

Prescribing Practice of Antidepressant Drugs at Outpatient Department of a Tertiary Care Teaching Hospital in Bangladesh

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Abstract

Objectives: In Bangladesh 16.05% of adult population suffer from psychiatric illness of which 28.7% suffer from Major Depressive Disorder (MDD). Although antidepressants are the recommended first-line pharmacological treatments for MDD, their prescribing patterns have not been studied in Bangladesh. This study investigates antidepressant prescription patterns at the outpatient psychiatry department of Bangabandhu Sheikh Mujib Medical University (BSMMU), Bangladesh. **Material and methods:** A retrospective review of the case notes of psychiatry outpatients at BSMMU was carried out between April 2014 and December 2015. A total of 281 MDD patients (aged 18 to 60 years) were randomly recruited. Relevant information was obtained by collection of prescription details from the patients or their relatives by face to face interview. **Results:** The average number of drugs prescribed per prescription was 2.4. Antidepressants were prescribed in 83.6% (235) encounters that constituted 76.5% (235) of the total number of prescribed drugs. About 82.5% (232) antidepressants were prescribed in combination with psychotherapy. Nearly 50% (141) of prescribed antidepressants were selective serotonin reuptake inhibitors (SSRIs). Among all antidepressant classes, escitalopram (22.1%), mirtazapine (21.4%), and sertraline (16.4%) were the leading drug prescribed. Lithium was prescribed to 4.6% (13) of patients. **Conclusion:** Novel antidepressant (SSRIs and SNRIs) drugs were prescribed more compared to traditional drugs (TCAs and TeCAs). In many cases, antidepressants were prescribed in combination with psychotherapy which is good practice to treat depression. It is expected that this investigation will be helpful to treat MDD patients with more precision in drug assortment and benefit to the patients.

Keywords

Prescribing Practice, Antidepressant Drugs, Outpatient Department, Bangladesh

1. Introduction

Major Depressive Disorder (MDD) is a mental disorder described by a persistent and pervasive low mood which is attended by low self-esteem and loss of pleasure or interest in daily events that unfavorably disturbs a person's family, effort and personal life (Wakefield et al., 2007). Lifetime prevalence of depression in USA is, 12% more in men and 20% more in women compare to universe (Kessler et al., 2003). Sometimes, severe depression is termed as melancholia or vital depression in a much narrower way (Van Praag, 1987). There is an overlap of some pathogenetic mechanisms between major depression and manic episode. A distinct illness termed as bipolar disorder sometimes may be a history of mania (Belmaker, 2004). In USA approximately 3.4% of people suffering from major depression are committed to suicide. Conversely, 60% of the people who are committed to suicide had depression or another mood disorder (Barlow & Durand, 2005). Approximately 4.3% population suffers from MDD globally (Vos et al., 2012). Twelve-month prevalence of MDD is 4.9% in men and 8.6% in women while lifetime prevalence is 13.2% in men compared with 20.2% in women globally (Rustad et al., 2013). Interestingly, lifetime occurrence is 3% in Japan and 17% in USA, indicating significant geographical and/or cultural variation (Andrade et al., 2003). Prevalence of MDD for a year-long period is 3% - 5% in males and 8% - 10% in females among North Americans (Murphy et al., 2000). In Bangladesh prevalence of MDD is 4.6% and among all psychiatric patients the percentage is 28.7. Both mild to moderate and severe depression are more common in females and among singles (Firoz et al., 2006). Different studies reveal that the chance of having major depression is twice in women than men but the reason is not clear and which factors are responsible for this are not known either (Kuehner, 2003). People generally experience their first depressive episode during the fourth decade of life and there may be a second smaller peak at the age 50 to 60 years. Increased chance of depressive episodes associated with some states such as Parkinson's disease, stroke, or multiple sclerosis and throughout the first year after delivery (Rickards, 2005). Urban populations suffer from depressive disorders more than the rural people.

According to biopsychosocial model, biological, psychological and social factors show a significant role in emerging depression (Fundamentals of mental health and mental illness by US Department of Health and Human Services (1999). The preexisting vulnerability can be either genetic (Caspi et al., 2003; Haeffel et al., 2008), implying an interaction between nature and nurture or schematic, resulting from childhood views of the world (Slavich, 2004). Depressive episode may also be due to damage of cerebellum as is seen in cerebellar cognitive affective syndrome (Konarski et al., 2005; Schmahmann et al., 2007; Schmahmann, 2004). Heritability of depression has been estimated in a Swedish study where they explained that the severity of depression is linked with the degree of genetic variation (Kendler et al., 2006). Long-term drug use or abuse and withdrawal from certain sedative or hypnotic drugs are generally linked with major depression (Ashton, 2002; Schuckit et al., 1997). MDD is a disease that is

usually manageable; among people who seek treatment 80% find that psychotherapy and medications are effective for them. Patients normally start to get significant benefits from treatment within 4 - 6 weeks after initiation (Diagnostic and Statistical Manual for Mental Disorders, DSM-5, 5th Ed.). Although psychiatric medication is the most often prescribed therapy for major depression (Carson, 2000) psychotherapy alone or in combination with medication is a very effective option as well (Callaway, 1972). Antidepressant medications do not consistently demonstrate their superiority over placebo or their benefit in treating depression is little. Similarly, substantial superiority over no-treatment has not been demonstrated by psychotherapy. Combination of both psychotherapy and antidepressants can provide a slight advantage. Once MDD is accurately diagnosed, any treatment option is not generally known to be more effective than getting depressed patients involved in an active therapeutic program (Khan et al., 2012). For patients who are under 18 years of age, psychotherapy is the treatment of choice. Parents should also be considered for psychotherapy parallel with their child who suffers from depression due to substance abuse for better treatment outcomes (NICE, 2005).

2. Material and Methods

A retrospective review of the case notes of outpatients was carried out between April 2014 and December 2015. A total of 281 MDD patients, age ranging from 18 to 60 years, were randomly recruited from the outpatient Department of Psychiatry, Bangabandhu Sheikh Mujib Medical University (BSMMU) Hospital, Bangladesh. Patients under the age of 18, above the age of 60 or those having a severe general medical condition were not included in the study. A specialist psychiatrist conducted the diagnosis and interview of the patients based on DSM-V (2013). The data were taken by collection of prescription details from the patients or their relatives by face to face interview with them. The study subjects were briefed about the purpose of the study and written consent was taken from each of them. Each of the subjects filled up a questionnaire form which contains personal information, socio-economic data, history of illness, family history and other demographic and medical information. The forms of the patients who had no formal education were filled out with the help of their primary care givers. Study protocol and volunteer consent form was approved by the ethical review committee of Department of Psychiatry, BSMMU. Statistical analysis was performed using the statistical software package SPSS, version 23.0 (SPSS Inc., Chicago, IL). Descriptive data has been given as frequencies and percentages.

3. Results

The socio-demographic characteristics of the respondents are shown in **Table 1**. Respondents had a mean age of 31.24 years (SD \pm 13.46) and approximately 60% (169) of respondents were found within an age range of 25 - 44 years. Among all respondents, 41% (115) were male and 59% (166) were female. Roughly 33%

Table 1. Socio-demographic characteristics of the respondents.

Parameters	Respondents (n = 281)			
	n	%	Mean \pm SD	
Age in years	18 - 24	30	11	31.24 \pm 13.46
	25 - 34	98	35	
	35 - 44	101	36	
	45 - 60	52	19	
Gender	Male	114	41	
	Female	167	59	
Education	Illiterate	64	23	
	Can read only	32	11	
	Secondary	44	16	
	Higher secondary	68	24	
Occupation	Graduate and above	73	26	
	Service	62	22	
	Business	54	19	
	Student	34	12	
	Others	57	20	
	Jobless	74	26	
Monthly income in KBDT	Below 10	92	33	18.42 \pm 13.35
	10 - 25	87	31	
	26 - 40	74	26	
	Above 40	28	10	

respondents were found to be below secondary level of education, whereas 16%, 24% and 26% respondents had education equivalent to secondary, higher secondary and graduation or higher respectively. Among all respondents 26% were jobless. Approximately 64% respondents had family income below 25 KBDT (Kilo Bangladeshi Taka) and their mean income was 18.42 KBDT (SD \pm 13.35).

The average number of drugs prescribed per encounter was 2.4. In 74.5% (209) prescriptions, the range of drugs prescribed varied from 1 to 6. There was not a single encounter where no drug was prescribed. Antidepressants were prescribed in 83.6% (235) of the prescriptions and these constituted 76.5% (215) of the total number of prescribed drugs. About 82.5% (232) antidepressants were prescribed in combination with psychotherapy. Approximately 20% prescriptions were written for psychotherapy with other drugs where antidepressants were not mentioned. As shown in **Figure 1** about 50% (141) of the cases, selective serotonin reuptake inhibitors (SSRIs) were prescribed as antidepressant drugs, followed by tetracyclic antidepressants (TeCAs), tricyclic antidepressants (TCAs) and serotonin norepinephrine reuptake inhibitors (SNRIs). Among all

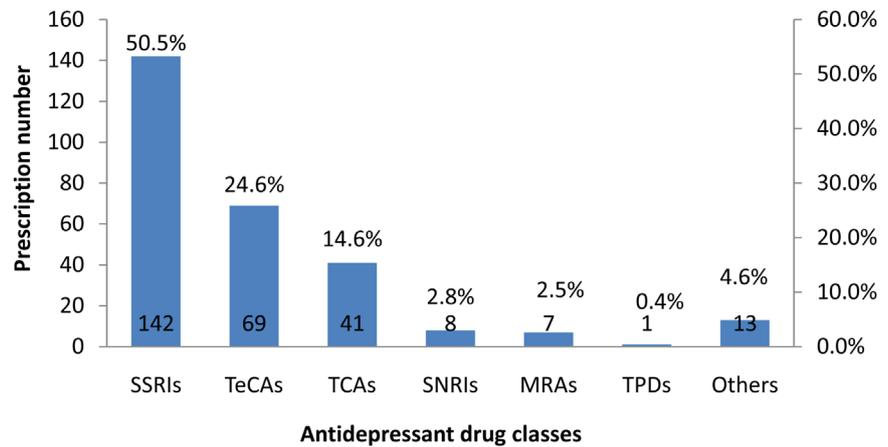


Figure 1. Antidepressant drug classes used at outpatient department of a tertiary teaching hospital in Bangladesh.

antidepressant classes, Escitalopram (22.1%), Mirtazapine (21.4%), and Sertraline (16.4%) were the leading prescribed medications (Figure 2). Escitalopram (44%), Sertraline (32%), and Fluoxetine (19%) were the top serotonin norepinephrine reuptake inhibitors prescribed (Figure 3). About 56% (23) of tricyclic antidepressant prescriptions were found for amitriptyline (Figure 4). Lithium was also prescribed in 4.6% (13) cases to treat depression.

4. Discussion

The current study was conducted to explore the antidepressant drug prescribing practice at outpatient department of a tertiary care teaching hospital in Bangladesh. The main findings of this study were comparable with similar studies in some other countries in Asia. The main findings revealed that people generally develop depression at their third and fourth decades of life. Similar result was reported in another study e.g. people generally experience their first depressive episode during fourth decade of life and there may have a second smaller peak at the age 50 to 60 years (Rickards, 2005). The prevalence was more among females than males which is supported by a study where reported that lifetime prevalence of depression in USA is more than 12% in men and 20% in women (Kessler et al., 2003). Both mild to moderate and severe depression are more common in females and among singles (Firoz et al., 2006). Different studies reveal that the chance of having major depression is twice in women than men but the reason is not clear and which factors are responsible for this are not known (Kuehner, 2003). As per our study, we found there was a tendency to develop depression among illiterate and highly educated people. The figures in this study tended to fall in line with figures reported by other similar studies.

However psychiatric medication is the most often prescribed therapy for major depression (Carson, 2000) but psychotherapy either alone or in combination with medication is very effective option (Callaway, 1972). Approximately 20% prescriptions were written for psychotherapy with other drugs where antidepressants were not mentioned. In this current study about 84% patients were

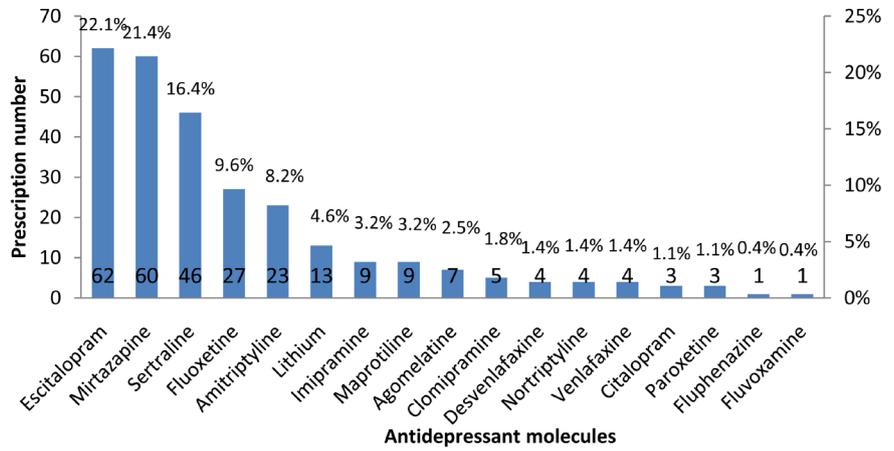


Figure 2. The most frequently prescribed antidepressant molecules at outpatient department of a tertiary teaching hospital in Bangladesh.

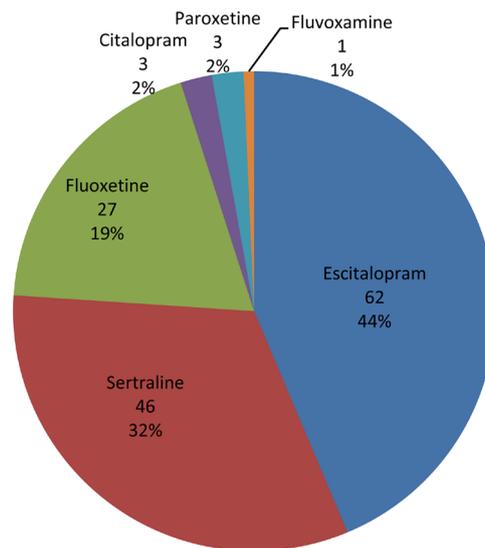


Figure 3. Distribution of selective serotonin reuptake inhibitors (SSRIs) used for major depression.

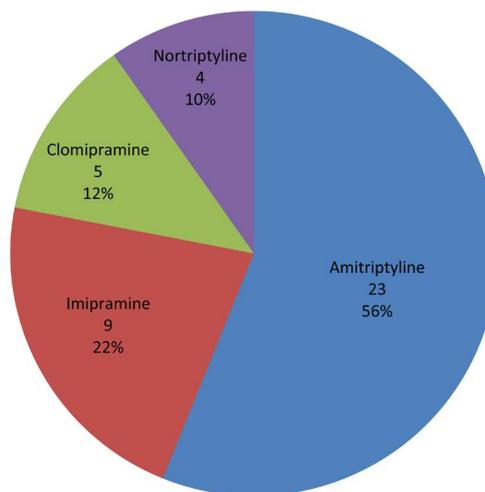


Figure 4. Distribution of tricyclic antidepressants (TCAs) used for major depression.

offered treatment with an antidepressant, of which SSRIs were the most commonly prescribed (50%). This is in keeping with the results of studies done in Asia (Zhang et al., 2013; Sim et al., 2007; Bae et al., 2001), the United States (Ivanova et al., 2011) and Europe (Bauer et al., 2008). SSRIs are effective in the treatment of MDD. It is demonstrated in many studies that the efficacy of SSRIs is superior to other antidepressant medications, mainly Tetracyclic Antidepressant (TCAs) (Anderson, 2000; Arroll et al., 2009; Cipriani et al., 2005). Result from the current study shows that new antidepressant drugs (SSRIs, SNRIs, NRIs, etc.) account for 53.4% of all antidepressant prescriptions compared to traditional drugs (TCAs and TeCAs) which make up 39.1% of the total prescriptions. Figure in this study is lower than the 77% figure, though comparable to figures from Australia and England (Moore et al., 2009), 58% in Australia (Hollingworth et al., 2010) and 50% in England (Uchida et al., 2007). The current study revealed that, among all antidepressant drug classes, Escitalopram (22.1%), Mirtazapine (21.4%), and Sertraline (16.4%) were the leading prescribed medications. Another study in India where the number of patients receiving Escitalopram, Sertraline, Paroxetine and Fluoxetine was 36.54%, 3.78%, 7.37%, and 6.73%, respectively (Adarsh et al., 2016). Escitalopram (44%), Sertraline (32%), and Fluoxetine (19%) were the top serotonin norepinephrine reuptake inhibitors prescribed at the outpatient department of this tertiary hospital in Bangladesh. This finding is very much similar to another study report in India where 56% prescription for Sertraline and 30%, 10%, and 2% for Escitalopram, Fluoxetine, and Fluoxetine, respectively (Memon & Patel, 2013). Lithium prescription (4.6%) for depression was found as new treatment approach in a tertiary care hospital setup.

The limitation of our study was we did not investigate whether the patients have any special external reason for depression which can be solved only by psychotherapy. Therefore, further study may be needed to determine whether social conditions influence on the prescribing habit of antidepressants drugs. Another drawback of our present study was we took small number of samples from single center. So, if we want to produce more and more valued conclusion for our present study, we need to be carried out this study over large number of samples from different regional part of Bangladesh. In spite of these limitations, we hope our study will play an important role understand the prescription pattern of antidepressants in Bangladesh.

5. Conclusion

The results of the present study showed that novel antidepressant (SSRIs and SNRIs) drugs were prescribed more compared to traditional drugs (TCAs and TeCAs). More than eighty percent antidepressants were prescribed in combination with psychotherapy as psychotherapy alone or in combination with medication is a very effective option to treat major depression. It is expected that this investigation will be helpful for the management of MDD with more perfection in drug assortment and benefit to the patients.

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Conflict of Interest

The authors declare that there is no conflict of interests regarding the publication of this article.

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