



The Severity of opioid dependence and its relation with psychosocial factors of addicted users.

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ABSTRACT... Objectives: To determine the relationship between severity of opioid dependence and psychosocial factors of addicted users. **Study Design:** Descriptive Cross Sectional study. **Setting:** Department of Psychiatry Nishtar Hospital Multan. **Period:** Nov 2018 to May 2020. **Material & Methods:** 196 participants were enrolled through non probability purposive sampling technique. Pearson chi square test was applied to identify significant relationship between severe opioid dependence and psychosocial factors. **Result:** Mean age of study cases was 30.86 ± 1.66 . The frequency of severe opioid dependence was noted in 159 (81.1%) of study participants. Statistical significant relation of severe opioid dependence was noted with age, literacy status, literacy level, marital status, monthly income, route of opioid use, frequency of opioid use per day, previous detoxification treatment and encounters with law enforcement agencies **Conclusion:** Majority of patients admitted for treatment of opioid addiction had severe level of opioid dependence. Severe opioid dependence was related to certain psychosocial factors such as user's age, literacy status, literacy level, marital status, monthly income, route of opioid use, frequency of opioid use, previous detoxification treatment for opioid use and encounters with law enforcement agencies. This suggests that optimal treatment of severe opioid dependence should include interventions based on an individual's psychosocial needs.

Key words: Multan, Opioid Use Disorder, Opioid Dependence, Pakistan, Psychosocial Factors.

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INTRODUCTION

Opioid use disorder (OUD) is the problematic illicit use of opioids that causes clinically significant distress or impairment in personal, social and occupational domains of life.¹ It affects 16 million people worldwide and over 120,000 deaths annually are attributed to opioids.² Opioid use disorder (OUD) includes dependence and addiction with addiction representing the most severe form of disorder.³ Opioid dependence includes physical or psychological dependence or both and presents by a reluctance or inability of user to discontinue opioids.⁴

Based on the data presented in United Nations Office on Drugs and Crime, there are 6.7 million (aged 15-64 years) total drug abusers while 0.8 million regular opioid users in Pakistan.

Severity of dependence is high among opioid users moreover substantial regional variation is noted regarding severity of opioid dependence across Pakistan.⁵ Another study reported high prevalence of opioid use among those with adverse psychosocial environment.⁶ Majority of opioid users suffer from severe form of dependence that would require intervention, with nearly 40 per cent of opioid users reporting that they wanted help or treatment for their drug problems. High scores of severity of dependence have been associated with high risk injecting and sexual behaviors that were observed among opioid users.⁷ Effective treatment of opioid dependence incorporates many components, including screening, brief interventions, inpatient, outpatient treatment, evidence based pharmacological treatment and psychosocial interventions, long term residential treatment, rehabilitation, and recovery support

services. In order to be effective, treatment services must meet the requirements of the individual according to the specific level of severity of their dependence.⁸ Those with mild to moderate opioid dependence, treatment through general health care system may be sufficient, while those with severe opioid dependence may require specialty treatment.⁹

Opioid use disorder are related with multiple psychosocial factors but there is limited data regarding the relationship of severe opioid dependence with psychosocial factors of users.¹⁰ In this study we intended to highlight those psychosocial areas which are related with severity of opioid dependence so that emphasis would be given to more specific psychosocial interventions appropriate with the severe opioid dependent population.

MATERIAL & METHODS

After approval from the ethical review committee this descriptive cross sectional study was conducted from 20-11-2018 to 24-5-2020. Sample size of 196 was calculated by the formula ($n = z^2 p q / d^2$) by taking 95% confidence interval, 7% error of margin, z of 1.96 and p of 50.¹¹ Male or female patients of age 18 to 65 years admitted at indoor unit Department of Psychiatry Nishtar Hospital Multan for detoxification treatment of opioid use were included. Patients who had any co morbid addiction of other substances or had any other psychiatric or medical disorders were excluded. Non probability purposive sampling technique was used to collect the sample. Informed consent and confidentiality was ensured for every participant. Data regarding demographics and psychosocial factors was collected on a pre-defined questionnaire. Severity of dependence scale (SDS) was applied to every participant and scores were recorded.¹² Collected data was analyzed using SPSS 23. Descriptive statistics were reported as frequencies and percentages. Post stratification Pearson chi square test was used to identify the significant relation between severe opioid dependence and various psychosocial factors. Student's t-test was performed to compare the means of groups. P value equals to or less than 0.05 was considered

as significant.

RESULTS

Total 196 participants were included all were males with the mean age of 30.86 ± 1.66 (SD). Severe opioid dependence was noted in 159 (81.1%) of study participants. Highest percentage of participants with severe opioid dependence were identified as <50 years of age, resided in urban area, were unmarried, lived in joint family system, were literate, matric passed, self-employed, belonged to middle income class, had opioid use duration of >12-month, used sniffing as a preferred route of opioid use, frequency of opioid use was 5 times a day, had previous detoxification treatment, had no family history of drug addictions, had no family conflicts but had encounters with law enforcement agencies (Table-I).

Statistically significant relationship of severe opioid dependence was found with age ($P=0.007$), literacy status ($P=0.014$), literacy level ($P=0.07$), marital status ($P=0.002$), monthly income ($P=0.00$), route of opioid use ($P=0.02$), frequency of opioid use per day ($P=0.01$), previous detoxification treatment ($P=0.01$), and encounters with law enforcement agencies ($P=0.001$) (Table-II).

The mean age of severe opioid dependence (present) was 30.86 ± 9.8 and mean score of severity of dependence scale (SDS) was 10.53 ± 2.3 whereas mean age of severe opioid dependence (absent) was 35.89 ± 11.4 and mean score of severity of dependence scale (SDS) were 9.19 ± 3.09 . The p-value of severe opioid dependence based on age and severity of dependence scale (SDS) score is significant ($P=<0.007$) which indicated that age significantly influenced the severity of opioid dependence and scores of severity of dependence scale (SDS) increase/decrease also significantly depend upon the age of user (Table-III).

DISCUSSION

In current study the relationship of severe opioid dependence with psychosocial factors was identified.

Characteristics Name	Category Name	Frequency (n) (%)
Age Group	Up to 50	186 (94.9 %)
	More than 50	10 5.1(5.1 %)
Residential Status	Urban	103 (52.6 %)
	Rural	93 (47.4 %)
Marital Status	Married	85 (43.4 %)
	Unmarried	72 (36.7 %)
	Divorced	20 (10.2 %)
	Separated	9 (4.6 %)
	Widow / Widower	10 (5.1 %)
Family System	Nuclear	43 (21.9 %)
	Joint	153 (78.1 %)
Literacy Status	Literate	168 (85.7 %)
	Illiterate	28 (14.3 %)
Literacy level	Up to Class 4	21 (10.7 %)
	Primary	40 (20.4 %)
	Matric	61 (31.1 %)
	Intermediate	30 (15.3 %)
	Graduation	24 (12.2 %)
	Masters	18 (9.2 %)
	Illiterate	2 (1.0 %)
Occupational Status	Employed	61 (31.1 %)
	Unemployed	49 (25.0 %)
	Self Employed	82 (41.8 %)
	Retired	4 (2.0 %)
Income Status	Poor	54 (27.6 %)
	Low Income	49 (25.0 %)
	Middle Income	68 (34.7 %)
	Upper Middle	21 (10.7 %)
	Upper Class	4 (2.0 %)
Duration of Opioid Dependence	>12 Months	155 (79.1 %)
	<12 Months	41 (20.9 %)
Route of opioid use	Oral	39 (19.9 %)
	IV	42 (21.4 %)
	IM	4 (2.0 %)
	Sniff	53 (27.0 %)
	Smoke	48 (24.5 %)
	Skin Pop	10 (5.1 %)
Frequency of opioid use per day	1	21 (10.7 %)
	2	17 (8.7 %)
	3	30 (15.3 %)
	4	34 (17.3 %)
	5	56 (28.6 %)
	6	38 (19.4 %)
Family History of Addiction	Yes	39 (19.9 %)
	No	157 (80.1 %)
Any Ongoing Family Conflict	Yes	80 (40.8 %)
	No	116 (59.2 %)
Previous detoxification treatment for opioid use	Never	36 (18.4 %)
	Once	69 (35.2 %)
	Twice	46 (23.5 %)
	Thrice	18 (9.2 %)
	Four	17 (8.7 %)
	Five	8 (4.1 %)
Forensic History/ Criminal History/ Encounter With Law Enforcement Agencies	Six	2 (1.0 %)
	Yes	134 (68.4 %)
Severe Opioid Dependence	No	62 (31.6 %)
	Yes	159 (81.1 %)
	No	37 (18.9 %)

Table-I. Classification of severe opioid dependence and various psychosocial factors.

Characteristics Name	Category Name		Severe Opioid Dependence		P-Value (Chi-Square)
			Yes	No	
Age Group	Up to 50	N (%)	153 (78.1%)	33 (16.8%)	0.08
	More than 50	N (%)	6 (3.1%)	4 (2.0%)	
Residential Status	Urban	N (%)	85 (43.4%)	18 (9.2%)	0.59
	Rural	N (%)	74 (37.8%)	19 (9.7%)	
Marital Status	Married	N (%)	63 (32.1%)	9 (4.6%)	0.002
	Unmarried	N (%)	69 (35.2%)	16 (8.2%)	
	Divorced	N (%)	10 (5.1%)	10 (5.1%)	
	Separated	N (%)	7 (3.6%)	2 (1.0%)	
Family System	Widow / Widower	N (%)	10 (5.1%)	0 (0.0%)	0.95
	Nuclear	N (%)	35 (17.9%)	8 (4.1%)	
Educational Status	Joint	N (%)	124 (63.3%)	29 (14.8%)	0.014
	Literate	N (%)	141 (71.9%)	27 (13.8%)	
Literacy Level	Illiterate	N (%)	18 (9.2%)	10 (5.1%)	0.07
	Up to Class 4	N (%)	15 (7.7%)	6 (3.1%)	
	Primary	N (%)	33 (16.8%)	7 (3.6%)	
	Matric	N (%)	49 (25.0%)	12 (6.1%)	
	Intermediate	N (%)	26 (13.3%)	4 (2.0%)	
	Graduation	N (%)	20 (10.2%)	4 (2.0%)	
	Masters	N (%)	16 (8.2%)	2 (1.0%)	
	Illiterate	N (%)	0 (0.0%)	2 (1.0%)	
	Employed	N (%)	53 (27.0%)	8 (4.1%)	
	Unemployed	N (%)	39 (19.9%)	10 (5.1%)	
Income Status	Self Employed	N (%)	63 (32.1%)	19 (9.7%)	0.000
	Retired	N (%)	4 (2.0%)	0 (0.0%)	
	Poor		36 (18.4%)	18 (9.2%)	
	Low Income		43 (21.9%)	6 (3.1%)	
	Middle Income		60 (30.6%)	8 (4.1%)	
Duration of Opioid Dependence	Upper Middle		19 (9.7%)	2 (1.0%)	0.91
	Upper Class		1 (0.5%)	3 (1.5%)	
Route of Opioid Use	>12 Months		126 (64.3%)	29 (14.8%)	0.02
	<12 Months		33 (16.8%)	8 (4.1%)	
	Oral		36 (18.4%)	3 (1.5%)	
	IV		36 (18.4%)	6 (3.1%)	
	IM		2 (1.0%)	2 (1.0%)	
	Sniff		41 (20.9%)	12 (6.1%)	
Frequency of Opioid Use Per Day	Smoke		34 (17.3%)	14 (7.1%)	0.011
	Skin Pop		10 (5.1%)	0 (0.0%)	
	1		20 (10.2%)	1 (0.5%)	
	2		11 (5.6%)	6 (3.1%)	
	3		20 (10.2%)	10 (5.1%)	
	4		30 (15.3%)	4 (2.0%)	
Previous Detoxification Treatments	5		50 (25.5%)	6 (3.1%)	0.019
	6		28 (14.3%)	10 (5.1%)	
	Never		26 (13.3%)	10 (5.1%)	
	Once		61 (31.1%)	8 (4.1%)	
	Twice		36 (18.4%)	10 (5.1%)	
	Thrice		14 (7.1%)	4 (2.0%)	
Family History of Addiction	Four		14 (7.1%)	3 (1.5%)	0.229
	Five		0 (0.0%)	2 (1.0%)	
Any Ongoing Family Conflict	Six		8 (4.1%)	0 (0.0%)	0.003
	Yes		35 (17.9%)	4 (2.0%)	
Forensic History/ Criminal History/ Encounter With Law Enforcement Agencies	No		124 (63.2%)	33 (16.8%)	0.001
	Yes		57 (29.1%)	23 (11.7%)	

Table-II. Relationship of severe opioid dependence with psychosocial factors of users.

	Severe Opioid Dependence	N	Mean	Std. Deviation	P-Value (T-test)
Age	Yes	159	30.86	9.819	0.007
	No	37	35.89	11.401	
SDS Score	Yes	159	10.53	2.346	0.017
	No	37	9.19	3.099	

Table-III. Comparison of severe opioid dependence with age and Severity of Dependence Scale (SDS) Scores.

This study found supporting evidence for a critical relation of severe opioid dependence with certain psychosocial factors like age, literacy status, literacy level, marital status, employment status, monthly income, route of opioid use, duration of opioid use, frequency of daily opioid use, previous detoxification treatment for opioid use and encounters with law enforcement agencies.

The present study shows that majority of participants who had severe opioid dependence were of middle age. This finding is comparable with a study by Ahmad et al who found that most of the opioid users were young. Similar age pattern has been reported in other regions as well suggesting that adolescents and adults are at high risk for opioid use disorder.¹³ However our result regarding severe opioid dependence at middle age is supported by another study by Jabeen et al which stated that individuals starting drug use in young age are at increased risk of drug dependence later in life.¹⁴

Another study found that certain psychosocial factors like peer pressure, illiteracy/low education, employment status/occupation and related stresses influence substance abuse.¹⁵ This is comparable to our study which documents severe opioid dependence was high and related with the middle income class and matric passed literate users. This finding suggests a significant role of income and education in precipitating severe opioid dependence. Nonetheless, these findings are in line with another study conducted in America which indicated similar income gradients and higher opioid dependence below \$20,000 annual household income which is consistent with American national data linking lower levels of income to opioid misuse.¹⁶ Our finding is also supported by an ecological study conducted in Southern California county from

2010 to 2014 which found higher education and income as protective factors against opioid related disorders.¹⁷

Our result shows that history of illicit substance use in family was not related with severity of opioid dependence. This finding contrasts with a previous study which showed that adolescents who indulge in opioid use have a strong family history of drug addiction.¹⁸ Nonetheless his result suggests that genetic vulnerability or shared family environment or both may act differently regarding predisposition to opioid use disorder and opioid dependence.¹⁹ Another finding in the present study is that the majority of participants who were using opioids for more than a year had severe opioid dependence. This finding is in line with previous finding which concluded that extended period of opioid use places user at risk of dependency and addiction.²⁰ Moreover this study found that severe opioid dependent participants have had undergone previous detoxification treatment for opioid use however they relapsed. This finding is consistent with a study which reported high relapse rate of 32 to 70% even after opioid detoxification.²¹ The present study identified that participants with severe opioid dependence had significant encounters with law enforcement agencies which is comparable with a sociological research which highlights that neighborhoods with high crime and deviance rates are associated with higher rates of opioid misuse in socially disorganized areas.²²

CONCLUSION

Mental health facilities in Pakistan generally provide pharmacological interventions as a sole treatment option for opioid addiction. opioid-addicted users exhibit severe dependence, which is related to different psychosocial factors, therefore along with pharmacological interventions, the clinicians






and mental health professionals should also provide appropriately targeted and well designed psychosocial interventions to best suit patients' needs.

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2	Muhammad Asif	Study design, questionnaire design, data analysis.	
3	Sohaib Hassan	Study design, literature search, questionnaire design.	
4	Muqaddas Abaid	Literature search, data collection, drafting.	
5	Muhammad Ashrib	Literature search, data collection, drafting.	
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