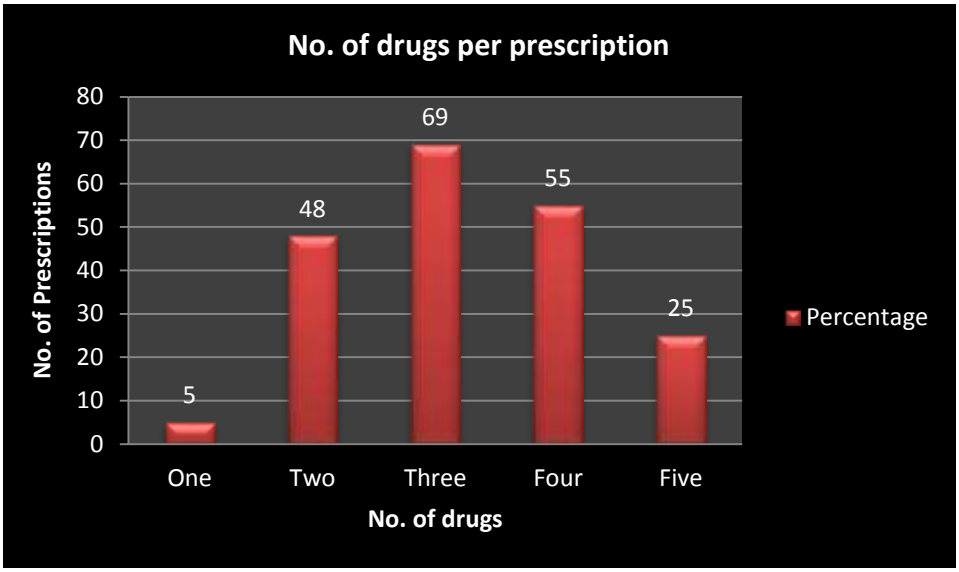

Figure 3: No. of drugs per Prescription

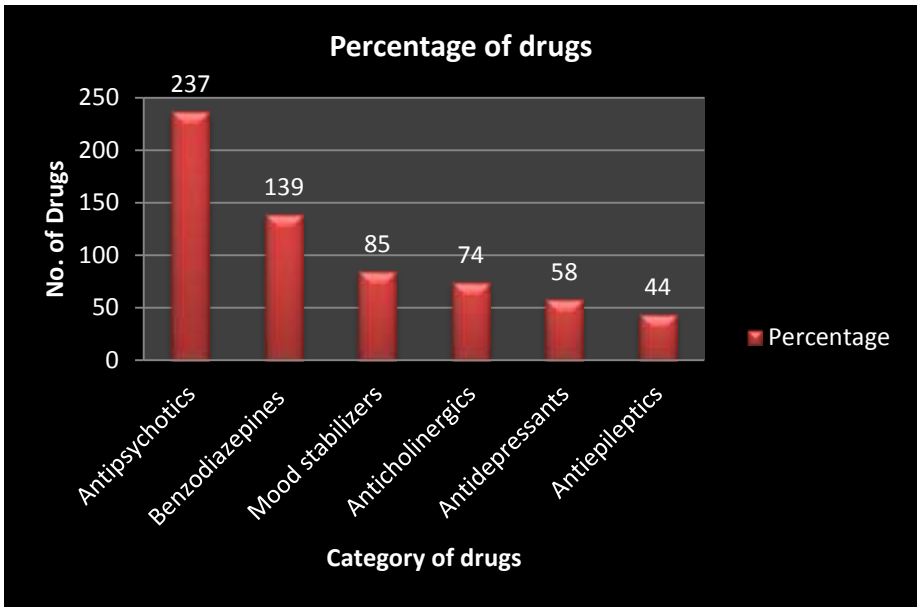

Figure 4: Percentage of drugs

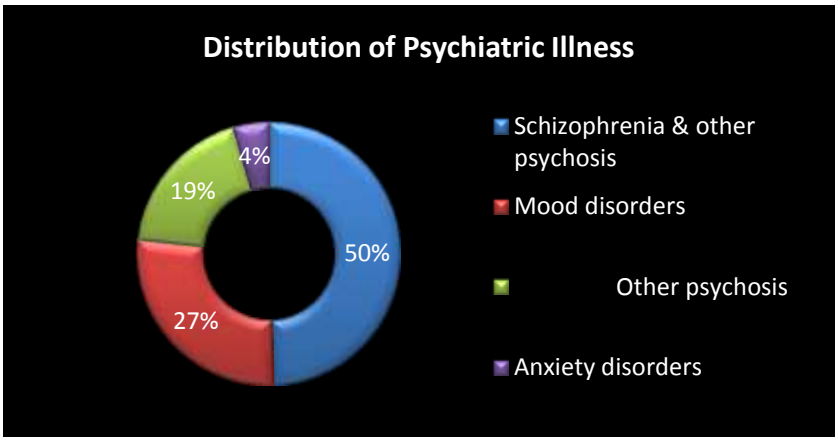

Figure 5: Distribution of Psychiatric Illness

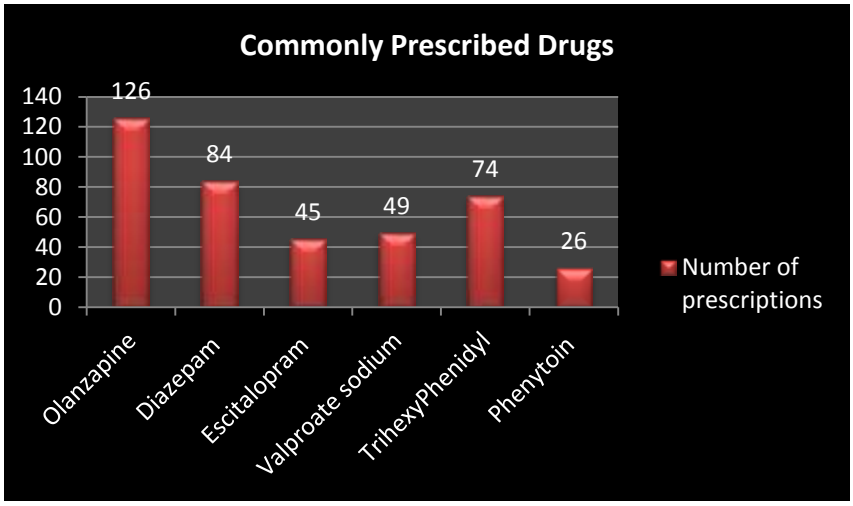

Figure 6: Commonly Prescribed Drugs

In the present study, the proportion of Female patients (59.4%) with psychiatric illness was more than male patients (40.6%).Similar findings were reported in Karan. B *et al*[20],Ilyaz et al[21]But Patel V *et al*[22] and Mohammed P *et al*[23]showed more incidence in female population as compared to male population attending the OPD. The majority of patients attending the psychiatric outpatient department were between age group of 26-35 years followed by 36-45 years. Similar findings were also reported by Piparva KG *et al*[24],Kessler RC *et al*[25],Srivatsava *et al*[26].The average number of drugs per encounter is 3.15 and 3.29 for males and females respectively which has lower than that found in a study conducted by Ilyaz *et al*[21].Prescriptions containing 3 drugs per prescription (34.1%) were more followed by prescriptions containing 4 drugs (27.2%).Polypharmacy was lead to poor compliance, drug interactions, adverse drug reactions, under-use of effective treatments and medication errors[27,28]. Antipsychotic polypharmacy can work for some clinically difficult conditions; however, it should be the exception rather than the rule and may be avoidable in many patients. More importantly, the paucity of the data clearly emphasizes the need for further investigations on not only advantages and disadvantages of antipsychotic polypharmacy , but also regarding effective interventions in already prescribed polypharmacy regimens[30].Percentage of drugs prescribed from hospital pharmacy and percentage of drugs prescribed by generic name were 95.4%.Since it is a government hospital there will be a continuous supply of drugs from the central drug stores to issue for free to the patients. Satisfactorily all the drugs dispensed for the psychiatric patients are from National List of Essential Medicines 2011.Schizophrenia was the most common psychiatric disorder observed in the study followed by mood disorders. Similar findings were reported in the study conducted by Pradeep Bodke and Rama Bhosle[29]. Upon categorization of drugs in the prescription, it was observed that Antipsychotics were most commonly prescribed

drugs (35.7%) followed by Benzodiazepines (21.2%).When individual drugs were analyzed it was observed that Olanzapine (19.2%) was prescribed most times followed by Diazepam (12.8%).Atypical antipsychotics were prescribed most commonly when compared to Typical anti psychotics. In a study done by Piparve KG *et al* in India shows that the use of Atypical antipsychotic drugs are used higher 43.83% than Typical antipsychotic drugs 26.32%[24]. Similar nature of studies carried out across the world also indicated the recent trend of use of A typical antipsychotics[32]. The published evidence confirms that A typical antipsychotic drugs might be suitable for schizophrenic patients and better tolerated as compared to the Typical antipsychotic drugs. The treatment pattern observed correlates with the world wide changing trends in the treatment of Schizophrenia[33].Among the A typical antipsychotics, Olanzapine was most frequently prescribed. Similar findings were reported with Banerjee *et al*[31].Oalnzapine and Risperidone use were not associated with a statistically significant increased risk of stroke compared with Typical antipsychotic use[34].Systematic review has shown that Olanzapine is more efficacious than other second generation antipsychotic drugs[35].The most commonly used Antidepressant is Escitalopram. Only Escitalopram was found to have definite superiority in the treatment of severe depression[36].

CONCLUSION

Most of the drugs were prescribed by generic name (95.4%) which indicates rational prescribing. The only anticholinergic which was prescribed was Trihexyphenidyl hydrochloride. All the psychotropic drugs were prescribed form National List of Essential Medicines. Atypical antipsychotics were prescribed more often than typical antipsychotics owing to their fewer incidences of extra pyramidal side effects. Among atypical antipsychotics Olanzapine was commonly prescribed.

REFERENCES

1. World Health Organization. Introduction to drug utilization research. Oslo: World Health Organization, 2003.
2. Lunde PKM, Levy M. Drug utilization – geographical differences and clinical implications. Introductory remarks. In: Duchene-Marullaz, P,ED. Advances in pharmacology and therapeutics. Oxford, Pergamon Press 1978;6:79-82.
3. Gross F. Drug utilization therapy and practice. The present situation in the Federal Republic of Germany. Eur J Clin Pharmacol 1981;19:387-94.
4. Cochrane AL. Effectiveness and efficiency – Random reflections on health services. London, The Nuffield Provincial Hospitals Trust, 1982.

5. Stolley PD, Lasagna L. Prescribing patterns of physicians. Journal of chronic diseases 1969; 22:395-405.
6. Westerholm B. Therapeutic auditing at the national and international levels. Br J Clin Pharmacol, 1986;22:55S-9S.
7. Pullar T, Kumar S, Tindall H, Freely M. Time to stop counting the tablets? Clin Pharmacol Ther 1989;46:163-8.
8. Wittchen HU. Generalized anxiety disorder: prevalence, burden, and cost to society. Depress Anxiety 2002; 16(4):162–71.
9. Strom BL. Pharmacoepidemiology. 4th ed. England: John Wiley and Sons; 2005.
10. Tiwari H, Kumar A, Kulkarni SK. Prescription monitoring of antihypertensive drug utilization at the Panjab University Health Centre in India. Singapore Med J 2004; 45:117-20.
11. Murthy R. Mental Health Programme in the 11th five year plan. The Indian Journal of Medical Research [Internet]. 2007 [cited 2012 Nov 21]; 11(June):707–12.
12. Sharma P, Das S, Deshpande S. An estimate of the monthly cost of two major mental disorders in an Indian metropolis. Indian J Psychiatry. 2006; 48:143–8.
13. Brunton L, Lazo J, Parker K. Goodman and Gilman's the pharmacological basis of therapeutics. 11th ed. McGraw- Hill publication; 2006. p. 401–500.
14. Olfson M, Marcus SC. National patterns in antidepressant medication treatment. Arch Gen Psychiatry 2009; 66: 848–56
15. Harrington M, Paton C, Okacha C,Duffett R, Sensky T. The result of multicenter audit of the prescribing of antipsychotic drugs for in-patients in the UK. Psychiatric Bulletin, 26, 414-418,(2002).
16. Anis A H, Carruthers S G, Carter A O, Kierulf J. Variability in prescription drug utilization: issues for research. CMAJ, 1996; 154(5):635–640.
17. Brunton L, Lazo J, Parker K. Goodman & Gilman's the pharmacological basis of therapeutics. 11th ed. McGraw-Hill publication; 2006. p. 401–500
18. KG piparva, DM Parmar, AP singh, MV Gajera, HR Trivedi. Drug utilization study of psychotropic drug in outdoor patient in teaching hospital. Indian J Psychol Med 2011; 33(1):54-58.
19. Hartling L, Abou-Setta AM, Dursun S, Mousavi SS, Pasichnyk D, Newton AS: Antipsychotics in adults with schizophrenia: comparative effectiveness of first-generation versus second-generation medications: a systematic review and meta-analysis. Ann Intern Med 2012 Oct 2, 157(7):498–511

20. Karan B. Thakkar, Mangal M. Jain, Gauri Billa, AbhijitJoshi, Akash A. Khobragade. A Drug Utilization Study of Psychotropic Drugs Prescribed in the Psychiatry Outpatient Department of a Tertiary Care Hospital. Journal of Clinical and Diagnostic Research. 2013 ;7(12): 2759-2764
21. Md. Ilyaz, Mirza Misba Ali Baig, Ramakrishna, M A Quadir, Muzammil Fathima, Samiya Abdul Saleem Khan.Drug Utilization Study Of Antipsychotics And Its Common Adr's In The Psychiatry OPD Of OHRC. Int J Pharm Pharm Sci, 6; 9:162-165.
22. Patel V. Gender in Mental Health Research. Department of Gender, Women and Health Family and Community Health. World Health Organization. 2005
23. Mohammed P, Mohamed E, Rajan S, Kumar K. Gender and mental health in Kerala. Institute of Social Studies Trust. 2002.
24. Piparva KG, Parmar DM, Singh a P, Gajera MV, Trivedi HR. Drug utilization study of psychotropic drugs in outdoor patients in a teaching hospital. Indian journal of psychological medicine [Internet]. 2011 Jan [cited 2012Oct 26]; 33(1):54–8.
25. Kessler RC, Angermeyer M, Anthony JC, DE Graaf R, Demyttenaere K, Gasquet I, et al. Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative. World psychiatry: official journal of the World Psychiatric Association (WPA). 2007; 6(3):168–76
26. Shruti Srivastava, Manjeet Singh Bhatia, Anurag Jhanjee, Anubhav Rathi, Anuj Chhaparia, Abhinesh Nand. Current Scenario of Psychiatric Diagnosis in a Tertiary Care Teaching Hospital. Delhi Psychiatry Journal 2012; 15:(1) © Delhi Psychiatric Society.
27. Nobili A, Garattini S, Mannucci P. Multiple diseases and polypharmacy in the elderly: challenges for the internist of the third millennium. Journal of Comorbidity. 2011;1:28–44
28. Bushardt RL, Massey EB, Simpson TW, Ariail JC, Simpson KN. Polypharmacy: misleading, but manageable. Clinical interventions in aging [Internet]. 2008 Jan [cited 2012 Nov 2];3(2):383–9
29. Pradeep Bodke1, Rama Bhosle. Psychotropic drugs utilization pattern at tertiary care institute - a retrospective analysis. International Journal of Recent Trends in Science And Technology. 2014;11(3):400-403.
30. W. Wolfgang Fleischhacker and Hiroyuki Uchida. Critical review of antipsychotic polypharmacy in the treatment of schizophrenia. International Journal of Neuropsycho pharmacology 2014; 1: 1083–1093

31. Banerjee et al.: Socio demographic profile and utilization pattern of antipsychotic drugs among schizophrenic inpatients: a cross sectional study from western region of Nepal. BMC Psychiatry 2013 13:96.
32. Bret MC, Bret P, Pariente A, Fourier-Réglat A: The use of atypical antipsychotics in French psychiatric hospitals. Pharm World Sci 2007, 29(5):551–6.
33. Bret P, Bret MC, Queuille E: Prescribing patterns of antipsychotics in 13 French psychiatric hospitals. Encephale 2009, 35(2):129–38.
34. Nathan Herrmann, Muhammad Mamdani, Krista L. Lanctôt,. Atypical Antipsychotics and Risk of Cerebrovascular Accidents. Am J Psychiatry 2004; 161:1113–1115.
35. Komossa K, Rummel-Kluge C, Hunger H, Schmid F, Schwarz S, Duggan L, Kissling W, Leucht S: Olanzapine versus other atypical antipsychotics for schizophrenia. Cochrane Database Syst Rev 2010 Mar 17;3:CD006654.
36. Montgomery, Stuart A., Baldwin, David S.; Blier, Pierre; Fineberg, Naomi A.; Kasper, Siegfried; Lader, Malcolm; Lam, Raymond W.; Lépine, Jean-Pierre; Möller, Hans-Jürgen; Nutt, David J.; Rouillon, Frederic; Schatzberg, Alan F.; These, Michael E. Which antidepressants have demonstrated superior efficacy? A review of the evidence. Int Clin Psychopharmacol. 2007; 22 (6):323-9.