



Original Article

Health-related quality of life and stigma in opioid dependence: Comparison between buprenorphine users and non-users

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ABSTRACT

Objectives: Opioid dependence leads to reduced quality of life (QOL) and stigma. There is scarcity of literature on impact of buprenorphine on QOL of patients with opioid dependence from India. This study reports QOL and stigma in patients taking buprenorphine and compare it with those who were not on any treatment.

Materials and Methods: A cross-sectional, descriptive, comparative study was conducted among three groups ($n = 100$ each). Group 3 comprised patients who were already taking buprenorphine for at least 3 months from a government outpatient opioid-assisted treatment center. Group 2 comprised patients who were not on any treatment but had come to enrol in buprenorphine treatment and Group 1 comprised patients who had come to get some other treatment and were not willing for buprenorphine. After fulfilling inclusion and exclusion criteria, sociodemographic pro forma, Hindi self-stigma scale, and World Health Organization QOL-BREF Hindi were applied. Appropriate statistical analyses were done.

Results: Patients already taking buprenorphine had significantly better QOL and it improved as the duration of treatment increased. Patients on buprenorphine treatment had significantly lesser stigma than patients not already on treatment. Stigma negatively impacted QOL in the three groups.

Conclusion: QOL and factors affecting it should be an integral part of management of opioid dependence. Efforts should be made to enrol maximum number of patients in treatment to enhance their quality of life and reduce stigma.

Keywords: Buprenorphine, Opioid dependence, Quality of life, Stigma

Key messages from the work

1. Patients with opioid dependence have low quality of life and high self-stigma
2. Patients on buprenorphine treatment have a much better quality of life than patients who are not taking any treatment
3. Patients who are enrolled in buprenorphine treatment have significantly lesser stigma as compared to patients not on treatment.

INTRODUCTION

Health-related quality of life (HRQoL) is an important parameter of a person's life and is increasingly used for assessing outcomes of treatment modalities.^[1] Individuals with substance use disorders (SUD) report poorer HRQoL than the general population and patients with medical disorders.^[2-5]

Patients with SUD also suffer from stigma and discrimination because they are considered dangerous, unpredictable, of low moral character, and responsible for their addiction which leads to reduced self-esteem, delayed treatment seeking, social isolation, and other adverse consequences.^[6,7] Stigma causes adverse emotional, social, and health consequences.^[6] Stigma reduces HRQoL among patients with SUD and psychiatric disorders.^[8-10] However, there is negligible research on how stigma impacts HRQoL among patients on buprenorphine.

Several studies from outside India have shown that treatment for SUD leads to improvement in HRQoL.^[2,5,11] We are aware of only one Indian study which found that buprenorphine improved HRQoL at 9 months follow up.^[12] The present study was planned to assess HRQoL in patients taking buprenorphine for at least 3 months and compare it with patients before starting buprenorphine. In addition, the impact of stigma on HRQoL was also studied.

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MATERIALS AND METHODS

In a cross-sectional, comparative, descriptive, and hospital-based study, 300 patients were divided into three groups. Patients in Groups 1 and 2 were taken from psychiatry outpatient department (OPD) of a medical college and hospital and patients in Group 3 were enrolled from an outpatient opioid-assisted detoxification center (OOAT) of a red cross hospital (Buprenorphine-Naloxone combination is provided free of cost to the patients by the Government of Punjab). A detailed explanation was provided to patients regarding the study and written informed consent obtained. The study was approved by the Institutional Ethics Committee.

Inclusion criteria

The following criteria were included in the study:

Patients older than 18 years with opioid dependence as per DSM-5^[13] criteria who agreed to participate in the study were recruited.

Group 1–100 patients not willing to enroll in OOAT and wanted some other treatment for opioid dependence (The patients in Group 1 were either admitted or treated on OPD basis using treatments other than buprenorphine such as tapentadol, tramadol, and clonidine along with symptomatic treatment as per relevant guidelines.)

Group 2–100 patients who had visited the department to enroll in OOAT

Group 3–100 patients who were already on OOAT for at least 3 months.

Exclusion criteria

Patients with medical, surgical, and neurological comorbidities which affect HRQoL such as human immunodeficiency virus, acquired immunodeficiency syndrome, tuberculosis, leprosy, malignancies, and mental illnesses were excluded from the study. Patients were excluded if they refused to participate. Patients with any other substance use apart from opioids except tobacco and nicotine were excluded from the study.

After identifying patients who fulfilled the criteria and gave written informed consent, following tools were applied.

Sociodemographic and clinical pro forma

Sociodemographic and clinical data such as age, marital status, gender, educational status, occupation, locality, family type, and history of substance use disorder were obtained using a pro forma made for study purpose.

World Health Organization QoL (WHOQoL)–BREF scale

26-items, Hindi version was used. Twenty-six items are divided into four domains (physical, psychological, social, and environmental health) and each item is rated on a five-point Likert scale. The scores so obtained are transformed to a 0–100 scale. Higher scores on each domain of this scale signify higher QoL. The scale has validity and reliability in the Indian population as well as elsewhere.^[14]

Stigma scale^[15]

Stigma and discrimination was studied using Hindi version of stigma scale by King *et al.*, in 2007.^[16] The scale has 28 items further divided into discrimination (13 items), disclosure (ten items), and positive aspects (five items) domains. Higher the scores, higher is the stigma. The scale was found to have good reliability in India.^[15]

Ethical considerations

All the patients provided written informed consent. The study was approved by the respective university and the Institutional Ethics Committee. Indian Council of Medical Research guidelines for biomedical research on human participants^[17] and World Medical Association Declaration of Helsinki^[18] was followed during data collection.

Statistical analysis

It was done with the Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL, version 22.0 for Windows). Variables were compared between groups using the independent *t*-test (numeric variables) and Pearson's Chi-square test (categorical data). Percentages and frequencies were calculated where appropriate. Analysis of variance (Univariate Analysis) was used wherever applicable. $P < 0.05$ and < 0.01 were considered as significant and highly significant, respectively.

RESULTS

As seen in [Table 1], majority patients in the three groups belonged to the younger age groups (19–28 years and 29–38 years). The patients in Group 2 were statistically significantly older than those in Groups 1 and 3. The three groups showed no statistically significant differences on any other sociodemographic variables.

The duration of substance use in Group 1, 2, and 3 was 67.20 ± 68.87 months, 91.80 ± 107.27 months, and 71.02 ± 67.38 months, respectively, and statistically not significantly different between groups. More than 55% patients in the three groups had taken some treatment before starting their current treatment. More than 70% patients in Groups 1 and 2 had heard of buprenorphine as a treatment modality disorders but had never used it.

Table 1: Comparison of sociodemographic data among the three groups.

Variable	Category	Group 1 (patients who refused buprenorphine) n=100	Group 2 (patients enrolling in buprenorphine therapy) n=100	Group 3 (patients already on buprenorphine therapy) n=100	P (group 1 vs. group 2)	P (group 1 vs. group 3)	P (group 2 vs. group 3)
Age	Mean±SD	32.21±9.61	36.74±12.71	31.34±8.39	0.005*	0.496	<0.001**
Age groups	19-28 (n)	42	33	45			
	29-38 (n)	37	31	40			
	39-48 (n)	11	16	10			
	49 (n)	10	20	5			
Marital Status	Single	46	46	44	0.641	0.365	0.616
	Married	54	54	56			
Occupation	Professional	0	0	0	0.776	0.585	0.912
	Semi-professional	2	10	4			
	Clerical/Shop-owner/Farmer	23	36	37			
	Skilled worker	20	13	14			
	Semi-Skilled/Unskilled	19	5	16			
	Unemployed	23	27	17			
	Retired	0	1	0			
Education	Student	13	8	12			
	Illiterate	16	17	11	0.456	0.395	0.718
	Primary	29	19	21			
	Matriculation	38	40	41			
	Higher secondary	17	24	27			
Family type	Nuclear	24	36	25	0.515	0.793	0.054
	Joint	76	64	75			
Locality	Urban	46	56	53	0.616	0.879	0.498
	Rural	54	44	47			

As clear from [Table 2], patients in Group 3 had significantly higher QoL than Groups 1 and 2 in terms of overall HRQoL (Q1) and overall health (Q2), while Groups 1 and 2 were statistically similar in these two aspects. Group 3 also had significantly higher QoL than Groups 1 and 2 on the four domains (satisfaction with physical health, psychological health, social relations, and environment). Further, Group 1 had higher score than Group 2 on domains 1, 3, and 4, whereas it was opposite on domain 2.

The duration of treatment with buprenorphine in Group 3 was correlated with HRQoL. It was observed that on domain 2 (correlation coefficient = 0.354; $P = 0.000^{**}$), domain 3 (correlation coefficient = 0.245; $P = 0.014^*$), and domain 4 (correlation coefficient = 0.313; $P = 0.002^{**}$), the treatment duration showed significant positive correlation with HRQoL. The correlation between duration of treatment and other domains of HRQoL was not significant.

As seen in [Table 3], stigma and discrimination were statistically significantly low among the patients in Group 3 than Groups 1 and 2 on all three subscales of stigma scale as well as total score. Further, Group 1 had significantly higher stigma as compared to Group 2 on discrimination, positive aspects, and total stigma scale.

[Table 4] shows the correlation of HRQoL with stigma. In all three groups, various subscales and total stigma scale score negatively correlated with multiple domains of HRQoL and many of the correlations reached statistical significance whereas some others did not.

DISCUSSION

The present study used sound methodology and standardized rating instruments to find impact of buprenorphine on HRQoL and stigma in opioid dependence. The young age of patients in the three groups confirms the often reported finding that opioid dependence starts at young age and impacts the population in the most productive years of life. Similar sociodemographic variables of the groups reflect a single catchment area. Thus, no variable acted as confounding factor.

Our study found significantly better HRQoL in patients on buprenorphine and HRQoL further improves as they continue taking buprenorphine. We are not aware of any similar studies from India but a Norwegian study found that buprenorphine or methadone acted as protective for HRQoL in SUD.^[1] It has been reported that treatment for SUD improves HRQoL.^[2,5,11] Treatment leads to abstinence from illegal substances, withdrawal cessation, better health, employment and relations with family members, more stable life, and higher contribution to society, all of which may lead to improvement in HRQoL.^[11]

Stigma was found to be much lesser among patients already on treatment. Treatment leads to better social inclusion, better self-esteem, and hope for the future, all of which may reduce the self-stigma and discrimination.

Stigma negatively impacted HRQoL in all the three groups. No previous research has studied this in patients taking buprenorphine in our knowledge. However, studies in SUD, mental illnesses, and chronic illnesses have reported similar findings.^[8-10,19] Similar findings have been reported among caregivers in SUD, mental illnesses, and other chronic medical

Table 2: Comparison of WHOQOL-BREF scores among the three groups.

WHOQoL-BREF	Group	Mean±SD	F-value/P-value	P-value (Group 1 vs. Group 2)	P-value (Group 1 vs. Group 3)	P-value (Group 2 vs. Group 3)
Ques. 1 (overall quality of life)	Group 1	1.81±0.72	391.132/0.001	0.618	<0.001**	<0.001**
	Group 2	1.86±0.70				
	Group 3	4.16±0.61				
Ques. 2 (overall health)	Group 1	1.74±0.71	375.763/<0.001	0.842	<0.001**	<0.001**
	Group 2	1.72±0.71				
	Group 3	4.06±0.66				
Physical	Group 1	19.96±5.37	5160.176/<0.001	<0.001**	<0.001**	<0.001**
	Group 2	16.44±4.20				
	Group 3	78.79±4.98				
Psychological	Group 1	21.28±5.58	2533.793/<0.001	<0.001**	<0.001**	<0.001**
	Group 2	27.35±6.08				
	Group 3	76.92±6.50				
Social	Group 1	29.84±8.79	1555.351/<0.001	<0.001**	<0.001**	<0.001**
	Group 2	25.01±6.85				
	Group 3	81.12±7.89				
Environmental	Group 1	24.94±4.13	4027.275/<0.001	<0.001**	<0.001**	<0.001**
	Group 2	18.16±4.09				
	Group 3	80.00±7.20				

$P < 0.05$: Significant (*), $P < 0.01$: Highly significant (**). WHOQoL: World Health Organization Quality of Life

Table 3: Comparison of stigma scale scores between the three groups.

Stigma scale	Group	Mean±SD	F-value/ P-value	P-value (Group 1 vs. Group 2)	P-value (Group 1 vs. Group 3)	P-value (Group 2 vs. Group 3)
Discrimination	Group 1	23.12±1.70	69.668/<0.001	<0.001**	<0.001**	<0.001**
	Group 2	21.99±1.97				
	Group 3	19.89±2.19				
Disclosure	Group 1	17.54±1.26	467.114/<0.001	0.315	<0.001**	<0.001**
	Group 2	17.31±1.91				
	Group 3	11.25±1.72				
Positive aspects	Group 1	7.10±1.23	110.999/<0.001	0.035*	<0.001**	<0.001**
	Group 2	6.71±1.37				
	Group 3	4.67±1.11				
Total score	Group 1	47.75±2.49	493.619/<0.001	<0.001**	<0.001**	<0.001**
	Group 2	46.01±3.57				
	Group 3	35.80±2.53				

P<0.05: Significant (*), P<0.01: Highly significant (**)

Table 4: Correlation between stigma scale score and WHOQoL-BREF.

WHOQoL-BREF	Stigma	Stigma score		
		Group 1	Group 2	Group 3
Q1	Discrimination	0.151 (0.135)	0.028 (0.779)	-0.391<0.001**
	Disclosure	0.003 (0.977)	0.063 (0.530)	0.277 (0.005)**
	Positive aspects	0.159 (0.114)	-0.128 (0.204)	-0.188 (0.061)
	Total	0.187 (0.062)	0.001 (0.996)	-0.232 (0.020)*
Q2	Discrimination	0.035 (0.732)	-0.255 (0.011)*	0.206 (0.040)*
	Disclosure	-0.022 (0.826)	-0.129 (0.201)	0.004 (0.965)
	Positive aspects	-0.215 (0.032)*	0.123 (0.221)	-0.096 (0.341)
	Total	-0.101 (0.319)	-0.162 (0.108)	0.133 (0.186)
Domain 1 (Physical)	Discrimination	-0.238 (0.017)*	-0.389 (<0.001)**	-0.446 (<0.001)**
	Disclosure	-0.355 (<0.001)**	-0.248 (0.013)*	-0.099 (0.328)
	Positive aspects	-0.051 (0.611)	-0.356 (<0.001)**	-0.078 (0.438)
	Total	-0.372 (<0.001)**	-0.483 (<0.001)**	-0.485 (<0.001)**
Domain 2 (Psychological)	Discrimination	-0.342 (<0.001)**	-0.322 (<0.001)**	-0.518 (<0.001)**
	Disclosure	-0.220 (0.028)*	0.068 (0.501)	0.003 (0.979)
	Positive aspects	-0.211 (0.035)*	-0.113 (0.263)	-0.186 (0.064)
	Total	-0.452 (<0.001)**	-0.184 (0.066)	-0.527 (<0.001)**
Domain 3 (Social)	Discrimination	-0.182 (0.070)	-0.486 (<0.001)**	-0.444 (<0.001)**
	Disclosure	-0.330 (0.001)**	-0.210 (0.036)*	-0.313 (0.002)**
	Positive aspects	-0.211 (0.035)*	-0.186 (0.063)	-0.310 (0.002)**
	Total	-0.396 (0.000)**	-0.451 (<0.001)**	-0.727 (<0.001)**
Domain 4 (Environmental)	Discrimination	-0.145 (0.149)	-0.581 (<0.001)**	-0.593 (<0.001)**
	Disclosure	-0.238 (0.017)*	-0.417 (<0.001)**	-0.047 (0.640)
	Positive aspects	-0.262 (0.009)**	-0.174 (0.083)	-0.126 (0.211)
	Total	-0.355 (<0.001)**	-0.610 (<0.001)**	-0.595 (<0.001)**

P<0.05: Significant (*), P<0.01: Highly significant (**), WHOQoL: World Health Organization Quality of Life

illnesses.^[20] The adverse effect of stigma on HRQoL has been found to be mediated through higher psychological distress and reduced social functioning.^[21]

The findings should be interpreted with limitations in mind like cross-sectional nature and small sample size. In addition, the findings of a hospital study are difficult to generalize to community. Many other factors that may affect HRQoL were not considered.

CONCLUSION

It can be concluded that patients taking buprenorphine have better HRQoL and lower stigma than those not taking it. Further, stigma negatively affects HRQoL among patients with SUD. Hence, stigma and HRQoL assessment should be an integral component of management of SUD. Measurement of different components of stigma and HRQoL will give insights about the areas that need to be tackled during the

management of patients. Tackling these aspects effectively will lead to better outcomes in patients with SUD.

Declaration of patient consent

The authors certify that they have obtained all appropriate consent.

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Conflicts of interest

There are no conflicts of interest.

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