ORIGINAL ARTICLE

Patterns of Self Harm Behavior in Opioid Dependence Patients-
A Cross-sectional Study

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ABSTRACT

Background: Substance use disorder is one of the most common risk factors associated with a suicide attempt and self-injurious behavior. Opioid use disorders are associated with impairment of judgment, reducing inhibition leading to self-harm behaviors. A proper study is required for patterns of self-harm behaviors in these patients.

Aim: To determine the patterns of self harm behavior in opioid dependence patients.

Materials and Methods: The present study is a hospital-based cross-sectional observational study conducted among 101 patients included as per inclusion and exclusion criteria and undergone psychiatric assessment as per diagnostic criteria.

Results: i. The study found deliberate self-harm behavior in almost half of the patients(51%) with opioid dependence. Cutting the wrist(79%) was found to be the most common pattern followed by burning oneself(8%), hitting self against the wall(8%).

ii. Younger age, being unmarried, unemployed, a shorter duration of substance use, greater severity of substance use disorder, history of injecting drug use, and comorbid substance use disorder found to be predictors of self harm behavior in these patients.

Conclusion: The study found a high prevalence of self harm behavior in opioid-dependent patients with cutting the wrist as the commonest pattern. An interplay of the psychosocial, pattern of drug use and psychiatric comorbidities determine the occurrence of this behavior.

Keywords: Patterns of self harm behavior, Opioid-Dependence patients, Psychiatric comorbidities.

INTRODUCTION

Self-harm is a broad term that includes intentional self-injury that directly results in tissue damage (such as cutting, scratching, burning), or risky behaviors which can endanger life[1-4]. Substance use disorders are associated with an increased risk factor for suicide and self-harm in patients visiting the psychiatric care and emergency department of hospitals[5]. Patients with substance use especially opioid use disorder can attempt self-harm for an expression of frustration and manipulation[6]. Substance use disorders patients have a high prevalence of nonsuicidal self-harm behavior of up to 50% as compared to suicidal behavior[7].

Suicide is a serious concern on both a national and global scale. World Health Organization estimates 8 lakh suicide deaths every year, almost one death for every 40 deaths[8]. Substance use disorder is one of the most common risk factors associated with a suicide attempt[9]. Opioid intoxication and other substance intoxications are associated with impairment of judgment, reducing inhibition leading to self-harm behaviors. Alcohol use disorders are mostly investigated with lack of evidence for other substances on self-harm behaviors[10-12].

Self -injurious behaviors have been seen among drug users (estimates range from 10% to 46%) but few studies about opioid users. Darke & Ross et al found that opioid dependence patients are more prone to suicidal attempts[13]. A number of other risk factors for self-mutilation have been identified, including demographic characteristics, psychological disorders, and childhood trauma[14]. A majority of studies concluded that it begins during the middle to late adolescence[15], being single individual as a risk factor. Borderline personality disorder (BPD), depression, anxiety disorders and posttraumatic stress disorder (PTSD) all tend to increase the self-mutilation behavior in patients with opioid dependence[16-17].

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Aim

1. To determine the patterns of self harm behavior in opioid dependence patients.

    Objectives

1. To estimate the proportion of various patterns of self harm behavior in opioid dependence patients.

2. To determine the factors associated with self harm behavior in opioid dependence patients.

METHODOLOGY

Case definition: Self-harm is a broad term that includes intentional self-injury that directly results in tissue damage (such as cutting, scratching, burning), or risky behaviors which can endanger life.

Opioid dependence syndrome as per International classification criteria of Diseases 10, criteria; and severity as per diagnostic statistics manual V

Setting and participants

After taking permission from the Institutional Ethical Committee, the present cross-sectional observational study was conducted at Psychiatric Outpatient and Inpatient Department of MDM Hospital Jodhpur. The facility has outpatient and inpatient services and provides medical as well as psychosocial interventions as treatment approaches. In the present study, male patients above 18 years of age were screened for inclusion into the study. Patients were included if they had a history of any substance use disorder as per ICD 10 criteria and were willing to give informed consent. The inclusion strategy was included with simplification to get the sample of a representative population of patients visiting the outpatient clinic. The study was conducted in 1 month

Study design: A cross-sectional observational study.

Sampling strategy: Purposive sampling involving all the patients meeting inclusion criteria.

Inclusion criteria:

In the present study, male patients above 18 years of age included having a history of Opioid use disorder and fulfilling the criteria of Opioid Dependence syndrome as per International classification criteria of Diseases 10, criteria; who are willing to give informed consent.

Exclusion criteria: Male patients above 18 years of age having a history of Opioid use disorder and fulfilling the criteria of Opioid Dependence syndrome with the concomitant organic brain disease and chronic medical illness are excluded from this study.

Patients visiting the outpatient and inpatient department services who are meeting the inclusion criteria were recruited into the study after obtaining written informed consent. Demographic details (age, gender, marital status, education, occupation, monthly income, type of family, number of family members, and area of residence), clinical details (primary substance of use, duration of substance use, history of injecting drug use, history of chronic medical/psychiatric illness, and family history of substance use), and legal complications being recorded. The ICD 10 and DSM V criteria were applied to ascertain the dependence and severity of dependence respectively. Specific details about the nature of the self-harm act would be assessed using the Deliberate Self-Harm Inventory[18]. If a patient is found to have committed deliberate self-harm under any of the methods listed, that is further investigated in terms of the age at which it was committed for the first time and the last time, as well as the number of times it has been committed and whether it has led to the patient being hospitalized.

Statistical analyses performed using epi info 7 software. Descriptive analyses were performed to describe relevant variables such as means, standard deviations, frequencies, or percentages with tests of significance like t-test and Chi-square test, respectively.

Tools:

1. Deliberate Self-Harm Inventory

This is a 17-item inventory assessing the history of ever committing self-harm fewer than 16 different methods (including cutting oneself and burning oneself). Exploration about the age at which it was committed for the first time and the last time, as well as the number of times it has been committed and whether it has led to the patient being hospitalized. It also assesses self-harm independent of suicidal ideation.

2. Socio-demographic profile

Demographic details (age, gender, marital status, education, occupation, monthly income, type of family, number of family members, and area of residence), clinical details (primary substance of use, duration of substance use, history of injecting drug use, history of

chronic medical/psychiatric illness, and family history of substance use), and legal complications will be recorded.

3. ICD 10 and DSM V criteria:

A definite diagnosis of dependence should usually be made only if three or more of the diagnostic criteria mentioned in ICD 10 for opioid dependence have been experienced or exhibited concurrently at some time during the previous 12 months. DSM V criteria to assess the severity of opioid dependence syndrome shall be used.

4. NEO Personality Inventory (NEO PI-3) is a
personality inventory that examines a person's Big Five personality traits (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism).

5. Brief psychiatric Rating Scale (BPRS): It
assesses 18 behavioral items rated on a seven-point item-specific Liker scale from 0 to 6, with the total score ranging from 0 to 108 (in some scoring systems, the lowest level for each item is 1, so the range is 18 to 126). Because the ratings include observations, as well as patient reports of symptoms, the BPRS can be used to rate patients with very severe behavioral impairment.

RESULTS

Table 1. Sociodemographic profile

Variable	Mean/frequency (n =101)
Age	37.3 ± 13.1 yr
Age group Late adolescent	3(2.97%)
Early adulthood	45(44.5%)
Middle adulthood	40(39.6%)
Elderly	13(12.8%)
Education	
Graduate	4(3.96%)
Below graduate	43(40%)
Illiterate	56(55.45%)
Marital status	
Unmarried	33(32%)
Married	68(68%)
Occupation	
Unemployed	
Employed	24(24%)
	77(76%)

Socio economic status	
Lower	85(84%)
Middle	16(16%)
Duration of Opioid use	12.52 ± 7.5 years
History of injecting Opioid use	47(46.5%)
High − Risk behavior	28(27.71%)
Legal complications	NA
Comorbid substance use Disorder	48(47.76%)

Mean of age:

Male patients with 37.3± 13.17 years (18 to 76 years of age)

Mainly younger group predominated in this study with early adulthood and middle adulthood(84%). Lower socioeconomic status in 84% and married status in 67% is observed in the patients enrolled for the study.

2. Self-harm behavior

About 51.49% of male patients with opioid dependence patients reported self-harm behavior.

Table 2. Self Harm behavior and socio-demographic variables

	Self − harm behavior Present	Self − harm behavior Absent	P − value/ statistics
Age	36.9 ± 12.2 yrs	38.7 ± 14.5	0.34
Age group			
Late adolescent	1	2	
Early adulthood	25	20	0.6396
Middle adulthood	21	19	
Elderly	5	8	
Socio − economic status lower	44	41	0.34
Middle	8	8	
Education			0.05
Graduate	2	2	
Below graduate	23	20	
Illiterate	29	27	
Marital status			0.212
Unmarried	20	13	
Married	32	36	
Occupation			
Unemployed	13	11	
Employed	39	48	0.031

Table 3. Patterns of Self Harm behavior(n=52)

1. Cutting wrist	41(79%)
2. Burning oneself	4(8%)
3. Hitting against wall	3(6%)
4. Others	4(8%)
Severity of attempts	33(63.06%)
Frequency of attempts	Mean =6.2± 2.6

3. Psychiatric comorbidities with self-harm behavior

About 50% of patients with self-harm behavior were found to have psychiatric comorbidities. Major Depressive Disorder (29%), Mixed Anxiety Depressive Disorder (13%), Bipolar Affective Disorder (8%) being the comorbidities reported.

4. PERSONALITY TRAITS

A. NEUROTICISM

Self Harm Behavior is associated with a higher neuroticism score (mean 32.40) as compared to its absence in Opioid Dependence patients. Statistically significant (p-value <0.05)

B. conscientiousness

Self harm behavior is associated with a higher conscientiousness score (mean 19.11) as compared to its absence in opioid dependence patients. Statistically insignificant.

C. Agreeableness

Self harm behavior is associated with a higher agreeableness score (mean 22.340) as compared to its absence in opioid dependence patients. Statistically significant(p -value <0.05)

D. EXTRAVERSION

Self harm behavior is associated with a higher extraversion score (mean 29.780) as compared to its absence in opioid dependence patients. Statistically significant(p -value <0.05)

E. OPENESS

Self harm behavior is associated with a higher openness score (mean 21.780) as compared to its absence

in opioid dependence patients. Statistically insignificant (p-value >0.05)

5. Age of onset of Opioid Use and Self Harm behavior

Self harm behavior is associated with early onset of substance abuse (mean age 17.6 years) as compared to without self-harm behavior (mean age 23.5 years). Statistically significant (p-value <0.05)

6. Amount consumed in gm per day

Assaultive behavior is associated with a high amount of opioid consumption (mean 6.5 gm/day)

7. Duration

Self harm behavior is associated with less duration in years (mean 11.7 yr) as compared to without it. Statistically insignificant (p-value >0.05)

8. Severity of Opioid Dependence Syndrome

Moderate severity in 85% of patients is present in self harm behavior category as compared to mild severity (57%) being predominated in another category.

Table 4. Clinical variables association with self harm behavior

	Self Harm behavior Present	Self Harm behavior Absent	P-value statistics
Age of onset	17.6±4.3 yrs	23.5±7.8 yrs	0.0001
Psychiatric comorbidities			0.0001
Present	26	21	
Absent	26	28	
Duration of Opioid use	11.7 years	13.3 years	0.0167
Injectable opioid use			0.0000031
Present	36	11	
Absent	11	38	
High-Risk behavior			0.003
present	21	7	
Absent	31	42	
Amount consumed in grams per day	6.8±2.11 gm	5.12±3.4	0.01
The Severity of Opioid Dependence syndrome			0.0001
Mild	8	28	
Moderate	44	21	
Personality traits			
Neuroticism Score	32.4±4.10	26.57±6.34	0.0026
Extraversion	29.78±4.7	26.9±6.22	0.016
Openness	21.6±6.10	20.4±6.3	0.255
Agreeableness	22.3±5.7	20.06±4.7	0.027
Conscientiousness	19.1±4.1	18.7±5.5	0.55
Comorbid Substance Use Disorder	11	9	
Alcohol Dependence syndrome	19	9	0.045
Poly Drugs Dependence			

DISCUSSION

The present study was conducted to determine the patterns and predictors of a history of self-harm in patients with Opioid dependence attending the outpatient clinic in a tertiary psychiatric and drug de-addiction treatment center. It found deliberate self-harm behavior in almost half of the patients (51%) with opioid dependence. Several significant socio-demographic and clinical associations were evaluated under this study. As per the review of literature, younger age, unmarried, unemployed, shorter duration drug use (less than 10 years), injecting the drug, high-risk sexual behavior, legal complications are associated with self-harm behaviors in substance use disorder and opioid dependence patients[18,19]. This study also found younger age, being unmarried, unemployed, a shorter duration of substance use, greater severity of substance use disorder, history of injecting drug use, and comorbid substance use disorder to be predictors of self harm behavior in these patients. As per Indian studies, the prevalence figures for actual self-harm is high in substance use disorder patients due to suicidal ideation (32.7%) with a major part of opioid dependence (70%) patients. High rates of self-harm behavior have been observed in the Indian population[19-21].

The mean age of the patients was found to be in the thirties. A major portion of patients was being married (76%) and employed (68%), these demographic features are correlated to other studies from India[24,25]. Comorbid substance use disorder found in almost half of the patients (47.76%) with poly drugs dependence prominent followed by Alcohol dependence syndrome.

A major pattern of self-harm behavior was found to be cutting the wrist (79%) in the form of wrist slashing over the forearm region by a sharp object. Burning oneself, hitting against the wall were other patterns observed under this study. Major neurological and neuropsychiatric complications can develop due to deliberate self-harm behaviors even though these acts are done with no suicidal intention. The most common mean of self-harm is found to be cutting oneself followed by hitting of one's head against the head (16%), burning oneself by cigarette (9.7%), biting and boxing oneself (6%), and other attempts.

In this study, patients with self-harm behavior were younger and had a shorter duration of opioid use. This finding was also demonstrated in earlier studies[24,25]

due to various factors. Young population predominant in suicidal attempts in India, patients with self-harm reported earlier for management can explain the above finding.

A major group of patients with self-harm behavior were found to be unmarried as compared to those without these behaviors. Unemployment was also found to be a vulnerable factor for these behavioral patterns in opioid dependence patients. Through various studies, poor psychosocial support and unemployment have been considered risk factors for self-harm in substance use disorders.

Among clinical variables, Indian studies have highlighted injecting drug use as a significant risk factor for suicidal attempts[26,27]. In this study also injecting opioids associated with a high proportion of self-harm behavior. Injecting drug use is also associated with the severity of opioid dependence syndrome.

Patients with substance use disorders suffer from personality disorders and axis I psychiatric disorders. They have greater life stress, no psychosocial support leading to increased suicidal ideation. This finding is similar to an Indian study which found a high degree of correlation between self-harm and suicide with increased or risky drug abuse, unemployment, unmarried with poor psychosocial support[26]. In this study also psychiatric comorbid disorders were found to be a risk factor of self-harm as almost 50% of patients had psychiatric disorders apart from opioid dependence. Major depressive disorder and mixed snxiety fisorders predominated in these disorders. Self harm attempts might be an effort to counter the emotional distress occurring in these major psychiatric conditions.

In personality traits, neuroticism, extra version, and agreeableness scores were found to be higher in self-harm patients as compared to their counterparts in statistical significant level (p-value<0.5). It highlights that personality traits can also determine the risk of self-harm behavior in patients with opioid dependence patients.

The major implication from this study is to identify vulnerable groups among patients with opioid dependence (i.e., young unmarried unemployed men) for greater attention to prevent self-harm through timely interventions. Awareness of self-harm behavior should be established in clinicians. The Policy framework should be

designed to maximize support and interventions in managing self-harm behavior through these findings in opioid dependence patients.

The strengths of this study include adequate sample size, assessment of the clinical with personality traits, and socio-demographic variables. However, as the there is a cross-sectional design of the study causality association could not be formed which is a limitation of the study.

CONCLUSION

The prevalence of self-harm attempts with different patterns is higher among opioid dependence and other substance use disorders patients is much higher as compared to the general population. It is mentioned in various kinds of literature. However, longitudinal studies are required to frame causality association. A better understanding of clinical and non- clinical risk factors will help us to manage and prevent self-harm attempts in the vulnerable group of opioid dependence and other substance-dependent patients.

LIMITATION

Cross-sectional nature of the study with less number of patients recruited to conduct the study. A further followup study is required in the future for detailed elaboration.

Future directions:

A properly targeted approach is needed for these vulnerable populations and identification of further risk factors is essential for the targeted approach.

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