

Research Article

A STUDY OF PSYCHOTROPIC DRUG UTILIZATION IN ELDERLY IN PATIENTS AS COMPARED TO YOUNGER ADULTS

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Abstract: Introduction: With the availability of better health care services and decrease in mortality rates the elderly population has increased significantly over the last couple of decades.¹ Psychiatric illness in the elderly is compounded by mental morbidities due to ageing of the brain, problems associated with physical health, socio-economic factors such as breakdown of the family support systems, and decrease in economic independence. The presence of comorbidities and the attendant polypharmacy makes management of these diseases a complex issue. **Methods:** The case record files of all psychiatry inpatients admitted to Tertiary care teaching Hospital over a period of 1 year were retrieved from the medical records department based on the ICD-10 disease coding (World health organization, ICD-10, F00-F99). The demographic details were recorded. Total admissions, first admissions, and readmissions were identified, and the medication status (on or off medications) of all patients at admission and at discharge was ascertained. Patients ≥ 60 years of age were considered as elderly. **Results:** A total of 150 patients were admitted during the 6 months period. 24.7% of the patients were more than 60 years of age. 33% were female patients. The percentage of females in the younger adults group was 24.6% while in the elderly patients group it was 56.5% and the difference was statistically significant ($p < 0.001$). The mean duration of hospital stay was 8.5 ± 7.8 days. The difference between the two groups was not significant. **Conclusion:** The most commonly prescribed drug combination in our study was antipsychotic with anxiolytic. However, unlike the trends reported in other studies use of drug combination was significantly more common in younger patients in our study. However, this data has to be interpreted with caution due to the small sample size. With regard to gender, no significant difference was seen with the psychotropic drug utilization.

Keywords: Psychiatric illness, Antipsychotic Drugs, Polypharmacy.

INTRODUCTION

With the availability of better health care services and decrease in mortality rates the elderly population has increased significantly over the last couple of decades.¹ Psychiatric illness in the elderly is compounded by mental morbidities due to ageing of the brain, problems associated with physical health, socio-economic factors such as breakdown of the family support systems, and decrease in economic independence. The presence of comorbidities and the attendant polypharmacy makes management of these diseases a complex issue. Several studies have shown high prevalence's of psychotropic medications in frail elderly people.² Psychotropic medication polypharmacy is common and on the rise. There may be reasons for using combination or augmentation therapy, even in the absence of controlled studies. These reasons might be partial or nonresponse, acute treatment or switching processes. Nevertheless, all possible benefits have to be weighed against increased risks for adverse effects and different alternatives to combination or augmentation therapy have to be considered. Polypharmacy puts patients at increased risk of drug-drug interactions with uncertain gains for quality of care and clinical outcomes. Antidepressants and antipsychotic medications are well recognized for producing acquired long QT syndrome. In a study

among geriatric psychiatric inpatients, the prevalence of a prolonged QT was found to be 25% as compared with less than 2% in younger psychiatric inpatients.³ Psychotropic drugs are a common cause for potentially preventable adverse events such as delirium, depression and falls. Also, a gender based difference in the prescription of potentially inappropriate medication has been described with more use in elderly females.⁴ Consumption of psychotropic medication is more in females as compared to elderly males.⁵

The data on psychotropic drug utilization in the elderly in India is sparse. With the perceived safety of newer psychotropic drugs there is widespread off label use of these medications in both the extremes of age. There are also no studies that address the problem of polypharmacy and whether it is more prevalent in the elderly as compared to younger patients. The purpose of this study is to describe the drug utilization pattern in elderly patients and compare it with the psychotropic medication use in young adults.

OBJECTIVES

1. Describe the drug utilization pattern in elderly psychiatric inpatients as compared to younger adults

- To determine any variation in drug prescription based on gender

METHODS

The case record files of all psychiatry inpatients admitted to Tertiary care teaching Hospital over a period of 1 year were retrieved from the medical records department based on the ICD-10 disease coding (World health organization, ICD-10, F00-F99). The demographic details were recorded. Total admissions, first admissions, and readmissions were identified, and the medication status (on or off medications) of all patients at admission and at discharge was ascertained. Patients ≥ 60 years of age were considered as elderly. To quantify psychotropic drug usage, a medication trial was defined as the occurrence of a patient starting on a medication. Each such occurrence was counted as a single trial regardless of the number of orders written to change a dose or to start and stop the medication, so long as these changes occur during the same hospital admission. If a patient was readmitted on the same medication, this was considered a separate trial. Drug classes were delineated as follows – antidepressants, antipsychotics, mood stabilizers, anxiolytics and hypnotics. Polypharmacy is defined as prescription of more than one psychotropic medication.

Statistical analysis:

Proportionate use of each drug class with regard to age and gender was ascertained in order to evaluate whether usage is differentially distributed across patient populations. Data was analyzed using the chi-square statistic. t-test was used for continuous variables with significance set at p < 0.05.

RESULTS

A total of 150 patients were admitted during the 6 months period. 24.7% of the patients were more than 60 years of age. 33% were female patients. The percentage of females in the younger adults group was 24.6% while in the elderly patients group it was 56.5% and the difference was statistically significant (p<0.001). The mean duration of hospital stay was 8.5 ± 7.8 days. The difference between the two groups was not significant.

The most common primary diagnosis in both the groups is shown in table 1. Table 2 shows the various groups of drugs prescribed in both the groups. Antidepressants were more commonly prescribed in elderly patients while anxiolytics was prescribed more in young adults. The most commonly prescribed psychotropic among each group is as follows – Among antipsychotics Risperidone (29.5%) and Quetiapine (21.6%), among antidepressants Sertraline (18.2%), among antianxiety drugs Lorazepam(48.3%). Prescription of various groups of drugs based on gender is shown in table 3. There was no significant difference between the two groups except for antidepressants being more commonly prescribed in females on admission. The most commonly prescribed drug combination on discharge was antipsychotic with antianxiety drug (41%). 2% of the patients received a combination of antidepressant and antipsychotic medication. Combined use of antipsychotic with antianxiety drug was significantly more common in younger adults (p=0.001).

Table 1: Most common primary diagnosis in both the groups

Diagnosis	Younger Adults	Elderly
Alcohol Dependence Syndrome	32.7%	2.7%
BPAD	30.1%	18.9%
Schizophrenia	23%	10.8%
AD with dementia	0%	43.2%
Organic mood disorder	5.3%	0%
Delirium	2.7%	21.6%

Table 2: Various groups of drugs prescribed in both the groups on admission

Drug group	Younger Adults	Elderly
Antidepressants	3.5 %	16.2%
Antipsychotics	66.4% *	70.3 % *
Mood stabilizers	2.7%	0%
Antianxiety	80.5% *	40.5% *

*indicates p value is significant(P<0.05)

Various groups of drugs prescribed in both the groups on discharge

Drug group	Younger Adults	Elderly
Antidepressants	1.8%	13.5%
Antipsychotics	56.6% *	67.6% *
Mood stabilizers	1.8%	0%
Antianxiety	79.6% *	29.7% *

*Indicates p value is significant(P<0.05)

Table 3: Prescription of various groups of drugs based on gender on admission

Drug group	Male	Female
Antidepressants	3.2%	12.5%
Antipsychotics	68.1%	66.1%
Mood stabilizers	1.1%	3.6%
Antianxiety	75.5%	62.5%

Prescription of various groups of drugs based on gender on discharge

Drug group	Male	Female
Antidepressants	3.2%	7.1%
Antipsychotics	62.8%	53.6%
Mood stabilizers	1.1%	1.8%
Antianxiety	71.3%	60.7%

DISCUSSION

This study was conducted with the aim of determining the current drug utilization pattern in elderly patients as compared to younger adults. Earlier studies done outside India have reported both underutilization as well as excessive use of drugs considered inappropriate for the elderly age group. Also, with the perceived safety of newer psychotropic drugs and increased knowledge of disease pathogenesis, there has been an increase in the prescription rates in the general. This increase in prescription also increases the likelihood of drug interactions and adverse effects. In our study of 150 psychiatric inpatients 24.7% were elderly patients with a larger percentage being females. The most common diagnosis were Alzheimer's dementia, delirium, bipolar affective disorder and schizophrenia while the most commonly prescribed drugs were antipsychotics and antianxiety drugs. While use of antipsychotics is not recommended for managing dementia-related wandering, pacing or repetitive vocalizations but only for behavior potentially causing danger to the patient or others several studies confirm the frequent prescription of antipsychotics to control behavioral and psychological symptoms in patients with dementia.^{6,7} Studies have also shown that a large percentage of the elderly population receives anxiolytics for an inappropriately long duration.⁸ A survey of physicians in Quebec reported that the psychological distress of aging patients and the quasi-absence of reported side-effects justified the long-term use of psychotropic medication, which was seen as the most effective way of helping the patient.⁹ There was only one case of depression in our study sample. However, other studies have reported both high rates of antidepressant prescription as well as their underutilization especially in elderly living in aged care homes.^{10,11} The most commonly prescribed drug combination in our study was antipsychotic with anxiolytic. However, unlike the trends reported in other studies use of drug combination was significantly more common in younger patients in our study. However, this data has to be interpreted with caution due to the small sample size. With regard to gender, no significant difference was seen with the psychotropic drug utilization.

Our study has limitations. Since it is a retrospective study there might have been some loss of critical data. The sample size is small limiting the generalizability of the study results. We plan to further continue the study to collect more data which will help in providing a more definite picture of the drug utilization pattern.

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