Background: There is a lack of information on the clinical and sociodemographic correlates of prescription of psychotropics by psychiatrists.

Aim and Objective: This study aimed to evaluate the relationship of prescription patterns with various clinical and sociodemographic variables.

Methodology: Data of prescription patterns, psychiatric diagnosis, sociodemographic variables, and comorbid physical illnesses were collected for 4480 patients, across 11 centers.

Results: Females are more often prescribed escitalopram, sertraline, amitriptyline, amisulpride, nonlithium mood stabilizers, and benzodiazepines, whereas males are more often prescribed fluoxetine, olanzapine, two antipsychotics concurrently, typical antipsychotics, valproate, lithium, and more than one benzodiazepine. Elderly (>65 years) participants are more often prescribed sertraline when compared to adolescents. In addition, elderly more often receive quetiapine and less often are prescribed benzodiazepines. Those with comorbid neurological disorders are commonly prescribed antipsychotics, amitriptyline, and more than one antidepressant and are less commonly prescribed lithium, combination of two mood stabilizers, and benzodiazepines. Those with cardiac ailments are more commonly prescribed sertraline, quetiapine, and lithium and less frequently prescribed amitriptyline, fluoxetine, olanzapine, risperidone, and typical antipsychotics. Those with diabetes mellitus more often received escitalopram and quetiapine. Presence of more than one psychiatric diagnosis was associated with the use of more number of medications. Further, diagnosis of affective disorders was associated with the use of a higher number of medications.

Conclusion: Findings of the present study suggest that sociodemographic variables and physical and psychiatric comorbidity influence the prescription patterns of psychotropics.

Key words: Correlates, prescription patterns, psychotropics

Address for correspondence: Dr. Sandeep Grover, Department of Psychiatry, Postgraduate Institute of Medical Education and Research, Chandigarh - 160 012, India. E-mail: drsandeepg2002@yahoo.com

INTRODUCTION

Over the years, few studies from India have attempted to evaluate the prescription patterns of psychiatrists. In general, this is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms. For reprints contact: reprints@medknow.com

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these studies suggest that among antidepressants, selective serotonin reuptake inhibitors (SSRIs) are the most commonly prescribed antidepressants, with escitalopram being the most commonly used antidepressant. Among the antipsychotics, olanzapine and risperidone are prescribed more often than other antipsychotics. In terms of mood stabilizers, prescription rate of valproate is higher than lithium.\cite{1,2} When one looks at the prescription trends, by comparing the published data with regard to the year of publication, it is obvious that over the years, there is a reduction in the prescription rate for tricyclic antidepressants (TCAs) and typical antipsychotic medications.\cite{5-10} However, most of these studies have been limited by the small sample size and are restricted to a single center. Moreover, these studies do not provide information about the various sociodemographic and clinical factors which influence the selection of various medications. Studies from other parts of the world suggest that factors such as gender, age, presence of comorbid physical, and psychiatric disorders influence the choice of medications.\cite{11-18} Various treatment guidelines also provide recommendations as to how to use various psychotropics medications in the presence of various physical comorbidities.\cite{19,20} In general, these guidelines suggest the use of lower doses of psychotropics in patients with physical comorbidities. There is a lack of data from India, with regard to the sociodemographic and clinical correlates of psychotropic prescriptions in the hand of psychiatrists.

Indian Psychiatric Society (IPS) funded a study on prescription patterns. In this study, 4480 patients were recruited from different centers. Data of these patients were recently published.\cite{2} This present paper is also a part of the same study and attempts to evaluate the relationship of prescription patterns with various clinical and sociodemographic variables.

METHODOLOGY

Data of this paper are part of the multicentric study on prescription patterns funded by the IPS. Detailed methodology of this study has been provided in the previous paper.\cite{21} IPS Ethical Review Board and/or Institutional Ethics Committee of the Institutes where the study was conducted approved the study and written informed consent was obtained from the patients or their primary caregivers before recruitment. The study was conducted in 11 centers. By following a cross-section design, the prescriptions handed over to the patients at the time of their first treatment contact were assessed.

Study sample was divided into various groups for comparison based on each demographic variable. Similarly, based on the presence or absence of particular physical comorbidity, the study sample was divided into two groups for comparison. Descriptive analysis was carried out using mean and standard deviation (SD) with range for continuous variables and frequency and percentages for ordinal or nominal variables. Comparisons were done using Chi-square test, t-test, and Fisher’s exact test.

RESULTS

The study included 4480 patients. About 90% of patients were in the age range of 20–65 years and the mean age of the study sample was 37.28 (SD - 13.53) years. More than two-third (71.8%) of the participants were married. There was a slight preponderance of male patients (54.8%). In terms of employment status, half of the patients were employed. Nearly half of the patients belonged to nuclear families (48.8%). Two-third of the patients had family income of < Rs. 7322.

Diagnostic distribution

As reported earlier, patients with an affective disorder formed half of the study sample (n = 2431; 54.3%) with majority of them being diagnosed with unipolar depressive disorders (n = 1957; 43.7%) and the remaining having a diagnosis of bipolar disorder (n = 474; 10.6%). Patients with psychotic disorders (n = 592; 13.2%); anxiety, neurotic, and stress-related disorders (993; 22.2%) were other major diagnostic groups. Most of the patients (87.5%) were assigned single psychiatric diagnosis. About one-eighth (12.2%) had two diagnoses, while very few (0.4%) were diagnosed to have three psychiatric disorders. In terms of physical comorbidity, one-tenth (n = 451; 10.1%) of the study participants had comorbid neurological diagnosis. Few participants also had comorbid physical illness related to cardiovascular system (i.e., hypertension) (n = 201; 4.1%) and endocrine disorder (i.e., diabetes mellitus or hypothyroidism) (n = 98; 2.2%).

Sociodemographic correlates of antidepressant prescription patterns

The results of sociodemographic and clinical correlates are summarized in Table 1.

Gender

It was seen that as compared to males, significantly greater number of females were prescribed escitalopram (24.5% vs. 18.5%; Chi-square value 23.88; P < 0.001), sertraline (13.7% vs. 10.5%; Chi-square value 10.77; P = 0.001), and amitriptyline (9.7% vs. 4.4%; Chi-square value 49.14; P < 0.001). Whereas significantly more males were prescribed fluoxetine (6.6% vs. 5%; Chi-square value 5.14; P < 0.05). In terms of antipsychotics, significantly greater proportion of males were prescribed olanzapine (15.75% vs. 13%; Chi-square value 6.51; P < 0.05), two antipsychotics concurrently (6.3% vs. 4.8%; Chi-square value 4.78; P < 0.05), and typical antipsychotic medications (6.9% vs. 4.2%; Chi-square value 14.86; P < 0.001). Significantly, more females received amisulpride (3.4% vs. 4.5%; Chi-square value 3.74; P = 0.05). With regard to the mood stabilizers, males were more often prescribed valproate (9.5% vs. 7%; Chi-square value 8.78; P < 0.01) and lithium (3.45% vs. 2.4%; Chi-square value 6.51; P < 0.05), whereas females were more often prescribed lithium (3.45% vs. 2.4%; Chi-square value 6.51; P < 0.05), whereas females were more often
prescribed mood stabilizers other than lithium, i.e., one of the antiepileptic mood stabilizer (11.6% vs. 8.8%; Chi-square value $9.39^*; P < 0.01$). Females more frequently received any benzodiazepines (31.2% vs. 28.5%; Chi-square value $5.91^*; P < 0.05$), clonazepam (49.4% vs. 40.7%; Chi-square value $34.4^{***}; P < 0.001$), lorazepam (12% vs. 7.4%; Chi-square value $26.3^*; P < 0.01$). Males more frequently received two benzodiazepines together (2% vs. 1%; Chi-square value $6.75^*; P < 0.01$).

**Marital status**
Those married were more commonly prescribed escitalopram (22.7% vs. 17.3%; Chi-square value $15.9^{***}; P < 0.001$) and sertraline (12.8% vs. 9.9%; Chi-square value $7.3^{**}; P < 0.01$). Those who were single more frequently received olanzapine (17% vs. 13.6%; Chi-square value $8.24; P < 0.01$), risperidone (10.7% vs. 8.4%; Chi-square value $5.6^*; P < 0.5$), and polypharmacy (i.e., concomitantly two antipsychotics) (6.7% vs. 5.2%; Chi-square value $4.04^*; P < 0.5$). Those who were married more frequently received clonazepam (45.6% vs. 42.3%; Chi-square value $3.93^*; P < 0.5$) and diazepam (9.1% vs. 6.3%; Chi-square value $8.96^*; P < 0.01$).

**Locality**
Those from rural locality were more often prescribed sertraline (13.5% vs. 10.5%; Chi-square value $9.63^{**}; P < 0.01$), whereas those from urban locality were more often prescribed TCAs (9.6% vs. 4%; Chi-square value $55.74^{***}; P < 0.001$) and two antidepressants concurrently (9.7% vs. 6.3%; Chi-square value $3.93^*; P < 0.5$).
value 16.88<sup>***</sup>; P < 0.001). In terms of antipsychotic, those who were from rural background more frequently received olanzapine (18.36% vs. 10.7%; Chi-square value 52.91<sup>***</sup>; P < 0.001), risperidone (10.1% vs. 8%; Chi-square value 6.33<sup>***</sup>; P < 0.05), and polypharmacy (6.3% vs. 4.9%; Chi-square value 4.36<sup>***</sup>; P < 0.05). For mood stabilizers, patients with rural background more frequently received lithium (3.6% vs. 2.4%; Chi-square value 5.7<sup>***</sup>; P < 0.05), carbamazepine/oxtcarbazepine (2.72% vs. 1.3%; Chi-square value 11.55<sup>***</sup>; P = 0.001) and those from urban background more frequently received valproate (9.3% vs. 7.1%; Chi-square value 8.69<sup>***</sup>; P < 0.01) or nonlithium mood stabilizer (12.13% vs. 8.53%; Chi-square value 15.64<sup>***</sup>; P < 0.001). Patients hailing from rural areas more frequently received benzodiazepine (72.65% vs. 66.72%; Chi-square value 18.63<sup>***</sup>; P < 0.001) and lorazepam (13.2% vs. 6.8%; Chi-square value 50.8<sup>***</sup>; P < 0.001).

Age
Sertraline was more often prescribed to adult and elderly patients (>65 years) as compared to those aged <19 years (12.43% [adult] vs. 12.3% [elderly] vs. 5.35% [aged <19 years]; Chi-square value 12.44<sup>***</sup>; P < 0.01). Fluoxetine was preferred in adult age group (20–65 years) (6.2% [adult] vs. 3.1% [elderly] vs. 3.2% [aged <19 years]; Chi-square value 7.07<sup>**</sup>; P < 0.05). Quetiapine was more frequently used in elderly (2.9% [adult] vs. 6.15% [elderly] vs. 2.85% [aged <19 years]; Chi-square value 6.88<sup>***</sup>; P < 0.05). Benzodiazepines were less frequently used in extreme of age groups (70.8% [adult] vs. 61.5% [elderly] vs. 60% [aged <19 years]; Chi-square value 20.75<sup>**</sup>; P < 0.001).

Employment
Those employed were more frequently prescribed fluoxetine (7.53% vs. 4.3%; Chi-square value 21.4<sup>***</sup>; P < 0.001) and combination of two antidepressants (9.5% vs. 6.6%; Chi-square value 12.74<sup>***</sup>; P < 0.001), whereas those who were unemployed more frequently received amitriptyline (8.73% vs. 4.7%; Chi-square value 28.2<sup>***</sup>; P < 0.001). Unemployed participants more frequently received amisulpride (9.6% vs. 4%; Chi-square value 55.74<sup>***</sup>; P < 0.001) and risperidone (10.35% vs. 7.7%; Chi-square value 9.47<sup>***</sup>; P < 0.01). With regard to the mood stabilizers, employed patients more frequently received lithium (3.8% vs. 2.2%; Chi-square value 9.99<sup>***</sup>; P < 0.001) and a combination of two mood stabilizers (1.7% vs. 0.8%; Chi-square value 7.5<sup>***</sup>; P < 0.01). Unemployed patients more frequently received clonazepam (47.22% vs. 41.91%; Chi-square value 12.76<sup>***</sup>; P < 0.001), whereas those who were employed more frequently received lorazepam (11.20% vs. 8.8%; Chi-square value 7.20<sup>***</sup>; P < 0.01) and combination of two benzodiazepines (2.1% vs. 1.2%; Chi-square value 5.91<sup>***</sup>; P < 0.05).

Income
Higher income (more than 7322 rupees) was associated with a greater prescription of sertraline (15% vs. 10%; Chi-square value 24.6<sup>***</sup>; P < 0.001) but lesser use of TCA (9.1% vs. 3.22%; Chi-square value 15.12<sup>***</sup>; P < 0.001). Lower income (<Rupees. 7322) was associated with prescription of olanzapine (15.9% vs. 12.4%; Chi-square value 10.2<sup>***</sup>; P = 0.001), typical antipsychotic (4.6% vs. 3.1%; Chi-square value 13.3<sup>***</sup>; P < 0.001), and polypharmacy (6.6% vs. 4.1%; Chi-square value 11.8<sup>***</sup>; P = 0.001). Lower income (<Rupees. 7322) was also associated with a greater prescription of valproate (9.3% vs. 7%; Chi-square value 7.4<sup>***</sup>; P < 0.01), carbamazepine/oxtcarbazepine (2.5% vs. 1.2%; Chi-square value 9.27<sup>***</sup>; P < 0.01), and nonlithium mood stabilizer (11.5% vs. 8.5%; Chi-square value 10.2<sup>***</sup>; P = 0.001), whereas higher income was associated with more prescription of lamotrigine (1.1% vs. 0.3%; Chi-square value 11.4<sup>***</sup>; P = 0.001) and lithium (3.9% vs. 2.4%; Chi-square value 8.74<sup>***</sup>; P < 0.01). In terms of benzodiazepines, lower income was associated with the use of two benzodiazepines (2% vs. 1.15%; Chi-square value 4.07<sup>***</sup>; P < 0.05).

Clinical correlates of antidepressant prescription patterns

Neurological morbidity
Presence of neurological comorbidity was associated with significantly lesser prescription of sertraline (4% vs. 12.9%; Chi-square value 30.4<sup>***</sup>; P < 0.001) and fluoxetine (1.33% vs. 6.4%; Chi-square value 18.7<sup>***</sup>; P < 0.001) and significantly higher use of combination of two antidepressants (15.5% vs. 7.2%; Chi-square value 38.34<sup>***</sup>; P < 0.001) and amitriptyline (44.34% vs. 2.6%; Chi-square value 111.8<sup>***</sup>; P < 0.001). In terms of antipsychotics, those who had neurological illnesses were less likely to receive a combination of two antipsychotics (0.9% vs. 6.15%; Chi-square value 21.2<sup>***</sup>; P < 0.001), olanzapine (2.2% vs. 15.9%; Chi-square value 61.2<sup>***</sup>; P < 0.001), risperidone (1.8% vs. 9.9%; Chi-square value 32.32<sup>***</sup>; P < 0.001), quetiapine (0.44% vs. 3.3%; Chi-square value 11.33<sup>***</sup>; P = 0.001), and typical antipsychotic medication (1.33% vs. 4.3%; Chi-square value 9.39<sup>***</sup>; P < 0.01). For mood stabilizers, presence of neurological illness led to significantly lower use of combination of two mood stabilizers (0.22% vs. 1.34%; Chi-square value 4.18<sup>***</sup>; P < 0.05) and lithium (0% vs. 3.3%; Chi-square value with Yate’s correction 14.21<sup>***</sup>; P < 0.001) and significantly higher use of valproate (14.6% vs. 7.7%; Chi-square value 25.65<sup>***</sup>; P < 0.001), carbamazepine (4.43% vs. 1.73%; Chi-square value 14.98<sup>***</sup>; P < 0.001), and nonlithium mood stabilizer (18.84% vs. 9.4%; Chi-square value 39.21<sup>***</sup>; P < 0.001). Presence of neurological illness was also associated with significantly lesser prescription of any benzodiazepines (60.1% vs. 70.8%; Chi-square value 21.87<sup>***</sup>; P < 0.001), lorazepam (1.55% vs. 10.9%; Chi-square value 39.51<sup>***</sup>; P < 0.001), and diazepam (2.2% vs. 9%; Chi-square value 24.4<sup>***</sup>; P < 0.001).

Cardiovascular morbidity
Patients with cardiovascular illness more frequently received sertraline (21.4% vs. 11.54%; Chi-square value 17.65<sup>***</sup>; P < 0.001), quetiapine (6% vs. 2.9%; Chi-square value 6.29<sup>***</sup>; P < 0.001), and polypharmacy (6.3% vs. 4.9%; Chi-square value 4.36<sup>***</sup>; P < 0.05).
Among the antipsychotics, preference for olanzapine and concurrent use of two antipsychotic and typical antipsychotic are possibly influenced by the knowledge about the side effects of these medications. It has been demonstrated that with the long-term use of typical antipsychotics, females more often experience side effects such as tardive dyskinesia. Less preference for olanzapine could be due to the knowledge that olanzapine is associated with more weight gain and higher incidence of metabolic syndrome among females. With regard to the mood stabilizers, males were more often prescribed valproate and lithium, whereas females more often were prescribed mood stabilizers other than lithium, i.e., one of the antiepileptic mood stabilizers. As majority of the patients in the present study were adults, and in the reproductive age group, these findings was slightly surprising considering the fact that antiepileptic mood stabilizers are generally considered to be more teratogenic when compared to lithium. Higher proportions of female patients were prescribed benzodiazepines, especially clonazepam and lorazepam. When male patients were prescribed benzodiazepines, they more often received combination of two benzodiazepines. Although the clinical factors could have influenced the decision of prescribing benzodiazepines, many other factors could also influence the decision to use benzodiazepines. More often, concurrent use of two benzodiazepines in males is possibly guided by the clinical severity of the illness and a general belief that males may require higher doses of medications to calm down.

Few associations were seen between the prescription patterns and locality. Those from a rural background were more often prescribed sertraline, and those from urban locality were more often prescribed TCAs. Most prescriptions of TCAs were those of amitriptyline. There is a further need to evaluate these observed differences. Those from urban locality were more often prescribed two antidepressants concurrently. Besides, the severity of illness, such prescription pattern could possibly reflect greater demand for medications by the patients from urban locality and possibly the clinicians feel pressurized to use more number of medications because of fear of losing their clients in the event of lack of response or delay in response to treatment. Higher prescription rates of antipsychotic polypharmacy among those from rural background could be because of either greater severity of illness or possibly the distance from the treatment facility. Clinicians probably prescribe polypharmacy so as to reduce the number of visits of such patients coming from far off places. It is also possible that anticipating lack of awareness about the medications among patients from a rural background, clinicians tend to prescribe polypharmacy in these patients. Higher prescription rates for lithium and carbamazepine among those from a rural background are possibly guided by lower cost of these medications. Higher use of benzodiazepines among the rural population could also have been influenced

\[ P < 0.05, \text{ and lithium (5.5% vs. 2.85%; Chi-square value 4.58); } \]
\[ P < 0.05. \text{ Those with cardiovascular illnesses were less often prescribed amitriptyline (1% vs. 7%; Chi-square value 11.15; }\]
\[ P = 0.001, \text{ fluoxetine (2.5% vs. 6%; Chi-square value 4.35; }\]
\[ P < 0.05, \text{ olanzapine (4.5% vs. 15%; Chi-square value 17.12; }\]
\[ P < 0.001, \text{ risperidone (2% vs. 1.15%; Chi-square value 4.07; }\]
\[ P < 0.05, \text{ typical antipsychotics (1% vs. 4.1%; Chi-square with Yate's correction value 4.01; }\]
\[ P < 0.05, \text{ valproate (4.5% vs. 8.55%; Chi-square value 4.15; }\]
\[ P < 0.05, \text{ and carbamazepine (5% vs. 10.6%; Chi-square value 6.52; }\]
\[ P < 0.05). \]

\[ \text{Diabetes mellitus} \]
Those with diabetes mellitus more frequently received escitalopram (32.8% vs. 21%; Chi-square value 5.22; \[ P < 0.05 \] ) and quetiapine (14% vs. 2.85%; Chi-square value 27.12; \[ P < 0.001 \] ). However, there was a significantly lesser prescription of amitriptyline (0% vs. 6.9%; Chi-square with Yate's correction value 3.70; \[ P < 0.05 \] ) and olanzapine (3.1% vs. 14.7%; Chi-square value 5.90; \[ P < 0.05 \] ).

\[ \text{Psychiatric comorbidity and polypharmacy} \]
Presence of more than one psychiatric disorders was associated with lower use of two antipsychotics concurrently (12.2% vs. 17.85%; Chi-square value 6.86; \[ P < 0.05 \] ) but not other drugs. A higher number of psychiatric diagnoses were associated with more number of medications (Pearson correlation coefficient - 0.055; \[ P < 0.001 \] ). Diagnosis of affective disorders was associated with prescription of greater number of medications (2.69 [SD - 1.03 vs. 2.29 [1.03], t value = 12.7, \[ P < 0.001 \] ) and that of anxiety disorders was associated with lower use of total number of medications (2.26 [SD - 0.96] vs. 2.57 [1.08], t value = 8.2, \[ P < 0.001 \]).
by the greater distance from the treatment facilities, hence, fewer opportunities to monitor the treatment.

Greater use of sertraline among elderly could possibly be guided by the compulsion of drug interactions. It is well known that elderly often have comorbid physical illnesses and are on multiple medications, which predisposes them to drug interactions. Among various SSRIs, besides escitalopram, sertraline is considered to have less chance of drug interactions. Similarly, lower use of benzodiazepines is also possibly guided by the clinical wisdom of higher risk of fall among elderly receiving these medications. These findings suggest that clinicians often take age into consideration while prescribing various psychotropic medications. Preference for quetiapine among elderly could also possibly be guided by the knowledge of lower risk of extrapyramidal side effects with quetiapine.

Some variations were also noted in prescribing drugs in relation to the employment status of the patients. Those who were employed were less often prescribed benzodiazepines. This finding is understandable considering the effect of benzodiazepines on sleep and the undesirable side effects of daytime sedation and cognitive deficits associated with the same. Moreover, those who were employed more often received lorazepam because of its shorter half-life compared to commonly used clonazepam. Those who were unemployed more often received amisulpride. One possible reason for higher prescription of amisulpride among unemployed could be due to its known beneficial effect on negative symptoms of schizophrenia, which could improve their chances of being employed in the future. Greater use of lithium among employed participants could be due to its lower propensity to cause sedation when compared with valproate.

Lower income was associated with greater prescription of typical antipsychotics, olanzapine, and polypharmacy. Some of these associations are understandable, for example, lower cost of typical antipsychotics compared to some of the newer atypical. Higher use of olanzapine is possibly guided by the efficacy rather than only economic factors. Use of polypharmacy among those from lower socioeconomic status requires further evaluation. Lower use of TCAs among those from high socioeconomic status again possibly reflects the lower cost of these medications compared to some of the newer antidepressants. Preference of mood stabilizers such as lamotrigine for those with higher income and higher use of carbamazepine for those from lower economic status are again understandable from economic issues; however, higher use of valproate for those from lower income and lithium for those with higher income requires further evaluation.

Presence of more than one psychiatric diagnosis was associated with the use of more number of medications. This could be due to use of different classes of medications to manage a different set of symptoms. Further, diagnosis of affective disorders was associated with prescription of a higher number of medications. This could be possibly due to the presence of more than one type of symptoms (depressive, anxiety, psychotic, etc.). There are recommendations of various guidelines to manage different set of symptoms with different medications and use of different medications for the management of acute symptoms in addition to use of medications for prophylaxis. Previous studies from India and other countries also suggest the use of more number of psychotropic medications in those with affective disorders, especially bipolar disorders.

Various treatment guidelines suggest precautions such as use of lower doses of various medications and avoidance of certain medications in the presence of certain physical illness. There is little information about the prescription pattern of various psychotropic medications among those with various physical illnesses. Findings of the present study suggest significantly lower use of SSRIs such as sertraline and fluoxetine and significantly higher use of combination of two antidepressants and amitriptyline. Significantly higher use of amitriptyline could be because of its usefulness in the management of migraine, headache, and peripheral neuropathy. However, higher use of combination of two antidepressants is contrary to the expectation. Maybe clinicians use antidepressants other than amitriptyline to manage anxiety and depression among those with neurological disorders and resultant patients end up receiving more than one agent. Avoidance of fluoxetine may be to minimize chances of drug interactions of fluoxetine compared to other SSRIs such as escitalopram. However, the lower use of sertraline could not be understood and requires further evaluation. Higher use of various group of antipsychotics including combination of two antipsychotics among those with neurological disorders possibly reflect the use of these medications in managing certain neurological symptoms (such as tics and chorea) and management of comorbid psychiatric conditions (such as psychosis and medication-induced psychosis) and associated symptoms (such as anger and agitation) of organic personality change. Similarly, lower use of combination of mood stabilizers and lithium and higher use of valproate, carbamazepine, among those with neurological disorders could be due to the usefulness of these mood stabilizers as antiepileptics. Lower prescription of benzodiazepines could also be due to higher perceived risk of side effects and synergistic effects of these medications among those with various neurological disorders.

Those with cardiovascular disorders more often received sertraline, quetiapine, and lithium. This suggests that clinicians do take cardiovascular comorbidity into account in selecting various psychotropics and tend to use medications which are either known to be safe or are associated with lower risk of side effects or drug

Grover, et al.: Correlates of prescription patterns
interactions in this subgroup of patients. Similarly, these possible reasons may explain the lower use of amitriptyline (associated with cardiac arrhythmias and drug interactions), fluoxetine (drug interactions and long half-life), olanzapine (associated with higher risk of weight gain), risperidone (higher risk of hypotension and weight gain), typical antipsychotics (arhythmias), and valproate (weight gain).

Escitalopram might have been preferred for those with diabetes mellitus due to its favorable side effect profile. Similarly, lower use of olanzapine might have been due to a higher risk of diabetes mellitus and cardiovascular side effects associated with olanzapine.[39,40] However, lower use of amitriptyline is surprising because it is often used to manage neuropathy in patients with diabetes mellitus.

The findings of the present study have certain limitations. First, the study was not designed specifically to evaluate the factors associated with psychotropic prescription patterns. Further, evaluation of patients did not involve the assessment of severity of illness. The study also was cross-sectional in nature and evaluated only the first prescriptions handed over to the patients. We also did not evaluate the side effects, drug interactions, cost, past treatment response and failures, past tolerability, and concomitant medications for other ailments.

CONCLUSION

The results of the present study do suggest that sociodemographic variables and clinical variables, especially various physical comorbidities influence the selection of psychotropic medications in patients presenting to mental health professionals. Accordingly, there is a need to evaluate these relationships further.

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Conflicts of interest
There are no conflicts of interest.

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Indian Journal of Psychiatry 58(4), Oct-Dec 2016
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