

PREDICTORS OF INPATIENT TREATMENT COMPLETION OF SUBJECTS WITH HEROIN DEPENDENCE

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ABSTRACT

One hundred and four subjects with heroin dependence, consecutive new admission to a ward were studied prospectively to assess treatment retention. All these subjects were admitted voluntarily after pre-admission counselling wherein treatment package (four week's stay), ward routine, rules and regulation were explained. Socio-demographic parameters, drug use history, motivation as understood by "readiness to change", reasons for seeking treatment were obtained. Reasons for non completion were noted. Thirty two subjects (31%) completed treatment. Out of 72 non-completers, 38 subjects (36%) left against medical advice and 34(33%) were discharged prematurely by the treating team for violating ward norms. Multivariate analysis showed that readiness to change (being in action stage), age of onset of heroin use (late), legal problems (high) and self confidence regarding recovery (high) in order of significance, predicted treatment completion. Therapeutic strategies to minimise drop-out are discussed.

Key words : Heroin dependence, treatment completion, predictors

Treatment of substance use disorders is besieged with a number of difficulties. One of the common problem encountered is premature termination of treatment. Thus many patients are inadequately treated, which in turn affects outcome. It has been reported that longer retention predicts better outcome (Copeland & Hall, 1992).

Several researchers from USA have reported that 30-35% of patients do not complete their full inpatients stay (Baekland & Lundwell, 1975; Millman et al., 1981; Copeland & Hall, 1992). One earlier study carried out in our centre showed that 36% of patients dropped out of inpatients treatment (Nigam et al., 1990). Non-completion of treatment has been judged against factors like sociodemographic parameters, treatment environment, reasons for seeking treatment, motivational state and treatment package (Judson & Goldstein, 1982;

Miller, 1989; Hubbard, 1992).

Many patients have ambivalent attitude towards treatment. An unsure attitude along with impulsivity and low-frustration tolerance lead to premature discharge. Some leave the ward against medical advice, others are disruptive in the ward and are discharged by the treating team before completion of treatment. Motivational factors can be viewed against the theoretical construct of "stages of change". According to this postulate, patients pass through discrete phases in an attempt to resolve the addiction problems. These stages are :

- a) Pre-contemplation: wherein the patient is not seriously considering to quit drug abuse. The diagnosis of dependence is met with surprise.
- b) Contemplation : here the patient recognises that drug dependence is a problem, is willing to examine various aspects of drug use and

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makes an active effort to quit. However, ambivalence can be expected.

c) Determination : here the above resolutions are consolidated.

d) Action : here the subject undergoes treatment, cooperates and is compliant.

e) Maintenance : the efforts must be sustained to be effective. In clinical language this means staying sober and abstinent. (McConaughy et al., 1983; Prochaska & DiClements, 1986; Miller, 1989).

The relationship between these five stages is not exactly linear. Sometimes a patient may move slowly between these stages. Clinical interventions are required specific to the particular stage to which the patient belongs. Thus assessment of "stages of change" can be crucial to predict outcome and to initiate appropriate therapy (Shaffer, 1992). Heather et al. (1991) have developed a questionnaire to assess the phase of change process. Study of various factors affecting patient retention can provide valuable information which would help to restructure treatment programme. The present study attempts to identify certain factors that could differentiate between completers and dropouts from an inpatients treatment programme.

MATERIAL AND METHOD

New (first admission) male patients with heroin dependence admitted to our ward were included in the study. All the patients were literate and satisfied criteria for dependence as per DSM III-R (APA, 1987). Patients who were illiterate, re-admitted to our ward and having multi drug dependence, serious incapacitating physical illness and associated psychiatric diagnosis were excluded. Following inclusion, the subjects were assessed with the help of following instruments-

1. Modified WHO Schedule (Hughes et al., 1980)- this assesses socio-demographic profile and details of non-medical drug (s) use i.e. ever use, recent use, problems due to drug use,

criminality and treatment history. Hindi version of this instrument has been used earlier in a multi-centred study on treatment and outcome carried out by the department.

2. Questionnaire to assess reasons for seeking treatment (yes/no)- this was developed by the authors after examining several such questionnaires. Here, various reasons for seeking treatment, not seeking treatment earlier, and subjects's degree of confidence to be able to give up drugs were assessed.

3. Readiness to change Questionnaire (Heather et al., 1991)- this is a twelve item instrument to measure stages of change process. The subjects are to indicate their choice on a five point scale : strongly disagree (-2) to strongly agree (+2). The item scores are summed up and within the range of -8 to +8. Subjects can be categorised as being in 'pre-contemplation', 'contemplation' and 'action' stages depending upon the score. The questionnaire was translated to Hindi and opinion from bi-lingual experts were obtained to check the appropriateness of translation.

4. Check list of items leading to premature discharge- a) subjects could leave the ward before completion of treatment by signing out a form. These are called leaving against medical advice (LAMA). All such subjects completed a proforma before leaving (6 items, response yes/no). b) Some patients were disruptive and violated model conduct of behaviour in the ward. They were discharged by the treating doctors in such situations. They were discharged by the treating doctors in such instances (12 items, responses yes/no).

All consecutive patients fulfilling the inclusion and exclusion criteria were chosen for the study. These patients were screened, assessed and evaluated in the OPD before admission. The treatment package consisted of four weeks stay in the ward, medication for detoxification, psycho-educational group meetings (6 sessions), physical and recreational activities and individual counselling. They were also informed that during the ward stay,

periodic and random urine examination would be carried out for drug abuse screening. A medical social worker counselled them regarding the above expected treatment package, ward environment, ward rules and regulations. They were admitted after the pre-admission counselling and with their consent.

The subjects were interviewed with the help of instrument (1-3) within 48 hours of admission. The patients were prospectively followed up and categorised as completers if they stayed in the ward for at least four weeks, received the entire treatment package and were discharged with consent of the treating team. Non completers were those, who were either discharged pre-maturely by the treatment team or left against medical advice.

RESULTS

During the study period, out of 116 patients (consecutive first admission), 104 subjects (89.6%) participated in the study, of these, 32 (31%) were completers, 38 (36%) left against medical advice and 34 (33%) were discharged pre-maturely for violating ward regulations. Thus altogether 72 subjects (69%) were non-completers. It was seen that most non-completers (80.5%) left within first two weeks of their hospital stay. Twenty individuals (32%) left within first five days of their admission.

Demographic profile showed that more often, completers were above the age of 30 years than the noncompleters (66% vs 43%, $\chi^2=3.66$, $p<.05$). On other parameters like marital status, education, occupation, current living arrangement, the two groups were not different. The two groups were also not different on various parameters related to drug use. These were: life time and recent use of alcohol, cannabis and sedative. Duration, recency and frequency of heroin use in the last one month were also not different. Completers had used heroin for 6.7 ± 3.5 years as against 8.1 ± 2.8 years among non-completers.

However, non-completers had started their heroin use earlier: age of onset of use was 21.9 ± 5.5 years as against 25.9 ± 6.9 years among completers ($p<.01$). Between 56-60% of subjects were treated earlier in another centre for heroin dependence. Impairment and problems due to heroin use (employment, economic, physical, familial, psychological, legal and criminal records) were similar in both the groups.

It was seen that the majority of completers were in the "action stage" as assessed by readiness to change questionnaire as against noncompleters (table 1).

TABLE 1
READINESS FOR CHANGE

Stages	Completers (n=32)	Non-Completers (n=72)
Pre-contemplation	2	26
Contemplation	7	31
Action	23	15

$\chi^2=25.9$, $df=2$, $p<.001$

Fifty percent of completers and thirty five percent of noncompleters did not seek any treatment earlier as they felt heroin use did not cause any problem. Some (10-18%) were afraid of heroin withdrawal symptoms and delayed their treatment. Majority (56%) of completers as against 42% of non-completers were hopeful of successful treatment. More non-completers (32%) as against completers (19%) believed that medical treatment (drug therapy) was the single most important factor for successful outcome.

Financial problem due to drug use, family responsibility and guilt feelings about continued drug use were the three most common reasons among completers to seek treatment. Among non-completers these were: financial and family problems and social pressure.

Thirty eight subjects left against medical

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advice (LAMA) by signing a form. The most frequently cited reasons were dislike of the treatment environment (ward rules, regulations), treatment package (psycho-social treatment) and inadequate medication to control withdrawal symptoms (table 2).

**TABLE 2
COMMON REASONS FOR LAMA (N=38)**

1	Dislike the treatment environment
2	Being bored
3	Dislike the treatment package
4	Incomplete relief of withdrawal
5	Craving
6	Others, mostly personal

(arranged in descending order of frequency)

Another 34 subjects were discharged by the treating team for disorderly behaviour in the ward. The reasons leading to such a situation were noted by the doctor-on-duty. Commonest reasons were misbehaviour with hospital staff, fights with other patients and strong suspicion of consumption of addictive substances in the ward which could be confirmed by positive urine reports for drugs (about 10%) (table 3).

**TABLE 3
COMMON REASONS FOR PRE-MATURE DISCHARGE
(N=34)**

1	Misbehaviour with staff
2	Smoking in non-smoking zone
3	Fights with other patients
4	Consumption of intoxicants in the ward
5	Urine report positive for drugs
6	Refusal to give urine samples

(arranged in descending order of frequency)

The results were subjected to stepwise

**TABLE 4
SUMMARY OF RESULTS -STEPWISE LOGISTIC
REGRESSION ANALYSIS**

Step no	Variables	df	χ^2	p-value
1	Readiness to change	2	26.7	.001
2	Age at onset of heroin use	2	7.7	.02
3	Legal problems	1	6.5	.01
4	Patient's confidence about successful treatment	1	3.5	.06

χ^2 test was applied

logistic regression analysis. It was seen that readiness to change, age of onset of heroin use, legal problems and self confidence regarding recovery, in their order of significance, predicted attrition (table 4).

Further, a patient in "contemplation stage" was three times more likely to be completer (odd's ratio 2.94, 95%, confidence interval of exponential coefficient 0.55, 15.7); twenty times more if in the "action stage" (odd's ratio. 19.5, 95%, C.I, 4.03, 98.5).

DISCUSSION

Rate of patients dropping out of treatment, as seen in this study was high. Sixty nine percent were non-completers. It has been noted by researchers from USA that 30-50% of patients do not complete their inpatient stay. In the previous study carried out at this centre showed that 36% dropped out of treatment (Nigam et al., 1990). No socio-demographic factors except age of patients predicted drop out, patients above the age of 30 years were more often completers. This finding is consistent with several reports (Bakeland & Lundwell, 1975; Leigh et al., 1984; Craig, 1985; Copeland & Hall, 1992). As regards drug use history, earlier age of onset of heroin use predicted drop out. Longer period of use and early

introduction to drugs often suggest treatment non-completion (Volger *et al.*, 1975; Ogborne, 1978). Other factors like reasons for seeking treatment, problems due to drug use were similar in both the groups. It was interesting to note that 35-50% of patients did not report any problems due to drug use. Some (6-15%) even found heroin use to be beneficial. Lack of negative consequences due to drug use may have contributed towards treatment non-completion. Further, it was seen that many from either group were illinformed regarding severity of withdrawal symptoms, need for treatment and availability of treatment services. These should form part of health education activities.

Most prominent findings of present work were readiness to change, age of onset of heroin use, presence of legal problems and self confidence about success predicted treatment completion. Subjects in the pre-contemplation and contemplation phase more often discontinued treatment. All these patients have not considered to stop drug abuse seriously and are ambivalent. Thus, they would require great effort to change. Persuasion and awareness of risks due to continued drug use are useful in such situation. Realistic feedback rather than threat is likely to be beneficial. Negotiated treatment approach and creating cognitive dissonance between drug use and important personal goals help a patient to move towards action stage. Similar findings were reported from a smoking cessation programme (Prochaska & DiClemente, 1986) and treatment for alcoholism (Rollnick *et al.*, 1992). We were unable to find any data from heroin dependence treatment regime on these parameters.

Most drug dependence treatment centres impose environmental restrictions and have strict schedules. These include restrictions on movement outside, keeping regular routine, frequent urine testing, etc. Patients who are not adequately motivated find these too restrictive and leave early. It has been our experience that patients often deliberately create such a situation where the treating team discharge

them. Open discussion, correcting unreasonable expectation, even benign neglect or little leniency may bring down drop-out rates. Surprisingly in the present study high drop-out was seen inspite of pre-admission counselling and voluntary admission. Thus these factor are unable to enhance treatment retention (Gillis & Keet, 1969; Wanberg & Johns, 1973). Several other measures like behavioural intervention, external pressure to complete treatment and legal sanction may improve retention (Hubbard, 1992).

Hearteningly, two important variables identified in the study can be modified. Patients confidence about success can be enhanced through counselling. Adherence to treatment is best reflected through motivational process as understood by readiness to change model, rather than treatment package perse. Pre-contemplation stage is most resistant to change. Specific intervention viz motivation-enhancement-therapy (MET) have been developed to consolidate the patients commitment to change within the process of change model (Miller *et al.*, 1992). Following this study, we have already introduced such therapy for patients belonging to contemplation stage. We have also initiated measures to shorten the ward stay (brief stay) to about two weeks.

There are a few limitations of our study. The studied sample were male in-patient heroin dependent. Hence, the findings may not apply to out-patient populations. Certain other variables previously reported to be associated with treatment retention viz personality, stressful life events, and quantum of social support were not evaluated. These may as well predict attrition.

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