



Prescribing pattern of antidepressant drugs in a tertiary care hospital of eastern India

Siddhartha Ghosh¹ and Sugata Roychaudhury²

¹Department of Pharmacology, IQ City Medical College, Durgapur

²Department of Medicine, Bankura Sommilini Medical College, Bankura

ABSTRACT

This cross-sectional, descriptive epidemiological study was carried out to observe prescription pattern of antidepressants as well as other psychotropic medications for the treatment of depression. A sample of 510 adult patients was selected to participate in the study. First five patients of depression (with or without psychotic symptoms) three days a week from out-patient Department of Psychiatry, Burdwan Medical College and hospital, Burdwan were included with the sample. It was found that a large number of patients (54%) were co-prescribed Clonazepam. It was observed that 10% of the patients were prescribed a combination of two antidepressants. 14.18% of the patients were co-prescribed antipsychotics for the treatment of their psychotic symptoms. Sertaline was found to be the most frequently prescribed antidepressant followed by amitriptyline.

Key words: Antidepressants, depression, prescription pattern.

INTRODUCTION

Major depressive disorder (MDD) successfully managed with antidepressants, psychotherapy or a combination (agency for health care policy and research April, 1993a). Effective management of MDD with antidepressants requires adequate dose and duration of therapy [1]. Six weeks of therapy required before a clinical improvement can be observed. If patients completely respond to treatment, maintenance treatment is recommended, usually with the same drug at the same dosage over a period ranging from four to nine months which is usually the average duration of a major depressive episode.

Antidepressant prescribing patterns have changed globally over the last few years. Conventional drugs gradually replaced by selective serotonin reuptake inhibitors (SSRIs) and novel antidepressants. Use of antidepressant in the community has been increasing gradually over the decades. Iceland, Australia and Sweden are having the highest consumption.

Drugs utilized in psychiatric practice have a remarkable impact on understanding the mental health of the state. Utilization of antidepressant drugs in real life clinical practice, their effectiveness and safety need continuous study. After the introduction of SSRI, SNRI in the early 1990 several other 'atypical' antidepressants have been introduced and in June 2002, the National Institute for Clinical Excellence (NICE) in London released guidance on their use [2]. Many clinicians argue that atypical antidepressant drugs should be the first line of treatment for schizophrenic illness where this is possible. Several publications have indicated that atypical antidepressant drugs are superior in efficacy to conventional antidepressant drugs especially with respect to control of negative symptoms and lack of sedative side effects [3]. However, the atypical antidepressant drugs have several serious problems like blood toxicity, weight gain, diabetes mellitus and arrhythmia.

Although the new generation atypical antidepressant drugs are very commonly prescribed, but the pattern of use of these antidepressant drugs has not been studied from this part of our country. The present study was conducted with the objective to determine the prescribing pattern of antidepressant drugs as well as to assess the dosage schedule of selected antidepressant (TCA, SSRI, SNRI) in a psychiatric out-patient department of a tertiary care hospital of eastern India.

EXPERIMENTAL SECTION

This cross-sectional, descriptive study was conducted in the psychiatry out-patient department of Burdwan Medical College and Hospital. Burdwan Medical College and Hospital is a tertiary care centre situated in Burdwan district, one of the largest districts of the state West Bengal. Data were collected on three days of every week during October, 2012 - December, 2012. Study population comprised of patients who were receiving antidepressant drugs for the psychiatric illnesses like MDD, major depression and bipolar mood disorder, obsessive compulsive disorders, dementia, postpartum psychosis, social phobia, mental retardation and anxiety disorders. Thus, all the patients having antidepressant drugs on the data collection period were covered and it came to 510 by complete enumeration method. Patient related information (age, sex, diagnosis) and drug-related information (drugs, dose, dosage form, route of administration) were collected in a pre-designed, structured schedule in accordance with WHO criteria for Drug Utilisation Survey and Research [4]. Outdoor ticket, treatment sheets, case records of patients, doctors' prescription and notes were other study tools. The study was approved by Institutional Ethics Committee (IEC) of the institute. Data were collected only after having informed verbal consent from the patient or legal guardian (when patient is not able to give consent) after explaining the purpose of the study and the confidentiality of the documents.

Statistical analysis: Collected data were compiled in Microsoft Excel worksheets (Microsoft, Redwoods, WA, USA). Data were presented both in tabular and graphical form. Categorical data were expressed in percentages and continuous data were expressed in mean values. Standard deviation (SD) was computed to see the dispersion of data.

RESULTS AND DISCUSSION

Table 1: Demographic characteristics of study population (n=510)

Patient characteristics	Number	Percentage (%)
Age in years		
18-30	265	51.96
31-40	90	17.65
41-50	70	13.73
51-60	60	11.76
61-70	25	4.90
Sex		
Male	279	54.71
Female	231	45.29
Male:Female = 1.20:1		

Majority of the patients i.e. 51.96% belonged to the age group of 18-30 years, followed by 17.65% and 13.37% in the age group of 31-40 and 41-50 years respectively (Table 1).

Table 2: WHO recommended prescribing indicators

WHO recommended prescribing indicators	Statistic
Average number of drugs prescribed per prescription	2.06
Percentage of the drugs prescribed by generic name	99%
Percentage of the drugs prescribed from essential drug list	44.99%
Percentage of the drugs supplied from hospital pharmacy	82.30%
Percentage of injectable drugs prescribed per day	nil
Average number of antidepressant prescribed per prescription	1.1

Different WHO recommended prescribing indicators was as follows: average number of drugs per prescription was 2.06; while average number of antidepressant was 1.1. About 99% of drugs were prescribed in generic form. Among the all prescribed drug 82.3% was supplied by hospital pharmacy. Only 44.99% drugs were prescribed from national essential medicine list of 2011. No injectable medicine was prescribed in this study (Table 2).

Among the psychotropic medicines, antidepressant (58%) was most commonly prescribed, followed by anxiolytic (33%) and antipsychotic (9%). Among different class of antidepressant, SSRI (79%) was prescribed more commonly. While, sartalene was commonest (73%) among the individual antidepressant drugs prescribed, followed

by amitriptyline (21%) and fluoxetine (6%). A large number of patients (52.63%) were co-prescribed with clonazepam. About 11% of the patients prescribed a combination of two antidepressants. 14.18% of the patients were co-prescribed with antipsychotics for the treatment of their psychotic symptoms.

Table 3: Distribution of antidepressant agent according to dosage schedule

	Dose mg/d (mean \pm sd)	Duration in days (mean \pm sd)	Frequency			
			Morning	evening	HS	BD
Sertraline	40.09 \pm 5.60	20.90 \pm 0.9	0	0	100%	0
Amitriptyline	24.21 \pm 1.41	20.76 \pm 0.6	0	0	96.88%	3.12%
Fluoxetine	20.36 \pm 9.22	20.90 \pm 0.8	84.74%	15.25%	0	0

Average dose of sartaline was 40.09 \pm 5.60, where as fluoxetine was 20.36 \pm 9.22 and Amitriptyline was 24.21 \pm 1.41. Sartaline (100%) and Amitriptyline (96.88%) were mostly prescribed before bed time, on the contrary fluoxetine (84.74%) was prescribed mostly in morning. All three antidepressant were prescribed for almost 3 week (Table 3).

Table 4: Distribution of anxiolytic drugs according to dosage schedule

Anxiolytic drugs	No. (%)	Dose Mg/day (Mean \pm SD)	Duration (days) (Mean \pm SD)	Frequency At bed time
Clonazepam	389 (76.27)	0.81 \pm 0.04	20.90 \pm 0.9	100%
Lorazepam	67 (13.13)	1.21 \pm 0.41	21.76 \pm 0.6	100%
Diazepam	6 (1.1)	0.5 \pm 0	20.90 \pm 0.8	100%
Propanolol	6 (1.1)	20.36 \pm 5.22	20.19 \pm 0.8	100%

Dose, duration and timing of different anxiolytics was shown in Table 4. Clonazepam (76.27%) topped the list followed by lorazepam (13.13%). Average dose of Clonazepam was 0.81 \pm 0.04, where as for Lorazepam the dose was 1.21 \pm 0.41. All the anxiolytics were prescribed at bed time and all of them nearly prescribed for about 3 weeks.

According to the results of World Mental Health (WMH) Survey, psychiatric diseases are prevalent all around the world and among them, mood disorders and anxiety disorder are the most common ones with respectively 16% and 12% lifetime prevalence rates [5]. These diseases have several physical and social complications for the individuals' health state [6]. In developing countries, depression-related disability calculated by Sheehan Disability Scale Ratings, is not only very higher than that resulted from chronic physical diseases such as diabetes or heart disease, but also has higher severity in comparison to many mental disorders [5]. On the other hand, based on WHO estimation, in high income and middle income countries, unipolar depressive disorders will attain respectively the 1st and 2nd rank of burden of disease in 2030 [7]. Medicinal treatment of patients with depression not only improves their mental health, but also increases their social performance significantly [5]. Prescription pattern of antidepressant drugs in developed countries has been frequently studied [8]. In a study covered 12 European countries, selective serotonin reuptake inhibitors (SSRIs) had been prescribed more than other antidepressants and the same pattern was seen in most developed countries [5]. Several factors affect the antidepressant drug selection, among them the specialty field of the prescriber, the severity of disease, patient preference and the studied country can be mentioned [9]. Despite the importance of prescription-based surveys in evaluation of the prescribing attitude of physicians and prevention of irrational use of drugs [10], to the authors' knowledge, in Iran there has been no study about the prescription pattern of antidepressant drugs so far. The present study aimed at exploring this issue by reviewing the prescriptions of general practitioners (GPs) and psychiatrists.

In regard to the age distribution, the highest rate of antidepressants prescription (51.96%) belonged to the age group 18-30 years which is very different with the results of a study performed in Australia [11] and Iran [12]. Although old individuals (over 80 years) are considered among frequent receivers of antidepressants [11], in the present study the lowest rate of antidepressants prescription was in this age group which is similar to the study of Iran [5]. Considering high prevalence of chronic disabling diseases in this age group and special socioeconomic state of them in the society, it seems that treatment of depression or even prescription of antidepressants for the purpose of completing the treatment process of other accompanying diseases has been neglected. As it is reported in Moore et al study, only 61% of antidepressants prescriptions have been for the treatment of depression symptoms or combination of depression and anxiety [13]; therefore, more attention to the role of antidepressants is necessary.

In a tertiary care psychiatric centre of Eastern India, it was found that treatment help seeking tendency was higher in depressed males as compared to their female counterparts which is opposite to the other studies [11, 12, 13] as well as prevalence of the disease [14] probably owing to socioeconomic constraints.

In relation to the pharmacologic group, like most other studies [11,12,15], SSRIs had the most share among other antidepressants (53%). In a study performed in England, in 62% of cases TCAs and in 38% of cases SSRIs were the first prescribed drugs. But in continuation of treatment process, the chance of receiving adequate dose and duration for treatment in SSRIs was 7 times more than that for TCAs. Anyway, minimal side effects (orthostatic hypotension, drowsiness, cholinergic symptoms), lower probability of toxicity, lower cost, insurance coverage and the same efficacy are among probable reasons for this prescription preference [16].

As the results of the present study show, in whole novel antidepressant drugs (SSRIs, SNRIs, NRIs, etc.) account for 62.6% of all antidepressant prescriptions in comparison to traditional drugs (TCAs) with just 37.4% of prescribing rate. This finding is similar to the reported rates of 77% in East Asia [13], 58% in Australia [11] and 50% in England [15].

This study also reconfirms the fact that anxiety symptoms are highly co morbid with depression and frequently require a medication to relieve it. Similar findings were observed by other investigators as Mohanta [17] and Timothy [18]. A large number of patients (52.63%) were co-prescribed Clonazepam. 11% of the patients prescribed a combination of two antidepressants. 14.18% of the patients co-prescribed antipsychotics for the treatment of their psychotic symptoms. Number of drugs per prescription 2.06. SSRI (74.8%) was the drug prescribed in maximum number of cases as compared to tricyclic antidepressant drugs. No injectable form or FDC of antidepressant drug used. In all 82.3% of antidepressant drugs were from hospital supply.

Dose of all antidepressant were within the recommended dose range. Duration of prescribe was on an average 3 week, which is probably due to long time is taken by the all antidepressant to control symptom.

CONCLUSION

Rationality was observed according to the WHO basic drug indicators and according to the indications. Irrationality found in combination with other drugs. Sedative hypnotics used concomitantly in many. Further prospective drug utilization studies needed for adequate evaluation of patient care and facility indicators.

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