

Comorbid Physical and Mental Health Illness of Prescription Opioid Abusers Attending De-addiction Centers of Sikkim: A Northeastern State of India

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Abstract

Objective: To recognize comorbid medical and psychiatric illness of treatment-seeking prescription opioid abusers in Sikkim. **Setting and Design:** A cross-sectional descriptive study was conducted among 223 individuals who were seeking the treatment for prescription opioid and other substance abuse-related problems at different de-addiction centers of Sikkim. **Subjects and Methods:** Participants were interviewed by a single interviewer by administering pretested questionnaires. Those who gave informed consent were included in this study. **Statistical Analysis Used:** Database development and analysis were carried out using SPSS software version 20. **Results:** The mean age of prescription opioid abusers was 27 years. Prescription opioid abuse was found prevalent among unmarried, school dropout (40%) and those living in a nuclear family. A majority reported having serious employment problems in lifetimes. Dextropropoxyphene was reported as most used prescription opioid. About 52% reported getting hospitalized several times for chronic medical problems in lifetimes. Incidences of psychological distress, such as anxiety/tension (96.9% vs. 68.3%), were reported more than psychiatric problems such as severe depression in lifetimes. **Conclusion:** Increased incidences of prescription opioid abuse and need of treatment for substance abuse disorder and associated comorbid chronic health issues and psychiatric as well as the psychological illness was observed in Sikkim.

Keywords: Abuse, comorbidity, prescription opioid, Sikkim

INTRODUCTION

Nonmedical use of various psychoactive substances is now emerging as the biggest problem globally. Both licit and illicit types of substance use are becoming major hazards to the population. India, especially the Northeastern states of it, is no exception to this changing threat. Long-term uncontrolled substance use can develop misuse, abuse, and addiction. They negatively affect physical, social, legal, and educational life of users. The faulty pattern of substance use creates various adverse consequences such as various disruptive behavior disorder (such as misconduct or antisocial personality disorder), physical and mental health problems to the users. Thereby generates chronic medical problems, frequent hospitalization, and intense sufferings to them as well as the need for treatment demands. It also adversely affects the economy of individual using the substance nonmedically as most of the money are

diverted to procure these illicit substances, thereby engendering the occurrences of violence as well as crime.

Prescription opioids are drugs which are used to cure severe intensity pain such as pain in terminally ill patients, to relieve musculoskeletal pain,^[1] etc. Studies evidenced that^[2] individuals with psychological distress are more likely to get involved in nonmedical substance use than individuals who do not have poor psychological health. On the other hand, individuals with substances abuse problem also develop or suffer from various psychological distress than those who

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do not use substances nonmedically, as reported in studies too.^[3,4] Many studies have examined comorbid illness and problematic substance use globally.^[3,5] The assessment of comorbid illness is of great concern because problematic users with concurrent or co-occurring psychiatric problems such as depression, anxiety often experience greater challenges in the recovery process as they increase the risk of relapse, and render poorer outcomes than those with only substance use disorder, thereby decreasing quality of life and increasing risk of social isolation.^[6]

The geographical positioning of Sikkim, i.e., its international borders with Tibet (China), Bhutan, and Nepal, makes easy transit of drugs illegally across the state. Sikkim observes alcohol and other substance abuse-related problems, mainly of prescription opioids unlike other Northeast states of India.^[7,8] High incidences of injection drug use and associated risk of HIV and AIDS are well documented in Northeastern states of India mainly Manipur and Nagaland.^[9] Although prescription opioid abuse is in alarming stage in all the Northeastern states of India, including Sikkim, until date there is a paucity of information regarding comorbid physical and psychological illness among prescription opioid abusers from Sikkim.

SUBJECTS AND METHODS

A descriptive cross-sectional study was conducted from all the government licensed de-addiction centers across Sikkim for 4 years since 2010 until 2013. Study protocol was approved by the Institutional Ethics Committee. Our study recruited 223 participants who were admitted for the treatment of clinically diagnosed prescription opioid abuse as the main problem, after obtaining consent from them. There was no monetary or any other kind of compensation given to the participants in lieu of participation to this study. Regular visit to the treatment centers was scheduled as per the convenience of rehabilitation centers, to build a rapport and confidence among participants, and to get more reliable information. Participants were interviewed by a single interviewer by administering pretested questionnaires. Sociodemographic information was recorded by administering “generic instrument-population survey of alcohol and other drug use” questionnaire. Major sociodemographic characteristics recorded were age, gender, marital status, educational qualification, occupation, average monthly income, first age of initiation of prescription opioid as well as other nonmedical drug use, first age of alcohol use, and average monthly expenditure on drugs and alcohols. Participant’s prescription opioid use characteristics were recorded by administering “addiction severity index lite” questionnaire,^[10] which gathers information on medical, employment/support, drug and alcohol use, legal, family, social relationship, and psychiatric problems. This instrument elaborately recorded participants’ history of hospital admission due to illness, employment problems, and sufferings as such, last month as well as lifetime drug use, different routes of drug use, times treated due to prescription opioid abuse problems, times faced legal snags due to prescription opioid abuse

problems, history of family or social problems and extent of sufferings by that, and incidences of psychiatric and emotional problems that were not as a direct result of prescription opioid abuse. “Abbreviated brief pain inventory and brief pain inventory (short form) (BPI) questionnaire” collected information on their pain status at the current period and how much relief has pain treatments or medication provided. BPI assessed average, worst, and least pain intensity at the time of interview as well as over the last 24 h using 0 (“no pain”) to 10 (“pain as bad as you can imagine”) numeric rating scale. Questionnaire on the quality of life (i.e., short form 36) collected information on their current health condition on both physical and psychological domains. Descriptive analysis (percentages, mean, and standard deviation [SD]) was carried out using SPSS software (Statistical Product and Social Sciences) Version 20, IBM SPSS Software Platform, New York, United States.^[11] Differences between the proportions were tested with the Chi-square test, and *P* values reported to compare variables. Psychiatric comorbidity among pain severity groups was analyzed using Fisher’s exact test.

RESULTS

Sociodemographic findings

A total of 223 male participants [Table 1] provided informed consent. None of the female nonmedical substance users agreed to participate in this study. Participants had a mean age of 27 years (SD 6.12) ranging between 17 and 51 years. Majority (61%, 136 of 223) belonged to Nepalese ethnicity (43%, 97 of 223) and of Buddhist religion. Out of 223 prescription opioid abusers, 39.7% (*n* = 89) dropped out from school even before completing 12th standard, only 69 respondents (30.9%) had completed 12th standard of education, 12.5% (28 of 223) were students, and 45% (*n* = 101) had major employment problems in the past 3 years. Rest was engaged in self-business (12.05%) and had salaried income (32%). Average monthly income reported was Rs. 9107. Most of them (65%, 145 of 223) were living in nuclear family in the past 3 years whereas 14% (32 of 223) reported to live either alone or with friends in the past 3 years. The majority (63%, 141 of 223) had never married. Sixty-five percent (145 of 223) of participants reported prescription opioid as the substance of major problem for which they needed treatment by admission. Out of 223, 124 participants reported the lower age of the first use of prescription opioid (11–20 years).

Trends in prescription opioid use

In this study, 92% of prescription opioid abusers used a combination of alcohol, other opiates, cannabis, and tranquilizers. Participant’s mean age of initiation of prescription opioid use was 20 years. Dextropropoxyphene (84%, *n* = 188) followed by codeine (15.6%, *n* = 35) were the most commonly abused prescription opioids used during past month [Figure 1]. A majority (79%) was abusing prescription opioids for a period of > 20 days in the past month, and 74% had used prescription opioids for 0–9 years in lifetime. Oral route (76%) was the

most preferred route of prescription opioid use, while 23.2% also injected it.

Comorbid illness characteristics

Medical problem experienced

The present study reported that [Table 2] among all the 223 prescription opioid abusers, 28 respondents (12.5%) had chronic medical problems in lifetimes and 16 participants (7.1%) were hospitalized four or more times in their lifetime. These excluded admission to detox, alcohol/drug, and psychiatric treatment. A chronic medical condition was considered as a serious physical or medical condition that requires regular care. Medical problems ever trouble to 34% respondents from slight to moderate intensity. Need of treatment for self's medical problem was reported by almost 33% of respondents. For 19.2% ($n = 43$) of respondents, the need for treatment was moderately important for their medical problems.

Age groups of 20–25 and 30–39 were found most vulnerable to experience health-related problems. Chronic medical illness (28 of 223) was observed more among 20–25 years of age groups ($P = 0.008$). They also experienced a higher frequency of moderate-to-severe extent of sufferings by medical problems ($P < 0.05$) and counted for more number of hospitalizations in lifetimes ($P < 0.002$).

Psychiatric problem experienced

Prescription opioid abusers of this study experienced [Figure 2] serious depression either due to sadness or hopelessness leading to loss of interest and difficulty in performing daily functions for both last month and life time (55%, $n = 124$) and lifetimes (68.3%, $n = 153$). Besides these psychiatric problems, serious anxiety, and tension were experienced by 76.8% ($n = 172$) and 96.9% ($n = 217$) of respondents in last month and lifetime, respectively.

Differences in self-reported psychiatric conditions among pain severity groups

Higher percentages of participants [Table 3] in the severe pain groups reported both depression and anxiety compared to mild and moderate pain severity groups. However, the difference was not found statistically significant.

DISCUSSION

Findings of this study indicate that the participants seeking treatment for their problematic substance use had the onset

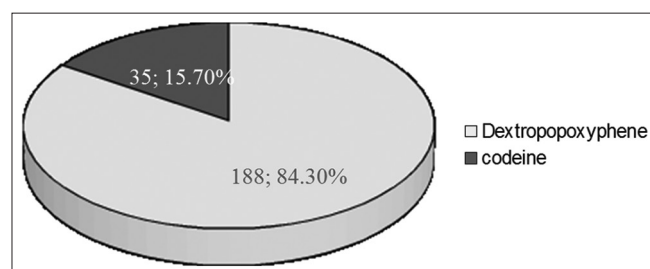


Figure 1: Most used prescription opioid, past 30 days

of prescription opioid use in the age range of 15–20 years, which confirms the initiation of prescription opioid use nonmedically at adolescent age (12 years and older). These findings correlate with Basu *et al.*^[12] study which

Table 1: Sociodemographic profile

Variable	n (%)
Gender	
Male	223 (100)
Religion	
Hinduism	96 (42.9)
Buddhism	97 (43.3)
Christianity	30 (13.8)
Ethnicity	
Lepcha	14 (6.3)
Bhutia	43 (19.2)
Nepali	136 (61.2)
Others	30 (13.4)
Marital status	
Single	141 (63)
Married	62 (27.7)
Separated and divorced	20 (8.9)
Level of education	
Illiterate	11 (4.9)
School dropout	89 (39.7)
Class 12 pass	69 (30.8)
Student	28 (12.5)
Occupation	
Business	54 (24)
Salaried	82 (36.5)
Unemployed	59 (26.3)
Average monthly income	
Mean (SD)	9107 (7886)

SD=Standard deviation

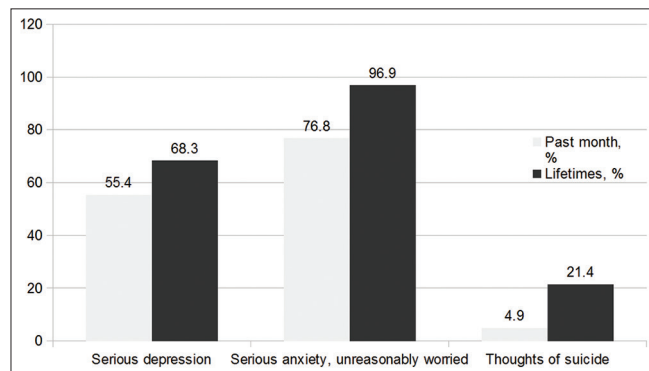
Table 2: Medical conditions and problems reported by prescription opioid abusers

Variables	n (%)
Controlled environments, 30 days	
For alcohol/drug treatment	223 (100)
Times hospitalized for medical problems, lifetime	
1-3 times	101 (45.1)
4 or more times	16 (7.1)
Chronic medical problem any	
Yes	28 (12.5)
Medical problem ever troubles or bothers, 30 days	
Slightly	27 (12.1)
Moderately	49 (21.9)
Considerably	13 (5.8)
Extremely	5 (2.2)
Importance of treatment needed	
Slightly	19 (8.5)
Moderately	43 (19.2)
Considerably	7 (3.1)
Extremely	7 (3.1)

Table 3: Psychiatric problem reported among pain severity groups

Psychiatric problems, past month	Mild (<i>n</i> =27), <i>n</i> (%)	Moderate (<i>n</i> =52), <i>n</i> (%)	Severe (<i>n</i> =10), <i>n</i> (%)	<i>P</i> *
Depression	16 (59.2)	34 (65.4)	8 (80)	1.000
Anxiety	20 (74)	44 (84.6)	9 (90)	

*Fisher's exact test

**Figure 2:** Psychiatric conditions and problems reported by prescription opioid abusers

documents lower age of participants reporting for substance abuse treatment. Nonmedical use of various psychoactive substances, including the use of prescription opioids and related disorders, was relatively prevalent among adults, men those who were unmarried, and among school dropouts. Both students and school drop outs formed half of the study populations seeking prescription opioid abuse treatments from de-addiction centers of Sikkim. In this study, 55.6% reported the first use of prescription opioids at lower age period (11–20 years of age group). 65 of 89 (73%) drop outs (aged between 11 and 20 years) reported that they found prescription opioid as the substance of major problem and associated sufferings in comparison to their counterparts (80 of 134). This was found statistically significant with a $P=0.045$. It can be assumed that the high incidence of school dropout is a consequence of problematic substance use. This may be because of the fact that substance/drug intervene with the normal traffic patterns that neurotransmitters use. This high drop out of school before graduating was observed more by current users of illicit as well as nonmedical prescription opioid users than their counterparts (89 of 223, 40%) which correlates with the report by the substance abuse and mental health services administration.^[13] Participants of our study had poor literacy rate (class 12 pass, 31%) and moderate unemployment status (26%). Socioeconomic findings of Sikkim's prescription opioid abusing populations in our study mimic with findings of a study from another Northeastern states of India, Nagaland by Kumar *et al.*^[14] (unmarried-92.1%; school dropout-72.8%; and mean age at first use of opiate-17.6 years).

Most commonly abused prescription opioids reported were dextropropoxyphene and codeine. Respondents reported regular use of prescription opioids both in lifetime and past month than illicit opiates use only. Concomitant alcohol and other substance

use, such as cannabis, heroin, and nitrazepam, were recorded. This shows the preponderance of polysubstance abuse practice by prescription opioid abusers of Sikkim. Our findings did not reflect monopoly of illicit substance abuse/addiction unlike other Northeastern states of India.^[15]

According to the findings of this study, prescription opioid abuse can be linked with numerous morbidity indicator, for example, health problems and consequences – both physical and psychological health problems for which treatment demand generates. Chronic medical problems (12.5%), frequent hospitalization (52%), and moderate-to-extreme intensity sufferings due to these problems were reported. Cooccurrence of mental health problems such as serious depression (lifetime, 68%), anxiety (lifetime, 96%), and thoughts of suicide both in lifetimes and past month reported in this study correlates with results of OPICAN^[16] study (depression, 49.2%) which compared social, health, and drug use characteristics of untreated nonmedical prescription opioid using populations in five cities of Canada and Sproule *et al.*^[17] study (depressive symptoms, 53%; anxiety, 25%) where a high mental health/psychiatric problem levels of Toronto's nonmedical prescription opioid users than the general population average was recorded. Reports of serious anxiety in lifetimes at Sproule *et al.*^[17] study (25% vs. 96%) were found far below than this study report. Respondents with prescription opioid abuse disorder having comorbid poor health status due to chronic medical illness and psychiatric and emotional problems, such as serious depression, anxiety, and thoughts of suicide, attempts of suicide) were more likely to report lower income ($P=0.001$) and more unemployment problems ($P=0.02$).

CONCLUSION

The current study on patients with prescription opioid abuse as the major problem, and medical and psychiatric disorders/distress have focused on the prevalence of various health issues and psychiatric disorders among them. Dextropropoxyphene in the marketed name of spasmo proxyvon was found most used prescription opioids. Prescription opioid abuse has been shown to have a particularly high rate of psychiatric comorbidity such as depression, mood disorders, anxiety, and suicidal thoughts. Frequent hospitalization (1–3 times in lifetimes) for medical problems, moderate-intensity medical problems urge substance abuse treatment demand. Among adolescents with nonmedical prescription opioid abusers, the co-occurrence of health and psychiatric problems was high. Our results show that the lifetime prescription opioid abuse carries substantial risk of comorbidities, both with respect to alcohol and other substance

use disorders and also psychiatric or psychosocial illnesses. Prescription opioid abusers with comorbid medical and psychiatric illness were more likely to report lower income and more unemployment problems.

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Conflicts of interest

There are no conflicts of interest.

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