

Causative risk factors of relapse in opium addicts after treatment and rehabilitation in internally displaced people of KPK, Pakistan

Abid Hayat¹, Muhammad Abdullah¹, Farid Ullah Shah^{2,3}, Mughal Qayum¹, Abdul Wahab¹, Muhammad Imran Khan^{1,2,3*}, Bashir Ahmad¹, Vahid Nikoui⁴

¹ Department of Pharmacy, Kohat University of Science and Technology, Kohat 26000, KPK, Pakistan.

² Drug Detoxification Health Welfare Research Center, Bannu, KPK, Pakistan.

³ Bannu Medical College, Bannu 28100, KPK, Pakistan.

⁴ Razi Drug Research Center, Iran University of Medical Sciences, Tehran, Iran - - Iran University of Medical Sciences, Tehran, Iran.

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ABSTRACT

Opium dependence is one of the serious and multidimensional problems. Millions of people are opium addicts throughout the world. The aim of this study was to determine the risk factors causing relapse in opium addicts in Internally Displaced People (IDPs). This experiment was conducted in the Drug Detoxification and Health Welfare research center, Bannu, KPK, Pakistan. Sociodemographics characteristics of IDPs were studied in this retrospective cross-sectional study. Questionnaire was specifically designed and total 41 relapsed individual's histories of post treated IDPs were studied. Percentage of factors causing relapse in IDPs included stress in 36.59% individuals, family conflicts 19.51%, friends 12.20%, work load stress 09.76%, body aches 07.31%, sexual satisfaction 09.76% and fun 04.87%. Average time of relapse in IDPs was 6 months. Results revealed that stress was the most notorious factor directing IDPs towards relapse. It is concluded that attention must be paid on the crucial factors of stress to avoid relapse associated with opium dependence such as, family conflicts, personal, occupational and economical status.

Conflicts of Interest: Declared None

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Keywords

Addiction relapse,
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Corresponding to:

Muhammad Imran Khan,
Department of Pharmacy, Kohat
University of Science and
Technology, Kohat 26000, KPK,
Pakistan

Email:

muhammad_ik12@yahoo.com

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INTRODUCTION

Opium is quite familiar for analgesia, sleep induction and relief of bowels etc. [1, 2]. Pakistan is situated in an area which produces the most of the world's opium containing morphine, heroin, and codeine. It is added that Pakistan is restrained with 70% of Afghanistan's opium, which produces 80% of the world's illegitimate opioids including morphine [3]. The raw form of opium is processed for various alkaloids like morphine (10%), papaverine (1%), codeine (0.5%), noscapine (0.5%) and thebaine (about 0.2%) [1, 2, 4].

In 2008 the World Health Organization (WHO) annual

survey expressed that approximately 200 million people are opiate abusers worldwide [5]. In 2010 around 24-35 million adults globally of age ranging from 15-64 year used outlaw opiates [6]. It is estimated that 6.7 million people of Pakistan had used different controlled substances including misused of medicinal drugs, and 4.2 million people are addicts. Opiates are the second most abused drugs with the figure of 1.06 million addicts including 320000 opium abusers, after cannabis having 4 million users [7]. It was found that women mostly misused opioid-based painkillers [8].

Adaptive condition develop from a drug due to the con-

tinual administration on regular basis as may be termed as drug addiction [9] and according to American Society of Addiction Medicine (ASAM) public policy statement addiction can be define as a chronic disease associated with brain wages, motivation, retentivity and similar circuitry which causes craving, and inability to refrain from drugs and disablement in behavior hold [10-13]. While relapse is considered as the complete return to the previous behavior of drug abuse after treatment and rehabilitation, leading to complete return of previous symptoms.

Many pathways have been suggested for addiction but the most studied one is the mesolimbic dopaminergic pathway. This pathway includes the dopaminergic neurons in the ventral tegmental area (VTA) of the midbrain, which aims the limbic forebrain in which the nucleus accumbens (NA) is mostly targeted [14]. Pathways involved in the drug addiction and drug dependence are also involved in the relapse. These pathways for drug addiction or dependence and relapse can be stimulated either directly by taking opioids or indirectly by stimuli which involves higher centers of the brain. Risk factors associated with relapse lead to increase of dopamine by direct or indirect pathways in the mesolimbic system thus enhancing craving for drugs [15,16].

Various factors are responsible for relapse of dependency and addiction behaviors. Up today, no study has been reported the causative risk factors responsible for relapse in internally displaced people, displaced due to terrorism and war on terror. Current study aimed to determine all those causative and risk factors in internally displaced people (IDPs), which make them prone to opium relapse.

MATERIALS AND METHODS

Sample size

Retrospective cross sectional study was conducted on data collected from January 2014 to November 2016 at rehabilitation center in Bannu, Khyber Pakhtunkhwa (KPK) Pakistan. The study was approved by the Kohat University of Science and Technology, Kohat. Out of 107 histories, relapse was found only in 52 histories. Out of these 52 histories, eleven individual's Drug Abuse Screening Test (DAST) and questionnaire based histories were incompletely filled

which were excluded from this study. Finally, 41 questionnaires based histories were selected and analyzed. All those patients with age limit 25-70 years who were properly diagnosed and confirmed by the psychiatrist as opium addicts and relapsed, were included in this study. Addicts who were addictive for substances not including opium were excluded from the study.

Study DAST and questionnaires

DAST test and researcher developed questionnaire was used in this study to extract data from the histories of individuals addicted to opium. Questions were about the Socio-demographic characteristics of IDPs such as gender, age, education, job, and some questions about factors associated with relapse, including occupational factors with six items (labor, unemployment, government servant, driver, self-business, house wife), economic factors with three items (poor, middle class, upper class), abuse factors with two items (opium, poly drug abuser) and education factor with two items (illiterate, educated). Psychiatrists help and under their supervision each participant had completed questionnaires. Faculty members of Department of Psychiatry had confirmed the content reliability of the questionnaires. In all consented IDPs relapse was common.

RESULTS

All Socio-demographic characteristics of IDPs were studied in order to find their possible link with addiction and relapse. Relapsed individuals with male gender were 97.56% and female were 2.44%. The age wise distribution was so that individual from 21-40 year were 51.21% and 41-60year were 41.46%. Illiterate individuals were 80.49% and 19.51% were educated. 87.80% subjects were poor and 12.20% were from middle class. The occupation wise distribution was such that labors were 58.53%, unemployed 21.95%, government servant 12.20%, housewife 02.44%, drivers 02.44%, and 02.44% were running their own business. Married individual's count was 90.24% and 09.76% were unmarried. Single drug (Opium) abusers were 07.32% and opium in combination with other drugs Poly Drugs Abusers (PDAs) were 92.78%. All socio-demographics categoriza-

Table 1. Socio-demographics of participants

Socio-demographics		Number	Percentage
Gender	Male	40	97.56%
	Female	01	02.44%
Age	21-40	21	51.21%
	41-60	17	41.46%
	46-60	03	07.32%
Marital status	Single	04	09.76%
	Married	37	90.24%
Economic status	Poor	36	87.80%
	Middle class	05	12.20%
	Upper class	0	0

Table 1. Ctd

Socio-demographics	Number	Percentage
Educational status		
Illiterate	33	80.49%
Educated	08	19.51%
Occupation		
Labor	26	58.53%
Unemployed	09	21.95%
Government servant	05	12.20%
House wife	01	02.44%
Driver	01	02.44%
Self-business	01	02.44%
Type of drug used		
Only Opium abusers	03	07.32%
PDAs	38	92.68%
Other drugs		
Hashish	12	29.26%
Heroin	06	14.63%
THC	05	12.19%
Benzodiazepines	06	14.63%
Alcohol	02	04.87%
Codeine	02	04.87%
Injectables	04	09.75%

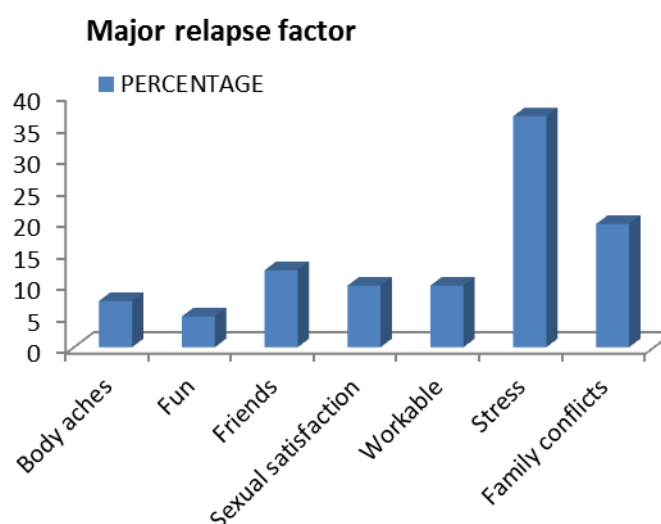


Figure 1. Percentage of major factors in relapse of opium addicts

tions are shown in Table 1.

From the questionnaire of opium dependents, some factors are strongly correlating with high percentage characteristics which can be considered responsible for relapse, include marital status where married were suffering more (90.24%) compared to unmarried. But this high percentage of married over unmarried is due to a common illogical solution and practice in this tribal region, that addicts are married for quitting drugs. 80.49% of those relapsed were illiterate. Poly drug abusers (opium in combination with other drugs) were 92.68%. Subjects relapsed within poverty level were 87.80%. Occupationally labors were suffering more

(58.53%) as compared to other professions and 21.95% subjects were unemployed. Data extracted from relapse patient histories, the main key factors causing relapse are mention in Figure 1.

From patient's histories the factors causing relapse in IDPs include stress as 36.59%, family conflicts 19.51%, fun 04.87%, friends 12.20%, sexual satisfaction 09.76%, work load 09.76% and body aches (to get relief from pain) 07.31%. An average time of relapse in IDPs was 6 months.

DISCUSSION

Opium mostly cultivated in Afghanistan which touches

boundaries of Waziristan Agency in Pakistan. This Afghanistan-Pakistan borderline is the key area of production and trafficking of opium. Due to opium smuggling, people of tribal areas contacted with opium and easily become the victims of opium abuse. Because of war on terror by Pakistan Army against the terrorist and militants in Waziristan Agency and other tribal areas, people migrated towards different safe cities of Pakistan. They lost most of their loved ones, relatives, lost homes and business etc. which make them prone to fall severely in environmental stress. To fight with stress 36.59% IDPs took support of opium abuse in combination with other drug [17, 18]. According to the Tension releasing theory by Cappell and Greeley (1987) and other studies also suggest that stress through coping mechanism lead individuals towards relapse and opium users are mostly in touch with the stressors events like unemployment, family conflicts, death of life partner, siblings and parents etc. [19].

Findings of our study show family conflicts, poverty, relationship with addicted friends, living expenses, unemployment, stress, sexual satisfaction, work load, relief from body pain, fun, illiteracy and poly drug abuse etc. as the most associated factors for the relapse of opium dependence and the results are comparable to studies previously done [6, 16, 20, 21].

The studies suggest that friends play supportive and critical roles in encouraging to abuse drugs and are one of the negative factors in relapse of drug abuse in IDPs. Friends which are previously addicted and using different types of substance for the purpose to feel well are risky for fresh treated opium addict [22, 23]. In findings the other most important factor in relapse of drug abuse, including were family conflicts. Within their communities IDPs are exposed to severe, chronic stress because of low economic status, poverty and unemployment which enhance their psychological distress and convince them for relapse of drug abuse to get relief from stress, tensions and anxiety. The results also suggest that family conflicts, unemployment, and illiteracy etc. are directing paths toward stress in different ways which give alarms to use substances in order to get rid of stress. Some Individuals started the abusing journey because of working more through the support of opiates. Others started abusing because of the their communal approaches of analgesics effect of the opiates, as they are used in various diseases like cancer, to feel well and relieve from pain [24]. The results also suggest that poly drug abusers relapse ratio is high compared to single drug abusers and having past history of using more than one drug is the strong determinant for relapse. Regular use and its euphoric effect was also one of the contributing factors to addiction and relapse, and post treated addict go toward relapse because of fun factor of opiates. Opium causes the release of endogenous peptides (endorphins) which binds with the opioid u-receptor and trigger pleasurable feelings and euphoria. After treatment people keep craving for such pleasurable sensation and fun factor [25] which is also one of the cause of relapse in this study.

Limitations

Sample size collected from the rehabilitation center of Bannu, KPK, Pakistan, was small due to only consideration of relapse which was found only in 52 patient histories out of 107 histories. In 52 histories, 11 histories were incomplete; and finally remaining 41 histories with relapse were analyzed for possible risk factors and were reported.

Ethical Approval and Participation Consent

All patients were willing to participate and patient consent form was signed by every individual or their spouse.

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CONFLICTS OF INTEREST

The author(s) declare(s) that there is no conflict of interest regarding the publication of this article

REFERENCES

1. Postler MA, Waisel DB. An Historical Perspective on Opium and its Therapeutic Uses throughout the Eighteenth and Nineteenth Centuries. *Bullet Anesthesia History* 1997 Apr 1;15(2):3–5.
2. Schiff PL. Opium and its alkaloids. *Am J Pharma Edu* 2002;66(2):188–196.
3. Niazi M, Zaman K, Ikram W. Is Poverty To Be Blamed For Narcotic Abuse? A Case Study of Pakistan. *Int J Bas Appl Sci* 2009;9(10):147–153.
4. Kalant H. Opium revisited: a brief review of its nature, composition, non-medical use and relative risks 1. *Addiction* 1997;92(3):267–277.
5. Afkar A, Rezvani SM, Sigaroudi AE. Measurement of factors influencing the relapse of addiction: a factor analysis. *Int J High Risk Behav Addict* 2017;6(3).
6. Bart G. Maintenance medication for opiate addiction: the foundation of recovery. *J Addict Dis* 2012;31(3):207–225.
7. Din Mohammadi MR, Amini K, Yazdan Khah MR. Survey of Social and Environmental Factors Related to the Relapse of Addiction in Volunteered Addicted Individuals In Welfare Organization of Zanjan. *Zanjan Uni Med Sci J* 2007;15(59):85–94.
8. Asam-opioid-patient-piece_-5bopt2-5d_3d.pdf [Internet]. [cited 2019 Jan 2]. Available from: https://www.asam.org/docs/default-source/publications/asam-opioid-patient-piece_-5bopt2-5d_3d.pdf
9. Maddux JF, Desmon DP. Addiction or dependence? *Addiction* 2000;95(5):661–665.
10. Robinson TE, Berridge KC. The psychology and neurobiology of addiction: an incentive-sensitization view. *Addiction* 2000;95(8s2):91–117.
11. Sinha R. New Findings on Biological Factors Predicting Addiction Relapse Vulnerability. *Curr Psychiatry Rep*. 2011 Oct;13(5):398–405.
12. Brandon TH, Vidrine JI, Litvin EB. Relapse and Relapse Prevention. *Ann Rev Clin Psychol* 2007 Apr;3(1):257–84.
13. ASAM Definition of Addiction [Internet]. [cited 2019 Jan 5]. Available from: <https://www.asam.org/resources/definition-of-addiction>
14. Nestler EJ. Is there a common molecular pathway for addiction? *Nature Neurosci* 2005 Nov;8(11):1445–9.
15. Self DW. Neural substrates of drug craving and relapse in drug addiction. *Ann Med* 1998 Jan;30(4):379–89.
16. Koob G. Drug Addiction, Dysregulation of Reward, and Allostasis. *Neuropsychopharmacology* 2001 Feb;24(2):97–129.
17. Goodhand J. Frontiers and wars: the opium economy in Afghanistan. *J Agrar Change* 2005;5(2):191–216.

18. Mansfield D. The Economic Superiority of Illicit Drug Production: Myth and Reality—Opium Poppy Cultivation in Afghanistan. In: International Conference on Drug Control and Cooperation, Feldafing (January 7-12). 2002.
19. Hassanbeigi A, Askari J, Hassanbeigi D, Pourmovahed Z. The relationship between stress and addiction. *Proced Soc Behav Sci*. 2013;84:1333–1340.
20. O'connor PG, Carroll KM, Shi JM, Schottenfeld RS, Kosten TR, Rounsaville BJ. Three methods of opioid detoxification in a primary care setting: a randomized trial. *Ann Int Med* 1997;127(7):526–530.
21. Noormohammadi MR, Nikfarjam M, Deris F, Parvin N. Spiritual well-being and associated factors with relapse in opioid addicts. *J Clin Diagn Res* 2017;11(3):VC07.
22. Gyarmathy VA, Latkin CA. Individual and social factors associated with participation in treatment programs for drug users. *Subst Use Misuse* 2008;43(12–13):1865–81.
23. Martin WR, Jasinski DR. Physiologic parameters of morphine dependence in man—tolerance, early abstinence, protracted abstinence. *Psychiatry Digest* 1970;31(7):37–passim.
24. Hasin D, Liu X, Nunes E, McCloud S, Samet S, Endicott J. Effects of Major Depression on Remission and Relapse of Substance Dependence. *Arch General Psychiatry* 2002 Apr 1;59(4):375.
25. Lord S, Downs G, Furtaw P, Chaudhuri A, Silverstein A, Gammaitoni A, et al. Nonmedical use of prescription opioids and stimulants among student pharmacists. *J Am Pharma Assoc* 2009 Jul 1;49(4):519–28.