It is often understood as medication adherence; however, it also encompasses adherence to the nonpharmacological treatments and other advices such as following the dietary and lifestyle modifications. In addition, treatment adherence also involves conforming to the appointments given by clinicians.

Accordingly, adherence is divided into adherence to treatment(s) and clinical appointments. Compared to treatment/medication adherence, appointment adherence is greater in importance. It is often understood as medication adherence; however, it also encompasses adherence to the nonpharmacological treatments and other advices such as following the dietary and lifestyle modifications. In addition, treatment adherence also involves conforming to the appointments given by clinicians.

Key words: Dropout from treatment, elderly, outpatient services

INTRODUCTION

Adherence to treatment and clinical appointments is an important area of the study in the field of health. Treatment adherence is defined as “the extent to which a person’s behavior, taking medication, following a diet, and/or executing lifestyle changes, corresponds with agreed recommendations from a health-care provider.”[1]
has received less attention. Appointment nonadherence is further understood as missed appointments, partial adherence, dropouts, and completers of the treatment. Patients with missed appointments do not turn up on the scheduled appointment with or without any information. Patients who miss their follow-up appointment due to lapses and later reschedule their appointments are considered as partially adherent. Dropout of treatment basically means total disengagement from the treatment, without either clinical resolution of symptoms or a agreed upon treatment termination. Accordingly, dropout from treatment is defined as “having attended at least one session for diagnostic assessment or treatment and discontinuing the assessment or treatment process on the patient’s own initiative by failing to attend any further planned visit.”

Nonadherence to appointments in psychiatry is a rule, rather than an exception. Appointment nonadherence is a common problem faced in most health-care facilities. In terms of missed appointments, data from general adult clinics suggest that the rates range from 14% to 64%. The dropout rates reported across various studies also suggest that about 31%–64% of patients do not come back for their first outpatient appointments after hospitalization, with an average nonattendance rate being 50% for the initial appointments.

Besides, mental illnesses, chronic diseases such as hypertension and diabetes have also been reported to have high dropout rates. Studies which have compared various medical clinics suggest that dropout rates are higher for mental health clinics. Although multiple factors play a role, demographic factors including age are considered as one of the important predictors of broken appointments.

Treatment nonadherence and broken appointments among patients with various mental disorders have been evaluated among multiple studies involving patients in the adult age groups across the globe including India. However, few studies have evaluated the same in geriatric populations. Data from India suggest that 21%–59% of adult patients with various mental disorders dropout of treatment. One of the factors which explain the variance in the dropout rates across different studies is the definition used to define “dropouts.” Most of the studies from India and other parts of the world suggest that maximum dropout rates are seen after the initial visit and the rates which have reported for initial dropout in studies from India have varied from 50% to 59%. Many studies have evaluated the factors associated with dropout and suggest that dropout rates are higher for male patients, patients who have to travel for long distance, and those belonging to the rural background and illiterate. The clinical variables which have been shown to be associated with higher dropout rates include longer duration of illness, poor motivation for treatment, poor treatment satisfaction, and long waiting time.

Over the past few decades, the proportion of geriatric population has significantly increased and it is projected that, in coming decades, compared to people in other age groups, proportion of people in geriatric group are going to rise much more. Elderly are more vulnerable to illnesses due to biological and sociocultural factors and thus form an important target group. They continue to remain a marginalized group, despite requiring more care than the adult population. There are limited data in terms of “dropout” rates among elderly patients. Studies, which have evaluated mixed age group population, suggest that dropout rates are lower among older people. However, in general, there is a lack of data specific for elderly. Thus, the magnitude of this problem is yet to be clearly understood due to the dearth of comprehensive research in this field. None of the studies from India have evaluated the dropout rates among elderly patients with various mental disorders. Accordingly, the present study aimed to evaluate the early dropout rates among elderly patients attending psychiatry outpatient services of a tertiary care hospital. In addition, an attempt was made to study the factors associated with early dropout from the treatment.

MATERIALS AND METHODS

This study followed a retrospective design. This study was approved by the Institute Ethics Committee. As the study was based on the evaluation of medical records, consent was not required from the patients. The study involved evaluation of the data of elderly patients attending the walk-in clinic of a tertiary care hospital during the calendar year 2016.

Setup

Whenever a patient attends the psychiatry outpatient services, they have to pay rupees 10 for the registration. Initially, the patient is seen by a psychiatry social worker who records the demographic profile of the patient. Then, the patient is clinically evaluated either by a senior resident or a faculty member, who carries out detailed clinical evaluation on the basis of information available from the patient, accompanying caregivers, medical records, physical examination, and mental status examination. A psychiatric diagnosis is made based on International Classification of Diseases, 10th revision.

After the initial evaluation, depending on the need, the patient is prescribed medications, advised investigations, and to seek opinion from other specialists. There is a significant cross-referral between psychiatry and other specialties in the institute. In addition, all the patients are given a follow-up appointment, usually varying between 1 and 4 weeks, with a range of 1 day to 6 weeks. On follow-up, data of patients are entered into the same walk-in sheet, till the detailed workup is done. After the initial visit, data of all the patients are entered into a
Out of the 1422 patients, 406 (28.55%) belonged to the “dropout” group and 1016 (71.45%) belonged to the “followed up” group.

As shown in Table 1, the mean age of the study sample was around 67.07 years (standard deviation [SD] = 6.74) with a range of 60–96 years. The mean duration of formal education was 7.91 (6.1) years, with a range of 0–22 years. Males (55.8%) outnumbered females (44.2%). Majority of the patients were currently married (78.8%), Hindu by religion (62.6%), from nonnuclear families (71.5%), and were the head of their families (71%). There were nearly an equal proportion of patients from urban (48.9%) and rural locality (51.1%). More than two-fifth of the participants were involved in the household work (45.1%) and another one-third were retired (31.5%). One-sixth (17.4%) of the participants were employed at the time of the assessment, and a small proportion of them were unemployed (5.9%). The mean income of the patient ranged from 0 to 2 lakhs per month with a mean of rupees 8319.

When those belonging to “dropout” group were compared with those belonging to “followed up” group, a significant difference emerged between the two groups in terms of age, with patients in the “dropout” group being significantly older. Further, significantly higher proportion of patients in the age group of more than 70 belonged to the “dropout” group. In addition, there was a trend for higher proportion in the “dropout” group belonging to the Hindu religion ($P = 0.054$), being head of the family ($P = 0.07$), and from Chandigarh, Himachal, and other states ($P = 0.059$).

Clinical variables

In terms of clinical variables, the most common psychiatric diagnosis in the study sample was that of depressive disorders, and this was followed by anxiety disorders, cognitive disorders, psychotic disorders, and bipolar disorders. When compared with patients belonging to the group who “followed up,” significantly lower proportion of patients with a diagnosis of depressive disorders belonged to the “dropout” group and significantly higher proportion of patients with “other” diagnoses “dropped out.”

In terms of prescription, antidepressants (63.9%) were the most commonly prescribed medications, and this was followed by antianxiety drugs (30.5%) and antipsychotic medications (25.1%) [Table 2].

When patients in the “dropout” and “follow-up” groups were compared the higher proportion of patients in the “dropout” group were not prescribed medications, any medication, and a benzodiazepine.

In addition, the factors associated with dropout from the treatment were also evaluated for the different diagnostic groups.

**RESULTS**

In the calendar year 2016, 1486 patients aged 60 years or more attended the psychiatry outpatient services. Of these, 33 (2.2%), although registered with the walk-in clinic, did not wait for their turn, to be seen by a clinician. Another 31 patients (2.1%) were given a “Nil Psychiatry” label and were not asked to follow-up. Accordingly, complete data for sociodemographic and clinical variables were available for 1422 patients, who formed the study cohort.
When the sociodemographic profile of “dropout” and the “follow-up” groups was compared, a higher proportion of the patients in the dropout group were Hindu by religion (68.7% vs. 58.7%; \( \chi^2 = 4.26; P = 0.03 \)). No significant difference was noted in any of the clinical variables.

Cognitive disorders
No significant difference was noted in the any of the sociodemographic and clinical profile of patients with various cognitive disorders between patients in the “dropout” and “follow-up” groups.

Psychotic disorders
Compared to the patients in the follow-up group, there was a trend for significantly higher proportion of patients in the “dropout” group being single (\( \chi^2 = 3.07; P = 0.07 \)).

Anxiety disorders
No significant difference was observed in the any of the sociodemographic and clinical variables of patients with various anxiety disorders between patients in the “dropout” and “follow-up” groups.

Bipolar disorders
Compared to the patients in the “dropout” group, patients in the “dropout” group had significantly higher income (rupees 13,323 [SD - 16,769] vs. 5681 [SD - 9422]; Mann–Whitney U value = 257.5 \[P = 0.039\]) and lesser proportion of patients being males (63.15 vs. 86.95%; \( \chi^2 = 4.03; P = 0.045 \)).

Other diagnosis
Compared to the patients in the “dropout” group, higher proportion of patients in the “dropout” group were currently single (32.3% vs. 18.7%; \( \chi^2 = 4.12; P = 0.042 \)), from rural locality (63.1% vs. 46.72%; \( \chi^2 = 4.33; P = 0.037 \)), and were not prescribed medications (40% vs. 22.4%; \( \chi^2 = 6.05; P = 0.04 \)).

Medications
No significance difference was observed between the two groups based on any particular antidepressant,
antipsychotic or antianxiety medication, or their the dose that was prescribed.

**DISCUSSION**

Treatment nonattendance and dropout are very common in psychiatry.[24] Although some data are available for the adult patients, data are conspicuously missing for the elderly. The present study aimed to evaluate the “early dropout rate” among elderly patients attending the outpatient services of a tertiary care hospital. The study followed a retrospective study design. The sample size for the study was large enough to give meaningful results.

The present study showed that slightly more than one-fourth (28.55%) of the elderly patients dropped out of the treatment after the initial visit. These findings indicate that a significant proportion of elderly patients presenting to mental health setup do not turn up again. As there is a lack of data in the form of “dropout rates” among elderly attending the various mental health setups, it is not possible to directly compare the findings of the present study with the existing literature. Accordingly, we attempted to compare the finding the existing literature on the dropout rates among patients of other age groups.

Many studies across the globe have evaluated the dropout rates among patients with various mental disorders and suggest that 12% to 67% of patients attending the outpatient or community psychiatric services’ dropout of treatment.[7,25] Studies from India, which have evaluated dropout rates among adult patients, also suggest that 21.3%–57.8% of patient’s dropout of treatment and on an average 29.6%–39% do not turn up after the first visit.[10,15,17,18] Findings of the present study are within this reported range, and this suggests that possibly the dropout rates among elderly patients are similar to that in adult patients. This finding is slightly contrary to some of the previous studies, which suggest that dropout rates are lower for people of higher age.[8,14] In fact in the present study, when the factors associated with dropout from treatment were evaluated, patients in the dropout group were older. Accordingly, it can be said that older patients are more vulnerable to dropout of treatment. Hence, clinicians should pay more attention to these patients at the initial visit and must emphasize the need for regular follow-up in these patients.

In addition to the age, other variables, which had an association with dropout at the trend level, included Hindu religion, being head of the family, and those belonging to Chandigarh, Himachal, and other states. Association of high “dropout” rates with being the head of the family possibly reflect that having the responsibility of the family may have precluded these patients to come for the reevaluation. Association of high dropout rates with being from Himachal Pradesh and other states possibly reflect the distance these patients have to travel to seek treatment. Previous studies have also shown the association of high dropout rates with the longer distance of place of residence from the treatment facility.[15] High dropout rates among those belonging to Chandigarh could be understood from multiple perspectives. First, this could be a reflection of availability of alternate mental health treatment facilities in the city. Chandigarh as a city has a higher density of psychiatrists compared to other parts of the country.[26] Accordingly, availability of other services and long waiting time could have contributed to high dropout rates. It is also possible that high dropout rates among people could be due to stigma. However, the same was not evaluated in the present study.

The clinical factors which were found to be associated with dropout from treatment included other diagnostic groups (i.e., those with diagnosis other than affective, psychotic, and cognitive disorders). Although this group comprised of heterogeneous diagnoses, this reflects that being diagnosed with disorders other than affective disorder, psychotic disorders, and cognitive disorders among elderly is associated with higher dropout rates. This suggests that, when such diagnosis is made, clinicians should give enough time to the patient and family members.
to understand what does the given diagnosis means to the patient and the family caregivers. In the present study, having a diagnosis of depressive disorder was associated with the lower chance of treatment dropout. Previous studies among adult patients have come up with varied findings with some studies reporting no relationship of dropout rates with various diagnostic groups, whereas other studies suggest higher dropout rates among patients with depressive disorders.\textsuperscript{[14,19]} A third group of studies has reported higher dropout rates among patients with nonaffective and nonpsychotic disorders.\textsuperscript{[14,21]} Higher dropout rates in the other diagnostic groups in the present study are in consonance with this last group of studies. Compared to other diagnostic groups, lower dropout rates among elderly with depressive disorders possibly reflect the treatability of depressive disorders when compared to other disorders among elderly.

In terms of treatment, dropout from treatment was associated with a lack of prescription of medication and lack of prescription of benzodiazepines. The association of lack of prescription of medication with dropout is understandable in the sociocultural context. In India, most of the patients, who come to see a doctor, come with the expectation of being prescribed some medications for their ailment. Accordingly, when their need and expectation of a pill is not fulfilled, they prefer not to return to the clinic. Hence, it is very important for the treating clinicians to explain the patients and their caregivers as to why the medications have not been prescribed and in which situation the medications may be prescribed in near future. This would possibly encourage the patient and the caregivers to continue with the treatment. Higher dropout rates among those who were not prescribed antianxiety rates possibly reflect lack of symptom amelioration in this subgroup of patients. Existing literature suggests that one of the common reasons for treatment dropout is lack of improvement in symptoms.\textsuperscript{[27]} Prescription of benzodiazepines possibly reflects quick symptoms amelioration, which possibly helps in developing trust and continuation of treatment.

When the factors associated with treatment dropout among different diagnostic groups were evaluated, occasional associations were noted. Besides the factors which were noted for the whole group, higher income was shown to be associated with higher dropout rates among patients with depressive disorders and bipolar disorders. Considering the fact that the study was done in a government-funded hospital, where the patients have to wait for long time, many patients prefer to seek treatment in the private sector. Accordingly, those who are able to afford the same shift their treatment to the private sector. This possibly could explain the association of dropout with higher income.

The present study has certain limitations. First, the study followed up a retrospective study design, and data for only the early dropout rates were evaluated. It is well known that a proportion of patient’s dropout of treatment after 2–3 visits. However, the present study did not evaluate the same. In terms of factors, which can influence the dropout rates, only a limited number of clinical and demographic variables were evaluated. Previous studies have shown that factors such as distance from the treatment facility, longer duration of illness, poor motivation for treatment, poor treatment satisfaction, and long waiting time\textsuperscript{[4,8,10,14,28]} are associated with higher dropout rates. However, the present study did not evaluate any of these factors. In addition, studies have also implicated factors such as stigma and social support to be associated with higher dropout rates.\textsuperscript{[29,30]} Studies also suggest that more often, patients who dropout have higher severity of illness and have more impairment in functioning.\textsuperscript{[14]} However, the same was not evaluated in the present study. Future studies must evaluate all these variables to have a better understanding about the factors associated with early treatment dropout among elderly attending the psychiatry outpatient services.

**CONCLUSION**

To conclude, the present study suggests that slightly more than one-fourth of the elderly patients presenting to the outpatient services of a tertiary care hospital dropout of treatment after the first visit. Dropout from treatment is associated with higher age, not being prescribed medications, not being prescribed antianxiolytic medications, and diagnosis other than the affective disorders, psychotic disorders, and the cognitive disorders. The presence of depressive disorders is associated with higher chance of follow-up.

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**Conflicts of interest**

There are no conflicts of interest.

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