

Perceived Stigma among Injecting Drug Users: New Evidence from an Observational Study in an Opioid Substitution Therapy Centre of Kolkata, India

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ABSTRACT

Introduction: Injecting Drug Users (IDUs) are one of the high-risk groups for Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS). Opioid Substitution Therapy (OST) is a targeted intervention for IDUs. Substance abuse, coupled with the risk of contracting HIV, makes them feel stigmatised. There can be little doubt that IDUs face discrimination and stigma in various forms, which could be a potential barrier for them to seek professional help.

Aim: To estimate the magnitude of stigma perceived by IDUs and to identify the associated factors.

Materials and Methods: An observational, cross-sectional study was conducted on IDUs attending the OST centre of Calcutta National Medical College, Kolkata, West Bengal, India from April 2016 to March 2018. A total of 168 IDUs were recruited using the census method. The Perceived Stigma of Substance Abuse Scale (PSAS) was used to determine the perceived stigma faced by the study subjects. Factors such as living arrangements, finances for addiction, level of education, emotional attachment, and religiosity were chosen as the predictor variables. Statistical Package for the Social Sciences (SPSS) version 16.0 was used for data analysis.

Descriptive statistics were used to summarise the data. Logistic regression was employed to examine the associated factors with perceived stigma. The Odds Ratio (OR) with a 95% Confidence Interval (CI) was computed, and a p-value <0.05 was considered significant.

Results: Out of 168, 107 (64%) IDUs reported perceived stigma above the mean value of PSAS. A significant association between perceived stigma and immoral means of finance for addiction (AOR [CI] 4.056 [1.617-10.174]), presence of emotional attachment with any of the family members (AOR [CI] 5.652 [2.588-11.9]), and lack of religiosity (AOR [CI] 5.685 [2.588-12.489]) was observed.

Conclusion: There was an alarmingly high proportion of IDUs with perceived stigma. Immoral means of finance for addiction, lack of religiosity, and emotional attachment to family were associated with higher perceived stigma. Hence, appropriate emphasis should be given to information, education, and communication activities to address perceived stigma among IDUs in order to improve treatment adherence to OST among them. Moreover, there is a need for stigma reduction interventions in the larger community. Further research should explore the dynamics between perceived stigma and other predictor variables.

Keywords: Acquired immunodeficiency syndrome, Human immunodeficiency virus, Opioid related disorders, Substance-related disorders

INTRODUCTION

Perceived stigma is the fear of discrimination that results from society's belief [1]. Among individuals with substance abuse, it creates an impact on social isolation, marginalisation, and subsequent relapse of addiction. This potentiates stigma against substance abuse in the community and hinders the control of substance-related medical and mental disorders [1,2]. IDUs have emerged as an important high-risk group for acquiring the HIV epidemic globally [3-5]. OST is an HIV prevention intervention for opioid-dependent IDUs [4-6]. IDUs face stigma and discrimination for substance abuse as well as the risk of contracting HIV/AIDS, which adversely affects their treatment-seeking behaviour [2]. Seropositive IDU males in New York City with sex-related risky behaviour have been found to face perceived stigma within the community, manifested through separation and discrimination [2]. Substance abusers face stigma in various forms, such as enacted stigma, perceived stigma, and self-stigma. Perceived stigma refers to the belief of the members of a stigmatised group about the stigmatising attitudes and actions towards them in society and the community [2]. In formal health facilities in the US, IDUs face stigmatising experiences that unfavourably affect their treatment-seeking behaviour [7]. The prevalence of substance abuse disorders, including injecting drug use, is on the rise; yet these disorders remain largely under treated [8]. Stigma can reduce the willingness of

policymakers to allocate resources. It tends to lower the motivation of healthcare workers in non specialty settings to address substance abuse problems, which may limit the eagerness of IDUs to seek treatment [8]. Although most of the negative mental health outcomes could be prevented, stigma and discrimination continue to be critical challenges in mental health systems [9].

Stigma and discrimination among IDUs have been extensively studied in developed countries [8]. However, relatively few studies are available in developing or less-resourced countries [10]. Hence, the present study aimed to explore the stigma perceived by IDUs attending an OST centre and to determine the factors associated with stigma perceived by the study participants.

MATERIALS AND METHODS

An observational, cross-sectional study was conducted among IDUs attending an OST centre in the Psychiatry Campus of Calcutta National Medical College, Kolkata, West Bengal, India from April 2016 to March 2018. Ethical approval was obtained from the Ethics Committee (CNMC/8 dated 11.05.16) of the Calcutta National Medical College and Hospital, Kolkata, West Bengal, India.

Inclusion criteria: IDUs attending the centre with a clear mental state at the time of the interview, aged more than 18 years, and agreed to give informed written consent were included in the study.

Exclusion criteria: IDUs in the induction phase of OST and IDUs with severe cognitive deficits were excluded from the study.

Sample size: According to available records, 198 IDUs attended the facility daily, as OST involves directly observed therapy. The census method was followed, and the study comprised a total of 167 participants based on inclusion criteria.

Procedure

The questionnaire for the study was interviewer-administered. The purpose of the study was explained to the participants, and informed consent was obtained. Face-to-face interviews were conducted by the Principal Investigator at the OST centre, ensuring confidentiality. Each interview typically lasted for 50 minutes to one hour for each IDU. Data collection was undertaken for a period of 14 months.

The first section of the questionnaire comprised socio-demographic characteristics, including age, gender, level of education, marital status, socio-economic status (Modified BG Prasad Scale, 2016 [11]). The second section contained a predesigned scale on the PSAS [12], which was used to determine the perceived stigma faced by the participants. This scale was translated into the Bengali language. Certain items required culturally relevant modifications. The translation of the scale into Bengali required three iterations of forward and back translations until the final scale was reached. The translated scale was pretested on a sample of 30 Bengali-speaking IDUs, who were asked about any word or expression that they found incomprehensible, offensive, or unacceptable. One of the items, "most people would be willing to date someone who has been treated for substance use," required modification with respect to cultural nuances. A Cronbach's alpha of 0.6 or more was considered satisfactory for internal consistency. The Cronbach's alpha of the PSAS (Bengali version) was 0.675.

The scoring of PSAS was done using an 8-item four-point Likert scale. Items were numbered 1-4, with 1=strongly disagree, 2=disagree, 3=agree, and 4=strongly agree. The higher the score, the more was perceived stigma [12,13].

The predictor variables were selected after reviewing the literature [14-17].

- Outcome variable:** Higher perceived stigma- The outcome variable (perceived stigma score) was dichotomised considering the mean of the attainable perceived stigma score, i.e., 20.
- Predictor variables:**
 - Living arrangement:** a) Home (Own home, rented house); b) Unstable housing (Workplace, pavement, abandoned building, jail, church, etc.)
 - Finance for addiction:** a) Own legal earning or other non criminal sources; b) Immoral means.
 - Level of education:** a) Level of education of middle standard and above; b) Level of education below middle standard.
 - Emotional attachment:** Presence of a significant person at home- Presence of a daughter, mother, wife, or anyone whom the client is emotionally attached to- Yes/No.
 - Religiosity:** Do you have faith in God? Are you strongly committed to Almighty/higher power? Yes/No.

STATISTICAL ANALYSIS

The SPSS version 16.0 was employed for data analysis. Descriptive statistics were used to summarise the data. Measures of central

Items	Strongly disagree	Disagree	Agree	Strongly agree	Mean±SD (Score)
1. Most people would willingly accept someone who has been treated for substance use as a close friend*	65 (38.9%)	79 (47.3%)	23 (13.8%)	0	3.25±0.683
2. Most people believe that someone who has been treated for substance use is just as trustworthy as the average citizen*	34 (20.4%)	62 (37.1%)	61 (36.5%)	10 (6%)	2.72±0.856

tendency and dispersion were used to summarise numerical data, while proportions were used to summarise categorical variables. The association between higher perceived stigma and different independent variables was examined using univariate and multivariable logistic regression. Odds Ratios (OR) with 95% Confidence Intervals (CI) were computed. Explanatory variables found to be statistically significant in univariate logistic regression were entered into multivariable logistic regression, and a p-value of <0.05 was considered statistically significant.

RESULTS

Out of 168 IDUs who fulfilled the inclusion criteria and were approached and invited to participate, 167 agreed, giving a response rate of 99.4%.

Socio-demographic characteristics: As shown in [Table/Fig-1], the mean±SD age of study participants was 36.53±9.514 years. While 164 (98.2%) of the study subjects were male, only 3 (1.8%) out of 167 IDUs were females. A total of 112 (67%) participants had a low educational level, including illiterate, below primary, and primary taken together. The majority of the participants, 112 (67%), belonged to a lower socio-economic class. Forty-five (26.9%) out of 167 IDUs were never married, and 46 (27.6%) were separated or divorced.

Characteristics	Categories	Number (%)	
Age (in years)	19-29	41 (24.6)	Mean±SD=36.53±9.514 Median=35 (IQR 30-45) Range=38 (19-57)
	30-39	62 (37.1)	
	40-49	48 (28.7)	
	50 and above	16 (9.6)	
Gender	Male	164 (98.2)	
	Female	3 (1.8)	
	Transgender	0	
Education	Illiterate	30 (18)	Mean±SD year of Schooling=5.2±4.08 Median=5 (IQR2-9)
	Below primary	43 (25.7)	
	Primary	39 (23.4)	
	Middle and above	55 (32.9)	
Main source of income during the previous 6 months	Regular job	108 (64.7)	
	Temporary work or other sources	59 (35.3)	
Marital status	Never married	45 (26.9)	
	Currently married	67 (40.1)	
	Separated/divorced	46 (27.6)	
	Widower/widow	9 (5.4)	
SE status*	Class-I	4 (2.4)	
	Class-II	10 (6)	
	Class-III	41 (24.6)	
	Class-IV	53 (31.7)	
	Class-V	59 (35.3)	

[Table/Fig-1]: Distribution of study subjects according to their socio-demographic characteristics (N=167).

*Modified BG Prasad Scale, 2016 [11]

Stigma and discrimination perceived by the study subjects:

[Table/Fig-2] shows that on the PSAS, participants revealed a total mean item score of 23.6, which was well above the neutral/mean score (i.e., 20) on the scale. The total attained score had a mean±SD of 23.6±3.52, median 24, range 12 (17-29), IQR 21-26.

3. Most people would accept someone who has been treated for substance use as a teacher of young children in a public school*	30 (18%)	100 (59.9%)	32 (19.2%)	5 (2.9)	2.93±0.699
4. Most people would hire someone who has been treated for substance use to take care of their children*	45 (26.9%)	77 (46.2%)	45 (26.9%)	0	3±0.736
5. Most people think less of a person who has been in treatment for substance use	0	32 (19.2%)	74 (44.3%)	61 (36.5%)	3.17±0.728
6. Most employers will hire someone who has been treated for substance use if he or she is qualified for the job*	53 (31.7%)	62 (37.1%)	35 (21%)	17 (10.2%)	2.9±0.965
7. Most employers will pass over the application of someone who has been treated for substance use in favour of another applicant	17 (10.2%)	45 (26.9%)	70 (41.9%)	35 (21%)	2.74±0.906
8. Most people would be willing to date someone who has been treated for substance use*	33 (19.8%)	89 (53.3%)	38 (22.7%)	7 (4.2%)	2.9±0.752
Total attainable Score MAX=32, Min score=8)	Total attained score: Mean±SD=23.6±3.52 Median=24, Range 12 (17-29) IQR=21-26				

[Table/Fig-2]: Frequency of responses to items regarding experiences with perceived stigma according to Perceived stigma of Addiction scale (PSAS).
*Reverse scoring

The study participants were grouped into two considering the mean of attainable total PSAS score of 20: a) Clients who had less perceived stigma (Total stigma score ≤20); b) Clients who had more perceived stigma (total stigma score >20). The independent variables for regression were: 1) Level of education; 2) Means of finance for addiction; 3) Religiosity; 4) Emotional attachment (presence of a significant someone at home); 5) Living arrangement.

The association between higher perceived stigma and different variables was examined through univariate logistic regression. [Table/Fig-3] showed that 107 (64%) out of 167 IDUs had higher perceived stigma. The study demonstrated that 47 (28.1%) out of 167 IDUs had “immoral means of finance for addiction,” and 70 (41.9%) had an “unstable living arrangement.” On the other hand, 86 out of 167 (51.5%) had a “lack of religiosity,” and 85 (50.9%) had “emotional attachment.” All four variables were significantly associated with higher perceived stigma and were therefore entered into multivariable logistic regression for adjustment [Table/Fig-4].

It was found that IDUs who had “immoral means of finance for addiction” had 4.056 (1.617-10.174) times higher odds of experiencing higher perceived stigma compared to those who had their own legal earnings or other non criminal sources of finance. IDUs who had ‘emotional attachment with any of the family members’ had 5.652 (2.588-11.9) times higher odds of experiencing higher perceived stigma compared to those who were not emotionally attached. IDUs whose ‘religiosity was absent’ were 5.685 (2.588-12.489) times more likely to have higher perceived stigma than those who had faith. Therefore, three out of four variables retained their significance even after adjustment. The value of Nagelkerke being 0.349 with a non significant Hosmer-Lemeshow test supported a good fit of the model.

DISCUSSION

In this facility-based exploratory study, a high level of perceived stigma among IDUs was adeptly revealed. Additionally, the study

Different independent variables		Participants (N=167)	Higher perceived stigma {107 (64%)}	OR (95%CI)	p-value
Finance for addiction	Immoral means	47 (28.1%)	38 (80.8%)	3.121 (1.386-7.027)	0.006*
	Own legal earning or other non criminal sources	120 (71.9%)	69 (57.5%)	1	
Religiosity	No	86 (51.5%)	67 (77.9%)	3.908 (1.986-7.691)	0.001*
	Yes	81 (48.5%)	40 (49.4%)	1	
Emotional attachment	Present	85 (50.9%)	68 (80%)	4.410 (2.221-8.756)	<0.001
	Absent	82 (49.1%)	39 (47%)	1	
Level of education	Higher level of education	55 (32.9%)	36 (65.5%)	1.094 (0.557-2.151)	0.794
	Illiterate, low level of education (Below middle standard)	112 (67.1%)	71 (63.4%)	1	
Living arrangement	Unstable housing	70 (41.9%)	50 (71.4%)	1.988 (1.003-3.386)	0.049*
	Home	97 (58.1%)	57 (58.8%)	1	

[Table/Fig-3]: Association between higher perceived stigma and different independent variables (N=167).
Test applied: Univariate logistic regression, *p-value <0.05 was considered significant

Variable	OR (95%CI)	AOR (95%CI)	p-value*
Finance for addiction	Immoral means 3.121 (1.386-7.027)	4.056 (1.617-10.174)	0.003*
	Non criminal sources 1	1	
Religiosity	No 3.908 (1.986-7.691)	5.685 (2.588-12.489)	<0.001*
	Yes 1	1	
Emotional attachment	Present 4.410 (2.221-8.756)	5.652 (2.588-11.9)	<0.001*
	Absent 1	1	
Living arrangement	Unstable housing 1.988 (1.003-3.386)	1.282 (0.908-2.902)	0.09
	Home 1	1	

[Table/Fig-4]: Multivariable logistic regression between higher perceived stigma and explanatory variables (N=167).
*p-value <0.05 was considered significant, Nagelkerke R square=0.349 and Hosmer Lemeshow test was non significant

diligently assessed the strength of the impact exerted by a range of socio-demographic factors on the experience of perceived stigma.

In the present study, the participants’ mean age was 36.53±9.514 years, with a significant majority (98.2%) being males. The level of education of 67% of the participants was low. As for marital status, it exhibited variation among the study participants, with almost 60% of the IDUs identified as single. More than a quarter (28.1%) of the IDUs were observed to resort to “immoral means of finance for addiction,” while 41.9% grappled with an “unstable living arrangement.” In contrast, 86 out of 167 participants (51.5%) reported a “lack of religiosity,” and nearly 51% exhibited “emotional attachment.” Although scores varied across items, this could be interpreted as the average participants believing that most people with substance abuse problems were devalued or discriminated against.

The study uncovered a significant proportion of heightened perceived stigma among IDUs. Within this context, several socio-demographic

factors emerged as contributors to this phenomenon. Specifically, the study illuminated that 64% of IDUs experienced higher perceived stigma, considering the scale mean (20). Furthermore, the total scores obtained in the study exhibited a mean \pm SD of 23.6 \pm 3.52 and a median of 24. Considering that the identification of factors influencing perceived stigma among IDUs was a less explored area, this study undertook the task of unraveling the distinctive elements that shape this experience. Notably, the findings demonstrated that “Finance for addiction (Immoral Means),” “Lack of religiosity,” and “Emotional attachment” were significantly associated with an increased perception of stigma.

Rudolph AE et al., in their qualitative study in a province of Vietnam among 25 HIV positive heterosexual male IDUs, demonstrated that the participants faced elevated “perceived stigma” [2]. Muncan B et al., in their qualitative study among 32 People Who Inject Drugs (PWID) in a city of America, revealed stigmatising experiences in formal healthcare settings [7]. Although both studies were qualitative ones, the findings were consistent with the current study, which revealed higher perceived stigma experienced by the IDUs.

Belete H et al., in their study in Ethiopia, found that 63.9% of participants reported perceived stigma above the mean value of PSAS. A statistically significant association existed between perceived stigma and lower wealth, joblessness [18]. It was consistent with present finding in which 64% of IDUs experienced higher perceived stigma and its association with immoral means of finance for addiction.

Luoma JB et al., carried out an investigation involving 197 patients receiving care at substance abuse treatment facilities to evaluate the influence of stigma on individuals with substance abuse issues [19]. Their study brought to light a higher prevalence of “perceived stigma” among intravenous drug users in comparison to non IV users. Notably, almost 60% of the participants scored beyond the midpoint of the scale [19]. This observation resonated with present study findings, as 64% scored above the midpoint of the scale.

In their research, Mattoo SK et al., investigated substance users undergoing treatment at a deaddiction centre in India. Their study revealed that individuals who were “presently employed” and had a “higher per-capita income” exhibited reduced perceived stigma towards substance users, as indicated by the PSAS [20]. Notably, this finding aligned with the results of the present study.

Bozinoff N et al., conducted a study among 407 participants with opioid use disorder in an inpatient detoxification centre. The study revealed a higher level of both self-stigma and perceived stigma [21]. The current study setting being an OST centre, the predictor variables for perceived stigma had to be different from those of a detoxification centre.

Zieger A et al., conducted a study among persons with mental illness in Chennai (n=166) and Kolkata (n=158). Link’s perceived devaluation-discrimination measure was used in the study [15]. Regression analysis revealed that lower perceived stigma was associated with stronger religious devotion (p-value=0.049) and higher educational attainment (p-value=0.001) in both cities. Their finding was consistent with present study as lower perceived stigma was associated with intact religiosity.

Finally, it may be said that IDUs perceived an elevated risk of discrimination due to substance abuse, chances of contracting HIV, and consequent stigmatisation. The study brought out the uniqueness and complexity of the factors determining perceived stigma faced by the IDUs.

To the best of the authors’ knowledge, this was the first study to report on the IDUs attending the OST centre, Calcutta National Medical College, that showed a large proportion of IDUs faced perceived stigma. It was evident from the study that immoral means of finance for addiction, lack of religiosity, and emotional attachment were significantly associated with higher perceived stigma. These

findings may be utilised in designing appropriate strategies to address stigma and discrimination among IDUs.

Limitation(s)

The study may have suffered from a lack of generalisability. The small sample size made it difficult to extrapolate the findings of the study to other IDUs, hence external validity could not be guaranteed. Although PSAS was validated by experts in the field, it was not formally scored. The information collected for this study relied largely on the participants’ self-reporting, which might have led to over-reporting about perceived stigma. Therefore, the proportion of IDUs with higher perceived stigma might be spurious and overestimated. Additionally, due to social desirability, some answers might have been biased and not accurate, particularly regarding sensitive questions.

CONCLUSION(S)

This study provided valuable insights into the experiences of perceived stigma faced by IDUs within the community. The findings highlighted factors such as resorting to immoral means for financing addiction, lower religiosity, and strong emotional connections with family members that were associated with heightened levels of perceived stigma. These results recognise the urgency of addressing perceived stigma among IDUs and implementing stigma reduction interventions that encompass the broader community, aiming to curb the social isolation and discrimination faced by IDUs. As a final note, it is imperative to acknowledge the necessity for further research investigating the intricate relationship between perceived stigma and other predictive variables.

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