FIVE YEAR FOLLOW UP OF 100 HEROIN ADDICTS IN PESHAWAR

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Background: Drug addiction has increased rapidly during the last 2 decades in Pakistan, however little has been done to explore and evaluate different treatments which are available locally. This paper describes five years follow up of heroin addicts from Peshawar, Pakistan, after an extended period of in patient detoxification. **Methods:** This was a longitudinal cohort study of 100 clients who were followed up for 5 years. The main interventions included; an extended in patient detoxification for 30 days, Motivational Interview, and training in coping strategies. Patients participated in both in-patient, and then after discharge, community based group therapy, as well as indigenous self-help groups as an integral part of the treatment. A modified version of Addiction Severity Index (ASI) was used along with urine analysis, to assess substance misuse in clients. Improvement was defined as being drug and crime free and being in purposeful employment. **Results:** At the end of the study period, out of a total of 70 clients, 16(23%) had improved, 54(77%) had relapsed, while 04(5%) had dropped out of the programme. As far as abstinence from drugs and crimes was concerned, 28% were abstinent at the end of 5 years follow up. **Conclusions:** An integrated community based indigenous approach can had good effect on outcome of heroin addiction in a medium term follow up.

Keywords: Heroin, Drug Addiction, Follow up, Addicts

INTRODUCTION

Heroin addiction is a global problem. The overall picture of the problem is similar internationally, in spite of minor local differences. The treatment
options vary dramatically throughout the world. There are big gaps in services in developing world, causing big gaps in care of these clients
between the developed and the developing world. Some of the causes of this difference include availability of resources, stigma attached to drug
problems, attitudes of people towards drugs, differences in treatments available, religious practices and various social and cultural variables.
There is ample evidence in the Western world that treatment can lead to at least, reduction in drug use and accompanying medical, psychological,
social and public problems.[1] In the United Kingdom, the National Treatment Outcome Research Study investigated outcomes for drug dependents
treated in residential and community settings. Substantial reductions across a range of problem behaviours were found 4-5 years after patients
were admitted to national treatment programmes delivered under day-to-day conditions.[2]

It has been suggested that detoxification from opiates in a protected environment could have a positive long-term effect, namely a definitive rejection of the world of drugs, if a subject with proven motivation to "give up" is carefully selected, and if the subject is then inserted in a broader social health project.[3] Studies from USA have shown that drug treatment outcome is related to the treatment duration (DARP; 1969-1972, TOPS; 1979-81 & DATOS; 1991-93). However, this finding has been questioned at least in parts. In a 12 year follow up of opiate

addicted patients, 98% returned to use opiates within 12 months. Another study of military veterans who used opiates confirmed that substance abuse and criminal involvement continued over the years. However, a study of military veterans who had used opiates in Vietnam found that fewer than 2% continued their use after returning home. These findings are consistent with the clinical observation that clients with drug abuse problems have varied aetiologies.[4,5]

An important question in treating drug addiction is the choice between maintenance or abstinence. In one programme which compared the two treatment approaches, subjects assigned to an abstinence-oriented program were significantly more likely than those assigned to indefinite maintenance to use heroin and amphetamines during the first 2 years of methadone treatment but less likely to use benzodiazepines. Subjects discharged from the abstinence-oriented program were significantly more likely to relapse and return to maintenance treatment. The abstinence-oriented program was also less able to attract heroin addicts into maintenance treatment.[6]

There is scarcity of research on heroin addiction in the South East Asia. With this in mind, and to explore the effect of available
treatment on heroin addiction in the long term, this study was conducted. We planned to evaluate effectiveness of a locally run programme for
heroin addiction which uses indigenous resources. The idea as to assess effectiveness of an integrated community based approach in improving
rates of abstinence among heroin addicts. The primary objectives included measurement of the effectiveness of a drug treatment programme in
improving abstinence from heroin dependence among attendees. The secondary objectives included, looking into differences among those who
relapsed and those who did not on different demographic and health measures. Our null hypothesis was that a treatment model is not effective
in helping clients with abstinence.

MATERIAL AND METHODS

The clients were recruited between January 1992 and March 1993, from Lady Reading Hospital, Treatment and Rehabilitation Centre, Peshawar, Pakistan. The centre receives referral from General Practitioners, peers, volunteers, religious and community leaders and ex drug addicts. All the clients who attended the centre were approached to participate in the study. Those who consented in writing were asked to participate. Patients were informed that they could withdraw from the study at any point. All the clients were initially interviewed by the social workers and psychiatrists. Those who were considered suitable were admitted to the hospital. All these clients then received a thirty days extended in patient detoxification programme.

The inclusion criteria included; a DSM IV (Diagnosis and Statistical Manual, 4th Edition) diagnosis of drug dependence and those living within a 10 Kilometre radius of the city centre. The exclusion criteria included; a diagnosis of severe mental illness and an organic brain disorder (e.g., dementia).

This is a cohort design, in which patients who had received an inpatient detoxification treatment, in a hospital, were followed up for 5 years in a community based voluntary organisation.

All the clients received an extended detoxification programme, for 30 days, at the Lady Reading Hospital, Peshawar, Pakistan. These clients received a cognitive therapy intervention, i.e; Motivatinal Interview, along with detoxification treatment. The detoxification treatment consisted of replacement therapy, to treat withdrawal symptoms. Follow up was done at three monthly intervals by the same team in horizon community centre for five years. Clients received a group intervention as well as attended an indigenous self help group.

The study involved two psychiatrists, 2 social workers, 3 Voluntary workers, 1 clinical psychologist and 1 mental health nurse. The professionals involved were part of the National Health Service except for volunteers who were from Horizon, a Non Government Organisation (NGO).

The criteria used for improvement included; being drug and crime free and being in gainful employment. The criteria for abstinence included being drug free and crimes free.

Initial assessment consisted of diagnostic assessment using DSM-IV Diagnostic criteria for drug addiction, filling in Addiction Severity Index (ASI)[7] and carrying out a urine drug screening through Thin Layer Chromatography (TLC). The same assessments were carried out at the end of year, 1,2, 3, 4 and 5. The staffs were trained in ASI for two weeks before the study. ASI is an established measure of drug abuse assessment with acceptable validity and reliability. It has been used with people from different cultures.

Analyses were carried out using SPSS 10 for windows. Both parametric and non parametric tests were used. When using parametric tests for binary data, for paired group comparisons a McNemar's test was used, while a Chi Square test was used for a comparison of unpaired groups. Until and unless specified otherwise, all the P values were two tailed. When the results were different, only the results under Yates's correction are being described.

RESULTS

Of the 100 clients recruited during the study period, at the end of the Year five only 70 clients were connectable. The characteristics of our sample at baseline are described in Table 1.

Analysis at the baseline of the family profiles of the clients showed, that only 2 (2%) lived alone, 42 (42%) lived in a nuclear family system, while 56 (56%), lived in a joint family system. Twenty (20%) reported a history of conflict amongst parents, 30 (30%) reported conflict with cousins, 30 (30%), reported Verbal aggression, while 19 (19%) reported physical aggression among family members. Thirty two (32%) clients reported drug addiction in family (brother 19 (19%), first cousin 10 (10%), father 1 (1%) and uncle 2 (2%). Most of the clients described some kind of a personal or family problem. These included, death of a parent in early childhood 08(08%), childhood labour 51 (51%), family conflicts (Parental, spouse, in laws) 38 (38%), other Social problems 27 (27%) and work place stress 32 (32%).

All the clients used heroin, with an average consumption per day of 1.9 grams (0.5-3.0 grams). Inhalation/smoking was the commonest route of drug use 96 (96%), while Injection 2 (2%) and Sniffing 2 (2%) were less common. The average duration of drug abuse was 06 Years. Most of the clients were introduced to drugs through friends 83 (83%), others included drug pushers 5 (5%), Relatives 7 (7%) and Others 5 (5%). Almost all of our clients used other drugs in addition to heroin. The secondary drugs of abuse were found to be Cannabis in 64 (64%), Alcohol in 7 (7%) and Benzodizepines in 12 (12%). Most clients spent Up to Rs. 50, 67 (67%), with 19 (19%) spending Rs. 50-100, and 14 (14%), spending Rs. 100 or more.

Table-1: Baseline characteristics of the subjects

Age group	No.	%
10 - 20 years	6	6
21 - 30 years	38	38
31 - 40 years	39	39
41 - 50 years	15	15

Above 50	2	2
Mean (SD) age	**31 (7.8)**	

Dwelling

Rural	35	35
Urban	65	65
Marital status		
Single	54	54
Married	44	44
Divorced	1	1
Remarried	1	1
Education		
Illiterate	30	30
Primary	23	23
Secondary	44	44
College	2	2
Postgraduate	1	1
Gender		
Male	95	95
Female	5	5
Employment		
Manual Labour	30	30
Skilled	32	32
Self Employed	18	18

Govt. Service	6	6
Jobless	14	14
Income Group		
Up to Rs. 1000	30	30
Rs. 1001 - 2000	40	40
Above Rs. 2000	16	16
No Income	14	14

As far as the history of criminal behaviour was concerned, 89 (89%) of client group had a criminal history, (drug pusher/ possession 61 (68%), Traffic Law violation 22 (25%), Attempted murder 6 (7%), while only 24 (24%) had a history of imprisonment (duration in jail, Up to 6 months 18 (18%), 6 months to 1 year 4 (4%) 1 year to 2 year 2 (2%).

Table 2: Comparison of follow up with baseline medical and psychiatric problems

	Baseline (%)	Year 5 (%)
Total Medical Problems	**51**	**13**
Respiratory	18	4
Cardio vascular disease	7	3
Gastro intestinal	8	3
Skin Disease	4	0
Hepatitis A	4	0
Hepatitis B	2	0
Anaemia	10	2
Total Psychiatric problem	64	17
Major Depression	19	5
Phobic Anxiety	4	1
OCD	1	0
Personality Disorder	17	2
Bipolar affective Disorder	11	5
Schizophrenia	13	4
Attempted murder	6 (6)	0 (0)
Total	89 (89)	6 (8)

Table 3: Comparison of follow up with baseline criminal history

	Baseline No. (%)	Year 5 No (%)
Criminal history		
Drug pusher/ possession	61 (61)	0 (0)
Traffic Law violation	22 (22)	6 (8)

Table 4. Comparison of follow up with baseline; family problems

	Baseline No.(%)	Year 5 No(%)
Conflict amongst parents	20 (20)	3 (4)
Conflict cousins	31 (31)	2 (3)
Verbal Violence	30 (30)	3 (4)

Physical Violence 19 (19) 0 (0)

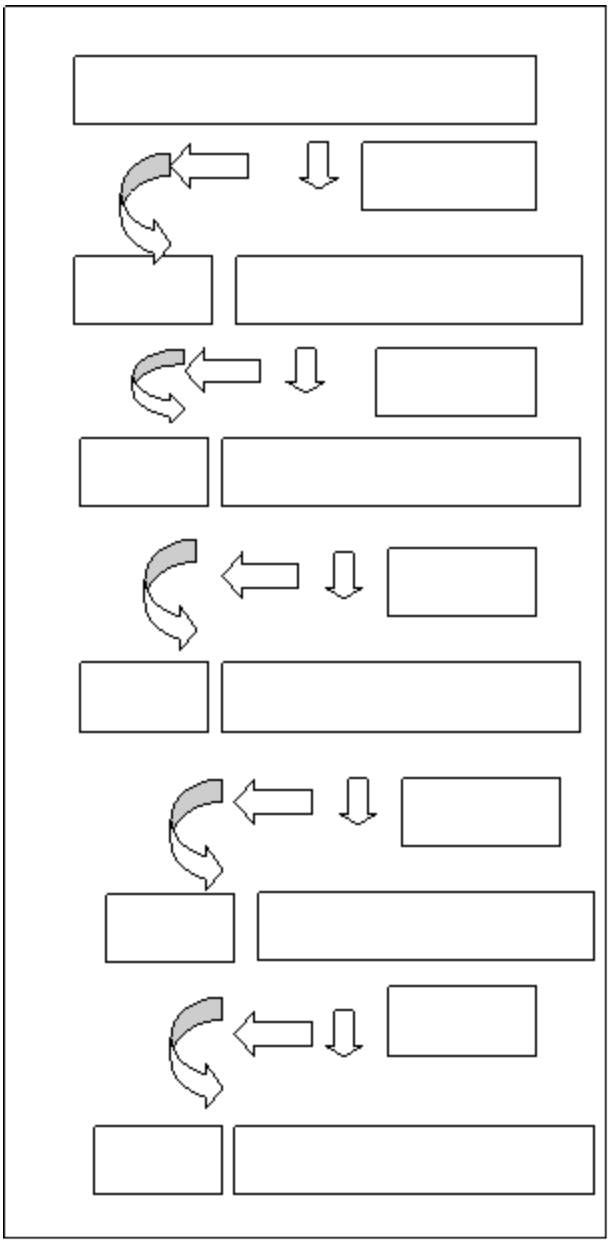
A total of 51 (51%), had some form of medical Co-morbidity in the following areas; Respiratory 18 (18%), Cardio vascular disease, 7 (7%), Gastro intestinal 8 (8%) Skin disease 4 (4%), Hepatitis B, 4 (4%), Anaemia 10 (10%). Sixty four clients (64%) had a history of co morbid mental illness; Major depression 19 (19%), Phobic Anxiety 4 (4%), O C D 1 (1%), Personality disorder 17 (17%), Bipolar affective disorder 11 (11%), Schizophrenia 13 (13%).

At the end of the study period, information was available on 70 clients. Of these 16 (23%) had improved, 54 (77%) had relapsed. As far as only abstinence from drugs was concerned, 28% were drug free, while 72% had shown some degree of relapse.

Out of the 30 clients who had dropped out at year 5, 14 changed residence, 2 left for another medical centre, 9 left against medical advice, 3 left the programme for legal reasons, while 2 clients died. Statistical analyses showed there were no significant differences between those who dropped out of the programme and those stayed in terms of age, medical and psychiatric morbidity, family problems and legal problems.

A comparison of groups at baseline and at year 5 showed that clients improved in overall morbidity, criminal history, and other areas of functioning. Statistically significant differences were observed in medical problems [baseline=51%, follow up=19%, (χ^2=21, df=1, p=0.000)], psychiatric problems [baseline=64%, follow up=24%, (χ^2=6.11, df=1, p=0.013)], crime free [baseline=11%, follow up=91% (χ^2=1.5, df=1, p=0.05)], no history of imprisonment during the last 6 months, [baseline 24%, follow up, 3% (χ^2=68, df=1, p=0.000)] family problems [baseline=24%, follow up=11% (χ^2=53, df=1, p=0.000)], employment [baseline=76%, follow up=87% (χ^2=15, df=1, p=0.000)], and in cigarette smoking [baseline=95%, follow up=61%, (χ^2=28, df=1, p=0.000).

Fig 1: Flow diagram of five years follow up



When the two groups (improved and relapsed) at the time of the final follow up (year 5) were compared on different measures, statistically significant differences were found in psychiatric co morbidity [improved=3%, relapsed=17%, (χ^2=6, df=1, p=0.01)], sexual problems among men [improved=7%, relapsed=64%] (χ^2=24.5, df=1, p=0.000)], legal problems [improved=23%, relapse=66% (χ^2=21, df=1, p=0.000)]. However, differences were not statistically significant, when the groups were compared for medical morbidity [improved=4%,relapsed=14%, (χ^2=3, df=1, p=0.08)], and family problems [improved=3%, relapse=6% (χ^2=0.17, df=1, p=0.76)]. The two groups were also different in terms of average age of the participants, [improved=24.5 (16-33), relapsed=44.5 (36-53)].

Fig-2: Rates of abstinence and relapse over five years follow up

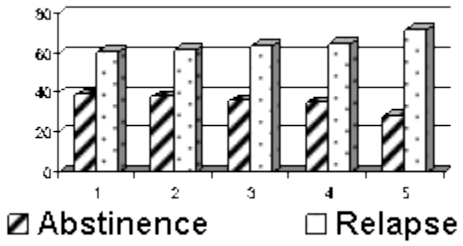
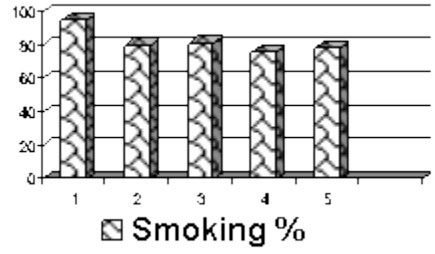


Fig-3: Reduction in smoking over five years



DISCUSSION

This study can confirm some of the trends found internationally in drug abuse. We found high rates of childhood labour, family conflict, violence, history of drug use in family, criminal behaviour and history of conduct disorder during childhood in people who later developed drug dependence. There was a general impression that patients who entered in treatment with severe degree of problems (e.g. crime problem and high severity psychiatric profile) had poor outcome. This has an intuitive appeal.

ASI (Addiction Severity Index) has been used in different cultures, and has been found to be sensitive and adaptive to the needs of different cultures.[7,8] The "problem severity profile" of Addiction Severity index with suitable alterations made to local need is easy to be used by a trained volunteer and is reliable and valid in Pakistani culture as well. This instrument can be used as predictor of treatment response and thus matching the patients to treatment programme. We found that patients with less severe psychiatric problems, perform well during the follow up on out patient basis and that those with psychiatric problems need matching in a different set up requiring the services of the experts, e.g., psychiatrists and psychologists. In our set up because of readily available psychiatric intervention, these patients were looked after adequately. Patients without severe family and employment problem performed well, even if they had serious drug and medical problems.

The twenty three percent (23%) improvement rate was based on a stringent criteria, i.e;. being “drug free”, “crime free” and “gainfully employed”. However, when a simpler criteria of being drug free and crime free was used, the rates of improvement increased to 28%. These improvement criteria are more stringent than the routinely used criteria of only being drug free in most other studies. This could be a reason for possible lower rates of the abstinence.

We found that the group on the whole improved on many accounts over the follow up period. These included, medical and psychiatric problems, criminal history, family conflicts, employment and cigarette smoking. This means that even those who did not show improvement on three criteria, showed improvement in other areas of functioning. This therefore gives us hope in the gloomy world of the treatment of drug addiction.

Our analysis, comparing clients at year five, who relapsed and those who improved, showed that clients with high psychiatric co-morbidity, those with histories of criminal behaviour and sexual disorder (only among males) were more likely to relapse. Surprisingly, however, there was no difference between two groups in terms of their medical or family problems profile. We also found that clients who improved were also more likely to be younger than those who did not (mean age of those who improved was 24, while those who relapsed was 44 year). This last finding is consistent with the clinical observation. We should keep in mind however that this does not tell us anything about the actual causality, since we did not perform appropriate statistical analyses (e.g., binary logistic regression).

Due to a very small number of female participants, no statistical comparisons were possible, while taking this into consideration. The results of these analyses therefore, may only be applicable to male patients. Similarly, under reporting partly due to the stigma attached in developing countries and partly due to the strict laws against the drugs, is major hindrance in any study of this nature. It is therefore required that the findings of this study be confirmed through a larger sample and through improved methodology.

Declaration of Interest

None.

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