

Relapse Rate after Opioid Detoxification in Drug Addict Patients

Beenish Gul¹, Rabia Asghar², Hafiz Shafique Ahmed³, Azmat Shaheen⁴, Naveed Arshad⁵

¹ Senior Registrar, Islamabad Medical & Dental College, Islamabad.

⁴ Senior Lecturer, Islamabad Medical & Dental College, Islamabad.

² Senior Registrar, Pakistan Air Force Hospital, Islamabad.

⁵ Assistant Professor, Islamabad Medical & Dental College, Islamabad.

³ Assistant Professor, Nishtar Medical University, Multan.

Author's Contribution

¹ Conception of study

¹ Experimentation/Study conduction

^{3,5} Analysis/Interpretation/Discussion

^{2,3,4,5} Manuscript Writing

² Critical Review

⁴ Facilitation and Material analysis

Corresponding Author

Dr. Naveed Arshad,

Assistant Professor,

Islamabad Medical & Dental College, Islamabad.

Email: oliajann@gmail.com

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Abstract

Introduction: Drug addiction is widely regarded as a pathological condition that involves the continued abuse of drugs in the development of drug-seeking behavior and a decrease in the ability to respond to naturally rewarding stimuli.

Objective: To determine the frequency of relapse after opioid detoxification in drug addict patients.

Materials & Methods: A descriptive cross-sectional survey was performed in the psychiatry department of Pakistan Institute of Medical Sciences, PIMS, Islamabad, from October 2017 to April 2018. All adult patients who were using cannabis for at least six months, irrespective of gender ages between 18 to 60 years were included in the study. For drug use, characteristics of the preferred choice of drugs and injection-related risk behaviors were noted and analyzed. All findings were entered in a structured Proforma. Data was entered in SPSS version 21 and analyzed. Effects modifiers like age, gender, marital status, types of drugs, etc., were controlled by stratification. Post-stratification chi-square test was applied. A p-value ≤ 0.05 was considered significant.

Results: A total of 310 patients were included; 83% of patients were male and 17% were females. The mean age of the patients was 39.02 ± 21.42 years. 70% of patients had relapsed after opioid detoxification while 30% of patients had NO relapse. The relapse rate after detoxification was more common in the first month of detoxification (56%). After 3 months the relapse rate after detoxification was 12.5%. The statistical analysis showed that there was a very significant association between types of drugs, ages of patients, marital status, and relapse rate ($p \leq 0.05$). There was an insignificant association between gender and relapse rate ($p \geq 0.5$).

Conclusion: The study concluded that relapse within six months of opioid detoxification in drug addicts is very common. Many factors contribute to the relapse rate.

Keywords: Cannabinoids; Drug, Detoxification; Opioid; Relapse.

Introduction

There is a large population in our country on illicit drug use, such as opiates. Heroin has been used as one of the main drugs and is very popular in the addict community. Heroin is smoked mainly and intermittently injected.¹ In the western world also heroin is very commonly consumed.² Medications, such as buprenorphine, are highly injectable, usually contain anti-histamines and diazepam, and include injection of pethidine (meperidine), which is less common.^{3,4}

Many contributing factors are responsible for the development of addictive behaviors such as genetic, social, and environmental. Addiction is a symptom of certain personal and/or economic problems. Mental illness can make a person more susceptible to testing and drug use, but it is not the cause.⁵

There are many recovery modalities and strategies available for drug users. Opioid detoxification is one of the methods to provide recovery-orientated treatments.⁶ Evidence suggests that opioid therapy is an effective injury reduction strategy and a form of drug treatment that reduces recurrence rates. Addiction reveals a chronic disorder characterized by persistent drug and behavioral addiction. Many problems of addiction have been studied, including behavioral and neuropharmacological factors that contribute to the development of addiction, loss of self-control, and persistence in addictive behaviors.⁷

Evidence from many countries has shown varied rates of relapse after drug detoxification, according to a survey in Pakistan there are about 3.5 million drug addicts of different kinds growing at an annual rate of 7%.² Evidence from Bangladesh suggests that 60 – 90% of patients eventually relapse.⁸ Another study from Spain by Lara GL, et al., reported that a total of 72.2% had relapsed at the 6-month follow-up and they concluded that patient who is dependent on opiates and those with compulsive use immediately prior to hospitalization are most likely to relapse.⁹

Social and demographic studies revealed that 71.5% of drug abusers were under the age of 45, with the highest proportion of 20 to 30 years of age.¹⁰ Maehira Y, et al., reported that low education (74.7%), unmarried or divorced marital status (69.0%), unstable house, and person with whom living were the main factors of people on drugs. Moreover, they reported that males (72.0%) were more likely to relapse than females (54.5%).³ In Pakistan there is very rare reliable data on drug addiction especially relapse following drug detoxification. Keeping in mind the poor quality

of life and suffering of addicted people we plan to conduct a study to determine relapse rates and understand factors associated with relapse in this addicted community so that these factors can be addressed with awareness and education sessions and other modalities of proper prevention and management.

Materials and Methods

This descriptive cross-sectional survey was approved by the Institutional Review Board of Pakistan Institute of Medical Sciences, PIMS Islamabad, Pakistan (IRB No. 09/PIMS/IRB-2017) and performed in accordance with the principles of the declaration of Helsinki. This study was conducted at the department of Psychiatry of PIMS hospital from October 2017 to April 2018. Written informed consent was taken from all enrolled patients. A total of 310 adult patients irrespective of gender ages between 18 to 60 years, using cannabis for at least six months and admitted for detoxification treatment were enrolled for this study. WHO sample size calculator was used for sample calculation; whereas, the following parameters were used the population proportion was 72% with CI 95% and alpha type I error was 10%.³ Patients with severe comorbidities including diabetes mellitus, liver disorders, epilepsy, and cardiac or respiratory problems, patients using antibiotics before admission, and paracentesis were excluded from the study.

Patients admitted for drug detoxification were selected from the day of the start of intervention by consecutive sampling. A questionnaire was developed to determine the appropriate social characteristics, history of drug use, drug-related HIV-related behaviors and unsafe sex, and reasons for relapse following treatment. Relevant socio-demographic characteristics of people on drugs including their living conditions in terms of own home with family, without shelter, and living on the streets were asked as well as their income and sources.

For drug use and injection-related behaviors, questions were asked about selected drug options, management methods, and injections (whether respondents borrowed or borrowed needles/syringes used; the number of partners they shared in the last share, and frequency of sharing). With risky sexual behavior, questions were asked about the history of sex with non-commercial sex partners and traffickers. Patients who were screened from OPD were admitted to the hospital for at least two weeks for detoxification treatment. During admission symptomatic treatment

was given for symptoms for example body aches, sleep disturbance, vomiting, etc. On discharge phone numbers were taken from patients and were called for follow-up after every two months on OPD basis and the final outcome was measured at six months from the time of discharge to measure the final outcome/relapse. All the study procedures were performed by the researcher herself to minimize human errors and bias. Similarly, data collection was done by the researcher herself on a specifically designed Performa for this study. For statistical analysis, the data was entered in SPSS version 21. Descriptive analysis was used for measuring the mean, and standard deviation for numerical variables like age and detoxification therapy duration. Effects modifiers like age, gender, marital status, education, income, sexual practices, imprisoned, sold blood, person living with, and types of drugs were controlled by stratification. Post-stratification chi-square test was applied. A p-value ≤ 0.05 was considered significant.

Results

A total of 310 patients with opioid poisoning and for which opioid detoxification was done were recruited for the study; 83.0% (n=260) were male patients and 17.0% (n=50) were females. Also, the mean age of the patients was 39.02±21.42 years. The demographic characteristics of all patients were studied and analyzed (Table 1).

Descriptive statistics (percent frequencies) between education, marital status, living status, type of addiction, different sex partners, imprisoned, sold blood, gender, and the number of relapse cases was studied, and post-stratification chi-square was applied (Table 2 & 3).

Table 1: Demographic characteristics of patients, n=310

Characteristics		No.	of Percent patients
Education	Uneducated	114	36.8%
	Educated	196	63.2%
Family income	Poor \leq Rs. 15000	191	61.6%
	Middle class \geq Rs. 15000-50000	83	26.8%
	High class \geq Rs. 100000	36	11.6%
Relapse rate	Patients having relapse	219	70.0%
	No relapse	91	30.0%
Time period of relapse	≤ 1 month (n=219)	123	56.0%
	1-3 months (n=219)	69	31.5%
	≥ 3 months (n=219)	27	12.5%

Table 2: Distribution of patients having relapse according to education, marital and living status, n=310

Variables		No. of patients	No. of relapse cases		Percent	p-value
			Yes	No		
Education status	Uneducated	114	99	15	86.8%	0.007
	Educated	196	161	35	82.2%	
Marital status	Married	147	123	24	83.0%	0.024
	Divorced	95	49	46	51.6%	
	Widow	68	47	21	69.1%	
Living status	With family	179	99	80	55.3%	0.061
	Without shelter	71	63	08	88.7%	
	Living own	60	57	03	95.0%	
Living	Alone	118	84	34	71.0%	0.0005
	With drug abusers	155	103	52	66.0%	
	With no drug abuse	37	32	05	86.5%	

Table 3: Distribution of patients having relapse according to type of addiction, different sex partners, imprisoned, sold blood and gender, n=310

Variables		No. of patients	No. of relapse cases		Percent	p-value
			Yes	No		
Type of addiction	Heroin	183	153	30	83.6%	0.013
	Cannabinoids	127	66	61	52.0%	
Sex partners	Had sex with a partner	123	73	50	59.4%	0.004
	Had sex with a sex worker	97	86	11	88.7%	
	No sex	90	60	30	66.6%	
Imprisoned	Yes	200	153	47	76.0%	0.041
	No	110	66	44	54.0%	
Sold blood	Yes	166	136	30	87.0%	0.001
	No	144	86	58	56.0%	
Gender	Male	260	136	124	52.0%	0.078
	Female	50	16	34	34.0%	

Discussion

In this study 310 patients with opioid poisoning and for which opioid detoxifications were done. The mean age of study patients was 39.02±21.42 years. Most of the patients almost 76% were below 40 years of age and the male gender was predominant with an 83% proportion compared to females who were 17% and the relapse rate was 70%. Smyth BP, et al.,¹¹ conducted a prospective follow-up study of consecutive opiate-dependent patients, they reported the initial relapse occurred within one week in 64 (59%) cases which is similar to our study where most of the patients relapsed during the first month.

In a double-blind, placebo-controlled, randomized, 24-week trial, patients with opiate dependence were given monthly injections of increased doses of 380mg of naltrexone or placebo. The study found significant benefits for the actively managed group, with 90% dropout rates compared to 35%.^{12,13} In this study 70% of patients had relapsed after opioid detoxification while 30% of patients had NO relapse. The relapse rate after detoxification was more common in the first month of detoxification (56%). The relapse rate was more common in illiterate and middle-class groups 87% and 93% respectively, divorced women at 93%, patients living on their own at 95%, 83.6% in heroin addicts, 88.7% patients having sex with sex workers had relapsed.

Evidence from Bangladesh suggests that 60 – 90% of patients eventually relapse. The relapse rate was more common after the age of 40 years at 43%, common in divorced at 23%, in females at 37%, and during the first 6 months (29%) of drug intoxication.¹⁴ This study also showed that the relapse rate was common in

persons living alone at 43% and those living alone on their own at 28%.

Social and demographic studies revealed that 71.5% of drug abusers were under the age of 45, with the highest proportion of 20 to 30 years of age.¹⁰ Maehira Y, et al.,³ reported that low education (74.7%), unmarried or divorced marital status (69.0%), unstable house, and person with whom living were the main factors of people on drugs. Moreover, they reported that males (72.0%) were more likely to relapse than females (54.5%).

Lara GL, et al.,⁹ reported that a total of 72.2% had relapsed at the 6-month follow-up and they concluded that patient who is dependent on opiates and those with compulsive use immediately prior to hospitalization are most likely to relapse. In their study, the relapse rate after drug intoxication was more common from the age of 20-40 years 23%. The relapse rate was common in divorced 27%, females 17%, during the first 2 months (23%) of drug intoxication. In their study, they also found that the relapse rate was common in persons living alone at 52% and those living without shelter at 33%. However, in this study, the relapse rate was patients who lived alone was 71%, and for those living without shelter and living own was 89% and 95% respectively.

A study by Passetti F, et al.,¹⁵ in which they privately-owned outpatient detoxification center. Two methods of the post-detoxification opiate blockade have been used historically. Initially, oral naltrexone was initiated during physical exertion. This was modified in recent cases and placed under the skin of the depo-naltrexone pellet during excretion. According to their respondents, the rate of relapse over the daily 30-day use of the drug was 33.2% of naltrexone oral treatment patients compared with only 0.6% of the depo-

naltrexone group. The recurrence rate was 53% for the naltrexone oral group compared with 28% for the depo-naltrexone group.

Salimi A, et al.,¹⁶ study concluded that ultra-rapid opioid detoxification (UROD) and subsequent introduction of naltrexone therapy can be considered a safe and effective method of use for patients with opiate addiction. They reported relapse of 14% on first-month visits and 24% on the sixth month and beyond.

Conclusion

The study concluded that the relapse within six months of opioid detoxification in drug addicts is very common. Many factors contribute to relapse rates like illiteracy, divorced patients living on their own, heroin addiction, and sex with sex workers.

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