

A Retrospective Chart Review of Treatment Completers Versus Noncompleters Among In-patients at a Tertiary Care Drug Dependence Treatment Centre in India

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ABSTRACT

Background and Aims: Engagement into treatment is crucial for improving outcomes among patients with substance use disorders. This study aimed to find the rates and characteristics of treatment noncompletion in patients who were admitted to a drug dependence treatment center in north India. **Methods:** This retrospective record review analyzed data from consecutive patients admitted between January 1, 2014, and December 31, 2014, at the National Drug Dependence Treatment Centre, Ghaziabad, India. The type of discharge was discerned from the records, along with selected demographic and clinical characteristics of the patient. **Results:** A total of 942 in-patients were included in the analysis, 936 (99.4%) of whom were males. The mean duration of ward stay was 12.7 (± 8.1) days. Of the 942 patients, 779 (82.7%) completed the inpatient treatment while 163 (17.3%) did not complete ($n = 95$, 10.1% were discharged against medical advice; $n = 44$, 4.7% were discharged on disciplinary grounds and $n = 24$, 2.5% absconded or left without intimation). The inpatient treatment noncompleters had a shorter duration of ward stay (8.3 ± 6.9 days vs. 13.6 ± 8.0 days, $P < 0.001$), were of a greater average age (33.1 ± 10.0 years vs. 30.5 ± 9.4 years, $P = 0.002$), were more likely to be dependent on opioids (71.2% vs. 59.1%, $P = 0.004$) and less likely to be dependent on alcohol (30.1% vs. 42.9%, $P = 0.002$) than treatment completers. **Conclusion:** Understanding the characteristics of patients with substance use disorders who do not complete inpatient treatment may help in identifying those at-risk of having poor outcomes. Efforts are required to address their concerns so that the overall patient outcomes can be improved.

Key words: India, patient dropouts, psychiatry, substance-related disorders

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INTRODUCTION

Treatment for substance use disorders has been reported to be associated with improved patient outcomes.^[1-4] Inpatient treatment of patients with substance use disorders is often considered when the individual has been actively taking substances and requires a safe environment for detoxification.^[5-7] Other situations such as the presence of comorbid medical illnesses need for intensive psychological interventions, personal crises, and patient and therapist preferences may also influence the decision to treat a person with substance use disorder in an inpatient setting. Completion of the initial inpatient treatment enables the planning and discussion about the maintenance phase of treatment and gives an opportunity for developing a rapport between the patient and the treatment team.

It has been suggested that patients with substance use disorders have higher rates of noncompletion of inpatient treatment than patients without substance use disorders.^[8-10] The reasons for such treatment noncompletion may be varied, and may include personal and structural service delivery factors.^[8,11] Moreover, the inpatient treatment of some of the patients with substance use disorders may be prematurely terminated due to the disciplinary problems faced.^[12] Such premature cessation of treatment may expose the patient to the risk of relapse to substance taking behaviors and adverse health consequences.^[13] Hence, evaluating the proportion of individuals who are not able to complete the inpatient treatment, and understanding the reasons thereof, may help in addressing issues that lead to such undesirable outcomes.

Indian health-care delivery is quite different from that of Western industrialized nations in several aspects. The financing for medical health-care services is typically provided through out-of-pocket payments rather than insurance coverage. Government services provide an important source of health-care for patients in India, especially those from the weaker sections of the society. Studies on noncompletion of inpatient treatment among patients with substance use disorders from India are quite scarce.^[14] Hence, this study attempted to find the proportion and characteristics of patients who are not able to complete the inpatient treatment at a government funded de-addiction center in India.

METHODS

Setting and participants

The present retrospective chart-based study was conducted at a tertiary care de-addiction facility in North India. The facility is a 50 bedded center which is involved in providing clinical services, teaching

of de-addiction specialists, conducting research, and guiding policy decisions for addiction related issues in India.^[15] The center offers both inpatient and outpatient treatment, along with services for psychotherapeutic interventions and psycho-social rehabilitation. The center is a government funded institution, and the treatment is heavily subsidized. The patients are charged approximately Indian rupees 550 (i.e. <US\$10) for an admission period of 15 days, and these admission charges are exempted for patients from economically weaker sections of the society.

Patients are primarily admitted at the center for opioid and alcohol detoxification. The duration of admission is typically for 2–3 weeks. Adult male patients are usually admitted alone at the center while family members are required to stay along for adolescents, debilitated patients, women patients, and patients with dual diagnosis. During the inpatient stay, patients are provided medications for symptomatic management of withdrawal symptoms. Medications for detoxification at the center typically include benzodiazepines for alcohol dependence and buprenorphine for opioid dependence. After detoxification, some of the patients are started on medications such as disulfiram or naltrexone as relapse prevention measure. Treatment for co-occurring psychiatric disorders is also provided, and the center has a close liaison with a teaching general hospital for management of concurrent medical illnesses.

The present retrospective study included data of consecutive patients admitted to the center between January 1, 2014, and December 31, 2014 (i.e., for 1 year), who stayed in the inpatient setting for more than 24 h. The study utilized data from the information in the nursing and administrative records of the patients, supplemented by the patient case files. The study had approval from the Institutional Ethics Committee.

Data from the records of the patients admitted to the center were retrieved by two of the investigators (NG and JS). The information extracted included age, gender, residence of the patient, hospital identification number, the primary substance of abuse, data of admission, and date of discharge. Duration of inpatient stay was computed from the dates of admission and discharge. The types of discharge were classified as regular discharge, discharge against medical advice absconds, and discharge on disciplinary grounds. Some of the patients were referred to another center for management of medical problems and were excluded from the analysis. Those patients who were discharged against medical advice, discharged on disciplinary grounds, or absconded were considered as treatment noncompleters while those who went on planned regular discharge were considered as treatment completers.

Statistical analysis was conducted using SPSS version 21 (IBM Corp, NY, USA). Descriptive statistics was used to represent the nominal, ordinal and scalar data. The analysis focused on comparison of treatment completers and noncompleters using Chi-square test or Student's *t*-test as applicable. The number of patients admitted each month of the year and the average duration of ward stay during each month was also computed. A $P < 0.05$ was considered significant, and missing value imputation was not done.

RESULTS

Information was obtained from 953 records of patients admitted from January 1, 2014, to December 31, 2014, who stayed for more than 24 h at the center. Of these, 11 patients were transferred away to another center for medical care. Hence, this analysis was based on the remaining 942 inpatients. The characteristics of the sample included in the analysis are shown in Table 1. The mean age of the sample was 32.7 years (median age being 31 years, interquartile range of 25–39 years). The age range of the sample was 10–75 years. Fifteen patients (1.6% of the sample) were aged <18 years, and 13 patients (1.4% of the sample) were aged over 60 years. An overwhelming majority of the sample comprised of males ($n = 936$, 99.4%) and opiate dependence was the most common substance of dependence reported. The mean duration of ward stay was 12.7 days, with a median on 11 days, and interquartile range of 7–16 days.

Seven hundred and seventy-nine patients were inpatient treatment completers (82.7% of sample), while 163 (17.3%) were noncompleters. Among the treatment noncompleters, 95 (10.1%) were discharged against medical advice, 44 (4.7%) were discharged on disciplinary grounds, and 24 (2.5%) absconded or left the treatment without intimation. The type of

Table 1: Characteristics of the patients included (n=942)

Variable	Mean (\pm SD) or frequency (percentage)
Age (years)	32.7 (\pm 9.9)
Gender (%)	
Male	936 (99.4)
Female	6 (0.6)
Residence* (%)	
Ghaziabad	111 (11.8)
Delhi and National Capital Region	366 (38.9)
Other parts of India	439 (46.6)
Substance dependence (%)	
Opiates	576 (61.1)
Alcohol	383 (40.7)
Cannabis	49 (5.2)
Duration of ward stay (days)	12.7 (\pm 8.1)

*Data available for 916 in-patients. SD – Standard deviation

discharges of the included sample is shown in Figure 1. The most common reported reasons of leaving against medical advice were pressing family issues though a considerable proportion of patients did not offer any specific reason for wanting to leave against medical advice. Similarly, the recorded reasons of discharge on disciplinary grounds were physical fights with other patients, threat to staff members and possession/use of psychoactive substances in the ward.

The comparison of initial treatment completers and noncompleters is shown in Table 2. The treatment noncompleters were more likely to be of a greater age, more likely to be dependent on opiates, and were less likely to be dependent on alcohol as compared to the inpatient treatment completers. The survival graph of those who completed inpatient treatment and those who did not is shown in Figure 2. The duration of ward stay was lower among those who were admitted for alcohol dependence (12.0 ± 7.3 days vs. 13.1 ± 8.5 days, $t = 2.103$, $P = 0.036$). The duration of ward stay did not differ between the genders ($t = 0.155$, $P = 0.877$), residence of the patient ($F = 2.971$, $P = 0.052$), with opiate dependence ($t = 1.817$, $P = 0.069$) and cannabis dependence ($t = 1.186$, $P = 0.204$), and neither did it correlate with the age of the patient ($r = 0.055$, $P = 0.092$).

The number of admissions across the months of the year is shown in Figure 3a. The maximum number of admissions occurred in the month of September ($n = 100$) while the minimum number of admissions occurred in the month of February ($n = 62$). The number of total inpatient admissions across the months of the year did not differ across the months (one sample $\chi^2 = 15.631$, $P = 0.155$). The highest proportion of inpatient treatment noncompleters occurred in January (28.9% of admissions) while the least proportion of treatment noncompleters occurred in August (4.1% of admissions). The mean duration of inpatient stay across the various months of the year is shown in Figure 3b. The peak of inpatient stay duration

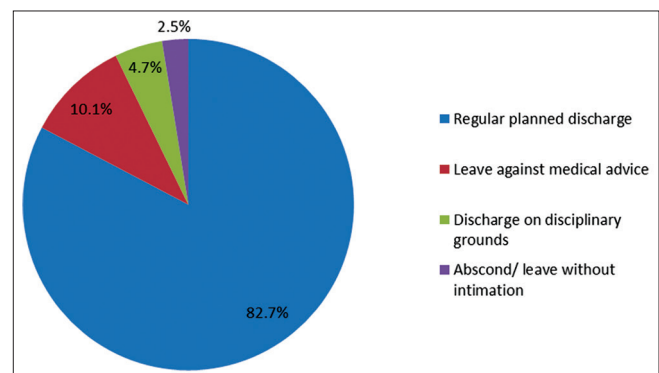


Figure 1: Type of discharge

Table 2: Comparison of initial treatment completers and noncompleters

Variable	Inpatient treatment completers (n=779)	Inpatient treatment noncompleters (n=163)	Comparison (P)
Age (years)	30.5 (9.4)	33.1 (10.0)	$t=3.106$ (0.002)*
Gender (%)			
Male	774 (99.4)	162 (99.4)	$\chi^2=0.002$ (1.000)
Female	5 (0.6)	1 (0.6)	
Residence [†] (%)			
Ghaziabad	97 (12.8)	14 (8.8)	$\chi^2=2.251$ (0.284)
Delhi and National Capital Region	304 (40.2)	62 (39)	
Other parts of India	356 (47)	83 (52.2)	
Substance dependence (%)			
Opiates	460 (59.1)	116 (71.2)	$\chi^2=8.328$ (0.004)*
Alcohol	334 (42.9)	49 (30.1)	$\chi^2=9.174$ (0.002)*
Cannabis	41 (5.3)	8 (4.9)	$\chi^2=0.034$ (0.853)
Duration of ward stay (days)	13.6 (8.0)	8.3 (6.9)	$t=7.935$ (<0.001)*

[†]Data available for 916 in-patients; * $P < 0.01$

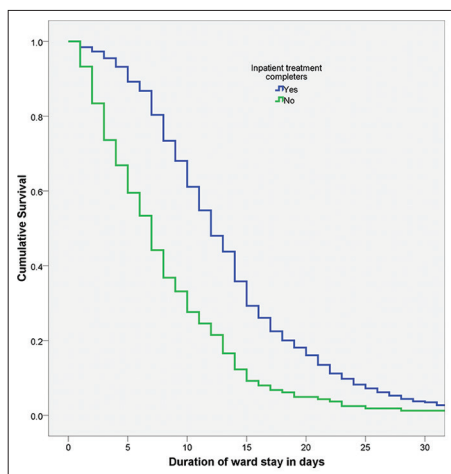


Figure 2: Survival curve of patients who received inpatient care

was seen in the month of May while the trough was seen in July.

DISCUSSION

The study suggests that demographically, an overwhelming majority of the inpatients were males. This is reflective of the usual treatment seeking pattern of patients with substance disorders encountered in de-addiction services in India.^[16,17] The low numbers of female substance users could be due to lower prevalence of substance use disorders in the female population, as well as systemic challenges faced by women substance users in accessing de-addiction facilities.^[18,19] The typical patient admitted to the center was in his thirties. A very small proportion of patients were adolescents and those who were elderly. Though the prevalence of substance use disorders is low in the extremes of age, occasional adolescent, and elderly substance use disorder do need inpatient treatment services. The treatment services format, delivery characteristics, and intensity of medical care

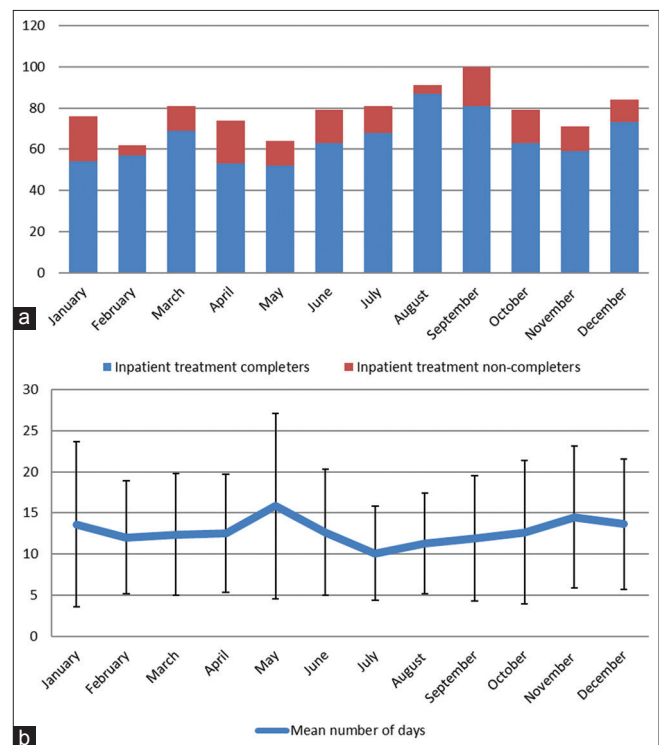


Figure 3: Inpatient noncompleters and duration of inpatient treatment across months of the year. (a) Inpatient treatment completers and noncompleters across months of the year. (b) Mean duration of inpatient stay across months of the year (error bars show 95% confidence intervals)

may need appropriate modification while dealing with patients in extremes of age.

This study suggests that about one-fifths of the patients admitted with substance use disorder are inpatient treatment noncompleters. This figure is quite lower than a previous study from India, which found that more than two-thirds of the patients with heroin dependence left treatment prematurely.^[14] Similar higher rates of treatment noncompletion of substance

users have been reported in other studies as well.^[20,21] However, other retrospective studies have revealed substantially lower rates of discharges as against medical advice and treatment noncompletion among patients admitted in inpatient de-addiction services.^[22,23] A study conducted in West Indies suggested that about 22.8% individuals admitted for an inpatient substance abuse treatment program did not complete the treatment, with the major reasons of noncompletion being discharge against medical advice, absconding, and fighting in the ward.^[12] These figures are quite close to the rates reported in our study. Similar figures have been reported of patients admitted to a substance abuse program in Barcelona over a period of 10 years.^[24] Several factors including type of treatment offered, characteristics of the clientele, financing modalities, and policies of the treatment facility may influence the actual rates of discharge against medical advice and treatment noncompletion in different settings.

The study suggests that greater age and dependence on opiates were associated with inpatient treatment noncompletion while dependence on alcohol was associated with treatment completion. Contrary to our findings, some other studies have found that younger age was associated with increased rates of discharge against medical advice or treatment noncompletion.^[14,25,26] However, some other studies have not found any association with age with the rates of treatment noncompletion.^[12,22] One of the reasons of older age being associated with treatment noncompletion in this study could be the greater severity and chronicity of substance use disorder with age, and difficulty in enduring the withdrawal symptoms. Among the substances of use as in the present study, opiates have also been reported elsewhere to be associated with greater rates of drop-out from inpatient services.^[24,27] As expected, inpatient treatment noncompletion was associated with shorter duration of ward stay.

The predictors of inpatient treatment noncompletion may be many.^[28] These have been described as patient-related factors, provider related factors, or temporal factors. The patients who are at risk of noncompletion of treatment may be identified by studies like the present one, and suitable attention may be paid to their needs.^[8] Based upon the feedback from the patients, treatment facility policies may be optimized, and communication between the treatment providers and the patient may be enhanced for potentially improving patient outcomes.^[29]

The findings of the study should be interpreted in terms of strengths and limitations. The strengths of the study include consecutive patient data from a fairly large sample. The limitations include single

center experience, a retrospective chart based study, limited comparable clinical data being available across the records, and the possibility of hospital policies influencing the admission and discharge rates, requiring cautious extrapolation. Despite the limitations, the study provides information about rates and predictors of noncompletion of inpatient admissions at a fairly large government de-addiction center in India.

CONCLUSION

This study suggests that about one-fifth of the patients admitted for management of substance use disorders are not able to complete the inpatient treatment. A small proportion of patients is discharged due to disciplinary issues in the inpatient facility. Further studies are required to understand the interplay of various factors in treatment noncompletion. Moreover, studies need to focus upon the substance user's perspectives of enhancing the service delivery and the impact of improving completion rates on patient outcomes in the varied cultural contexts.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Aszalos R, McDuff DR, Weintraub E, Montoya I, Schwartz R. Engaging hospitalized heroin-dependent patients into substance abuse treatment. *J Subst Abuse Treat* 1999;17:149-58.
2. Chutuape MA, Jasinski DR, Fingerhood MI, Stitzer ML. One-, three-, and six-month outcomes after brief inpatient opioid detoxification. *Am J Drug Alcohol Abuse* 2001;27:19-44.
3. Hiller ML, Leukefeld CG, Garrity TF, Godlaski T, Schoeneberger M, Townsend M, *et al.* Client outcomes from rural substance abuse treatment. *J Psychoactive Drugs* 2007;39:59-68.
4. Pasareanu AR, Opsal A, Vederhus JK, Kristensen Ø, Clausen T, *et al.* Quality of life improved following in-patient substance use disorder treatment. *Health Qual Life Outcomes* 2015;13:35.
5. Haber PS, Day CA. Overview of substance use and treatment from Australia. *Subst Abuse* 2014;35:304-8.
6. Hayashida M. An overview of outpatient and inpatient detoxification. *Alcohol Health Res World* 1998;22:44-6.
7. Winters KC. Treating adolescents with substance use disorders: An overview of practice issues and treatment outcome. *Subst Abuse* 1999;20:203-25.
8. Alfandre DJ. "I'm going home": Discharges against medical advice. *Mayo Clin Proc* 2009;84:255-60.
9. Bradley CJ, Zarkin GA. An inpatient profile of patients with a substance abuse diagnosis in Maryland. *J Subst Abuse Treat* 1997;14:155-62.
10. Seaborn Moyses H, Osmun WE. Discharges against medical advice: A community hospital's experience. *Can J Rural Med* 2004;9:148-53.

11. Ti L, Ti L. Leaving the hospital against medical advice among people who use illicit drugs: A systematic review. *Am J Public Health* 2015;105:e53-9.
12. Barnaby L, Gibson RC. Factors affecting completion of a 28-day inpatient substance abuse treatment programme at the University Hospital of the West Indies. *West Indian Med J* 2008;57:364-8.
13. Hwang SW, Li J, Gupta R, Chien V, Martin RE. What happens to patients who leave hospital against medical advice? *CMAJ* 2003;168:417-20.
14. Samantaray PK, Ray R, Chandiramani K. Predictors of inpatient treatment completion of subjects with heroin dependence. *Indian J Psychiatry* 1997;39:282-7.
15. Ray R, Dhawan A, Chopra A. Addiction research centres and the nurturing of creativity: National Drug Dependence Treatment Centre, India – A profile. *Addiction* 2013;108:1705-10.
16. Basu D, Sarkar S, Mattoo SK. Psychiatric comorbidity in patients with substance use disorders attending an addiction treatment center in India over 11 years: Case for a specialized “Dual Diagnosis Clinic”. *J Dual Diagn* 2013;9:23-9.
17. Basu D, Aggarwal M, Das PP, Mattoo SK, Kulhara P, Varma VK. Changing pattern of substance abuse in patients attending a de-addiction centre in north India (1978-2008). *Indian J Med Res* 2012;135:830-6.
18. Lal R, Deb KS, Kedia S. Substance use in women: Current status and future directions. *Indian J Psychiatry* 2015;57 Suppl 2:S275-85.
19. Nebhinani N, Sarkar S, Gupta S, Mattoo SK, Basu D. Demographic and clinical profile of substance abusing women seeking treatment at a de-addiction center in North India. *Ind Psychiatry J* 2013;22:12-6.
20. Callaghan RC. Risk factors associated with dropout and readmission among First Nations individuals admitted to an inpatient alcohol and drug detoxification program. *CMAJ* 2003;169:23-7.
21. Martinez-Raga J, Marshall EJ, Keaney F, Ball D, Strang J. Unplanned versus planned discharges from in-patient alcohol detoxification: Retrospective analysis of 470 first-episode admissions. *Alcohol Alcohol* 2002;37:277-81.
22. Green P, Watts D, Poole S, Dhopes V. Why patients sign out against medical advice (AMA): Factors motivating patients to sign out AMA. *Am J Drug Alcohol Abuse* 2004;30:489-93.
23. McKellar J, Kelly J, Harris A, Moos R. Pretreatment and during treatment risk factors for dropout among patients with substance use disorders. *Addict Behav* 2006;31:450-60.
24. Gilchrist G, Langohr K, Fonseca F, Muga R, Torrens M. Factors associated with discharge against medical advice from an alcohol and drug inpatient detoxification unit in Barcelona between 1993 and 2006. *Heroin Addict Relat Clin Probl* 2012;14:35-44.
25. Armenian SH, Chutuape MA, Stitzer ML. Predictors of discharges against medical advice from a short-term hospital detoxification unit. *Drug Alcohol Depend* 1999;56:1-8.
26. Kenne DR, Boros AP, Fischbein RL. Characteristics of opiate users leaving detoxification treatment against medical advice. *J Addict Dis* 2010;29:383-94.
27. Callaghan RC, Cunningham JA. Gender differences in detoxification: Predictors of completion and re-admission. *J Subst Abuse Treat* 2002;23:399-407.
28. Brook M, Hilty DM, Liu W, Hu R, Frye MA. Discharge against medical advice from inpatient psychiatric treatment: A literature review. *Psychiatr Serv* 2006;57:1192-8.
29. Onukwugha E, Saunders E, Mullins CD, Pradel FG, Zuckerman M, Weir MR. Reasons for discharges against medical advice: A qualitative study. *Qual Saf Health Care* 2010;19:420-4.