

# Quality of life and health of opioid-dependent subjects in India

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## ABSTRACT

**Background and Objectives:** The quality of life (QoL) of substance abusers is known to be severely impaired. This study was carried out to assess the impact of opioid dependence on the QoL of subjects and compared it with the normal subjects. **Materials and Methods:** Based on specified inclusion criteria a total of 47 subjects were recruited from a tertiary care center from India. The WHOQoL-BREF scale domain scores obtained at baseline were compared to that of normal subjects. An assessment of dysfunction and reasons for continuing and other parameters were assessed. **Results:** WHOQoL-BREF domains (Physical, Psychological, Social relationships and Environment) showed significantly lower scores and the difference was statistically significant. **Interpretation and Conclusions:** The results showed that QoL is an important parameter in assessment of substance abusers and can be used for long-term prognosis of these individuals.

**Keywords:** India, opioid users, quality of life-controls

## Introduction

Heroin is the most widely consumed illicit opiate in the world. Heroin, cocaine and other drugs kill around 0.2 million people each year (UNODC).<sup>[1]</sup> Illicit drugs undermine economic and social development and contribute to crime, instability, insecurity and the spread of HIV.<sup>[2]</sup> Opioids (largely heroin) continue to be the dominant drug type accounting for treatment demand in Asia.<sup>[1]</sup> Opioid dependence is a cluster of physiological, behavioral, and cognitive phenomena in which the use of opioid takes on a much higher priority for a given individual than other behaviors that once had greater value. A central descriptive characteristic of the dependence syndrome is a strong desire, sometimes overpowering, to take opioid which may or may not have been medically prescribed.<sup>[3]</sup> It is recognized that the concept of quality of life (QoL) should be applied

to the studies on drug dependence in terms of social functioning, physical, and psychological well-being and environment and life satisfaction. QoL evaluation should represent an assessment of the impact of treatment on patient functioning and well-being. The QoL has also been acknowledged as an important tool in the evaluation of drug programs.<sup>[4,5]</sup>

Patient-perceived health-related quality of life (HRQoL) has become an important outcome in health care as an indicator of treatment effectiveness. Moreover, studies in opioid-dependent subjects seeking treatment show that very poor HRQoL<sup>[6-8]</sup> improves when subjects participate in substitution treatment.<sup>[8,9]</sup> The rates of dissatisfaction with life are higher among opioid-dependent persons as compared to the general population.<sup>[8]</sup> The QoL is severely impaired among substance users<sup>[10,11]</sup> and opioid-dependent subjects.<sup>[12]</sup> Studies on QoL have recently started to involve the field of drug addiction to go beyond the presence and severity of addiction symptoms and the side effects of treatments by examining how drug-addicted patients perceive and experience the repercussions on their daily life.<sup>[13]</sup> The nature of heroin dependence makes consideration of QoL, particularly overall QoL, highly relevant. First, addiction to illicit drugs is a cluster of physiological, behavioral, and cognitive phenomena,<sup>[14]</sup> which can damage individuals'

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10.4103/0976-3147.139986

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physical and mental health, role performance, and social adaptation.<sup>[15,16]</sup> In addition, various studies show that heroin use also led to poor QoL in the social domain.<sup>[17,18]</sup> Various factors, such as socio-economic status, localities, gender, educational level, HIV status, dual diagnosis, and personality disorder, were associated with poor QoL among heroin users.<sup>[8,12,17,18]</sup> QoL can be measured by a variety of generic and disease-specific instruments.<sup>[16]</sup> The World Health Organization Quality of Life scale (WHOQoL and its shorter version WHOQoL-BREF) was developed as cross-cultural tool for intervention studies in health care settings and a Hindi version is available.<sup>[19]</sup> WHOQoL-BREF is a 26-item shorter version of the WHOQoL-100 which correlates at 0.9 with the WHOQoL-100 with good discriminant validity, content validity and test-retest reliability.<sup>[20,21]</sup>

However, very few studies have evaluated the correlates of QoL in heroin users and social support. Understanding these correlates may provide a basis to develop intervention strategies to improve the QoL. Thus, the aims of this study were to compare the QoL between subjects with and without heroin use and to examine the association of QoL with socio-demographic characteristics, characteristics of heroin use and social support among heroin users.

## Materials and Methods

### Subjects

The sample comprised two groups of 47 subjects having heroin dependence (HD) and 80 subjects forming normal controls (NC), aged 18-55 years. The patient groups (HD) were recruited from the De-addiction clinic, Department of Psychiatry of Sir Sunder Lal Hospital, Banaras Hindu University, Varanasi, India. They were diagnosed according to ICD-10<sup>[22]</sup> criteria by the consultant psychiatrist. Subjects in active withdrawal state, or having co-morbid psychiatric illnesses and other substance abuse were excluded. Normal control comprised of subjects taken from staff and students of BHU and distant relatives of subjects, included persons whose current psychiatric status was 'normal' as indicated by a score of < 3 on the Hindi version of General Health Questionnaire-12.<sup>[23,24]</sup> The study was approved by the ethical committee of the university.

### Assessment

Data was collected on the basis of a single cross-sectional assessment interview of the subjects who fulfilled the required inclusion and exclusion criteria and provided written informed consent. All the subjects were administered the socio-demographic proforma, clinical profile sheet, WHOQoL-Brief Hindi version and social support questionnaire (SSQ).<sup>[25]</sup>

The QoL assessment was made with World Health Organization (WHO)-QoL BREF, Hindi version (WHOQoL-BREF).<sup>[19]</sup> The questionnaire includes two items on overall QoL and general health, while the remaining 24 items measure four domains of QoL: (i) Physical (7 items); (ii) psychological (6 items); (iii) social relationships (3 items); and (iv) environment (8 items). It enquires about QoL in the 'last 2 weeks', and is easily administered. Each item is rated on a 5-point (0-5) scale and the domain scores (within a 0-100 range) are calculated with 100 denoting the highest achievable score. The scale has been reported to be useful for clinics with high patient load as it takes only 5-8 min to complete.<sup>[22]</sup> A Likert type 5-point scale was used for each question. The fifth choice indicates the best status and the first choice indicate the worst status. A higher score indicates better QoL. The 26-item 'BREF' version and the 100-item full version (WHOQoL-100) have a correlation of > 0.89. Social Support Questionnaire (SSQ),<sup>[25,26]</sup> it is an Indian adaptation, in Hindi language, of the Pollack and Harris scale<sup>[27]</sup> to measure perceived social support. It has 18 items; a higher score indicates more perceived social support. The items in the scale refer to help, concern, support, reinforcement and criticism that a person gets from one's family, friends, social acquaintances and working colleagues. It is a robust instrument in terms of both consistency and stability of scores. It can be used in a variety of situations where the perceived social support is required as an independent, dependent or intervening variable. It has a test-retest reliability of 0.59 and correlation with clinician's assessment at 0.80 and with items of social support from Family Interactions Pattern Scale<sup>[28]</sup> at 0.65.

General Health Questionnaire (GHQ-12),<sup>[23,24]</sup> the GHQ-12 is a 12-item self-administered questionnaire used extensively in clinical practice to measure changes in non-psychotic psychiatric status over the past month. There are four possible responses to each question, which were scored 0-0-1-1. A score of ≤3 is the cut-off point for "psychiatric distress".

## Results

There were two study groups consisting of 47 heroin-dependent (HD) patients and 80 people comprising the normal control group (NC). All subjects were males. The mean ± SD age of heroin-dependent patients was 33.85 ± 9.932 years and 36.68 ± 10.725 for the NC group. A majority (61.7%) of heroin-dependent patients were below 35 years of age and 68.1% were married. Clerical/shop-owner/farmer and skilled/semi-skilled/unskilled worker comprised the main occupation group 36.2% and 29.8%, respectively. Most

were educated above matriculation, earned above Rs. 15000 per month. 95.7% belonged to Hindu religion, were from upper middle class (63.8%), joint families (59.6%) urban background (68.1%). The mean  $\pm$  SD age at onset for heroin-dependent patients was  $23.79 \pm 5.560$  years, duration of abuse  $108.77 \pm 92.357$  months, intake on a day  $0.968 \pm 0.859$  (range 0.25-5.00) grams of heroin, frequency of use  $2.64 \pm 1.092$  (range 1-5) times and money spent on drug Rs.  $442.55 \pm 310.85$  (range 100-1500) in a day. 55.3% had sought treatment in the past and 12.5% had encountered a legal problem. 38.3% of the subjects in the experimental group had a positive family history [Tables 1 and 2].

There were significant differences in the WHOQoL-BREF domain scores between the heroin-dependent group and the normal control group in all the four domain, wherein the scores were lower in the heroin-dependent subjects than normal control (i.e. the QoL of heroin-dependent groups was significantly lower than the normal controls). *T*-test carried out across the two groups yielded the following value: 'physical health' ( $t = -10.583$ ,  $df = 125$ ,  $P < 0.001$ ); 'psychological health' ( $t = -13.303$ ,  $P < 0.001$ ); 'environment' ( $P = -6.241$ ,  $P < 0.001$ ); 'social relationships' ( $t = -8.687$ ,  $P < 0.001$ ) and total score ( $t = -12.631$ ,  $P < 0.001$ ) [Table 3].

Significant negative correlation were found between the income group and 'environment domain'

**Table 1: Comparison of socio-demographic characteristics of subjects in heroin dependence and normal control groups**

Variables	Mean $\pm$ SD				Chi-square/ F value (df)	P value
	Heroin dependence		Normal control			
	N	%	N	%		
Age	33.85 $\pm$ 9.932		36.68 $\pm$ 10.725			
Gender						
Male	47	100	80	100		
Female	-	-	-	-		
Age group						
18 to 35 year	29	61.7	43	53.8	0.763 (1)	0.383
Above 35 year	18	38.3	37	46.2		
Marital status						
Single	15	31.9	21	26.2	0.468 (1)	0.494
Married	32	68.1	59	73.8		
Occupation						
Professional/semi-professional	08	17.0	19	23.8	2.479 (3)	0.479
Clerical/shop-owner/farmer	17	36.2	29	36.2		
Skilled/semi-skilled/unskilled worker	14	29.8	15	18.8		
Unemployed/retired/student	08	17.0	17	21.2		
Education						
Up to middle (8 <sup>th</sup> )	11	23.4	10	12.5	6.100 (2)	0.047
Up to 10+2	22	46.8	29	36.2		
Graduate and above	14	29.8	41	51.2		
Religion						
Hindu	45	95.7	76	95.0	0.036 (1)	0.849
Muslim	02	04.3	04	05.0		
Socio-economic status						
Upper class	01	02.1	04	05.0	1.782 (3)	0.619
Upper middle class	30	63.8	43	53.8		
Lower middle class	10	21.3	23	28.8		
Upper lower class	06	12.8	10	12.5		
Income						
Up to 15000/-	13	27.7	41	51.3	6.741	0.009
Above 15000/-	34	72.3	39	48.7		
Types of family						
Joint	28	59.6	38	47.5	1.729 (1)	0.189
Nuclear	19	40.4	42	52.5		
Locality						
Urban	32	68.1	42	52.5	2.957 (1)	0.085
Rural	15	31.9	38	47.5		

**Table 2: Clinical profile of heroin-dependent patients**

Variable	Heroin dependent	
Clinical profile sheet		
Age at onset (years)	23.79±5.560	
Duration of abuse (month)	108.77±92.357	
Amount on a typical day (gram)	0.968±0.859 (0.25-5.0)	
Frequency of use (in last 30 days) per day	2.64±1.092 (1-5)	
Money spent on drug abuse (per day)	442.55±310.851 (100-1500)	
	<b>N</b>	<b>%</b>
Any legal problem encountered	6	(12.8)
Family history	18	(38.3)
Past treatment history	26	(55.3)
Dysfunction analysis questionnaire		
Social area of dysfunction	36.11±7.536	
Vocational area of dysfunction	35.06±8.080	
Personal area of dysfunction	36.06±6.462	
Family area of dysfunction	34.74±8.216	
Cognitive area of dysfunction	29.89±6.913	
Dysfunction analysis questionnaire-total score	171.87±30.804	

**Table 3: Comparison of WHOQoL-BRIEF domain scores and social support between heroin-dependent patients and normal controls**

Domain	Heroin dependence (N=47)	Normal control (N=80)	t-value (df=125)	P value (2-tailed)
General well-being	4.83±2.003	7.48±1.201	-9.313	0.000**
Physical health	19.87±4.241	27.26±3.518	-10.583	0.000**
Psychological health	14.94±3.358	22.36±2.834	-13.303	0.000**
Social relationships	8.21±2.331	11.49±1.869	-8.687	0.000**
Environment	22.11±4.612	27.56±4.839	-6.241	0.000**
Total WHOQoL-BRIEF score	69.87±11.739	96.15±11.068	-12.631	0.000**
Social support	44.32±7.328	52.32±5.659	-6.888	0.000**

\*\*P&lt;0.01

( $t = -2.240$ ,  $df = 45$ ,  $P = 0.030$ ). A significant positive correlation was found between the type of family and 'social relationship domain' ( $t = 2.573$ ,  $df = 45$ ,  $P = 0.013$ ) and WHOQoL total scores ( $t = 2.593$ ,  $df = 45$ ,  $P = 0.013$ ). Positive correlation between the religion and WHOQoL total scores ( $t = 2.088$ ,  $df = 45$ ,  $P = 0.042$ ) and environment domain ( $t = 2.710$ ,  $df = 45$ ,  $P = 0.009$ ) and also between localities and 'social relationship' domain ( $t = 2.428$ ,  $df = 45$ ,  $P = 0.019$ ). Socio-economic status groups show significant ( $F = 3.786$ ,  $df = 3$ ,  $P = 0.017$ ) correlation with 'psychological health domain' of QoL. There was no significant correlation between any of the WHOQoL scores and the following variables: age at onset, duration of drug (heroin) abuse, current amount of intake

(per day), money spent on drug abuse, frequency of the use (per day) and social support [Table 4]. The variables associated with the heroin dependence revealed that peer pressure was the most common reason for starting the use of heroin (76%). Most patients perceived heroin use as being continued as a result of force of habit or due to the enjoyment derived from it (93%). The most common reason for seeking treatment was family/marital complications (30%). This was followed by self motivation, financial complications and health-related consequences [Table 5].

## Discussion

Our study was carried out to assess the various aspects of QoL in heroin dependent subjects in comparison to the normal controls, and to examine the relationship between the socio-demographic and clinical correlates of QoL of heroin-dependent subjects and their social support. The results showed that heroin-dependent subjects had poorer QoL than normal controls in the general well-being items, physical, psychological, environmental and social relationship domains and total WHOQoL scores. Previous studies have also shown that heroin users had poorer QoL than nonusers in the various domains of WHOQoL-BRIEF.<sup>[29,3]</sup> This is consistent with findings of Smith and Larson<sup>[30]</sup> and Koch.<sup>[31]</sup> The findings of our study have also been supported by the results of studies done by Bizzarri.<sup>[17]</sup>

The mean  $\pm$  SD age of heroin-dependent patients was  $33.85 \pm 9.932$  years that was comparable to the mean age of opioid-dependent patients ( $35.3 \pm 10.0$ ) assessed for QoL by Dhawan and Chopra<sup>[32]</sup> and Bizzari *et al.*<sup>[17]</sup> Majority of the subjects were married (68.1%) comparable with earlier study by Dhawan and Chopra<sup>[32]</sup> where 53.7% were married. Considering the other socio-demographic variable, we found a higher educational level, better employment rate, higher income group and upper middle socio economic status in heroin-dependent subjects. This finding is contrary to that of previous studies.<sup>[17,29,32]</sup> This could be because of the study setting, which was clinic based and hence could have contributed to better awareness in the walk in kind of a set up of the present study, in contrast to the community and specialized treatment settings in the other three studies. Studies have shown that the QoL improves with the substitution treatment;<sup>[32]</sup> we however did not look into the treatment aspect.

The social support in heroin-dependent subjects in comparison to normal controls was significantly low. Different studies<sup>[33,34]</sup> suggest the poor social support can affect QoL. It is important to note that the perceived

**Table 4: Correlation of clinical variables and social support with quality of life of heroin dependence**

Variables	Total WHOQoL scores		Physical health		Psychological health		Social relationships		Environment domain	
	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>
	Age at onset (years)	-0.103	0.489	-0.014	0.925	-0.167	0.261	-0.178	0.232	0.016
Duration of abuse (month)	-0.080	0.592	0.013	0.931	-0.168	0.259	-0.179	0.229	0.041	0.785
Current amount of intake per day	-0.047	0.755	-0.186	0.210	-0.214	0.149	0.058	0.700	0.220	0.137
Money spent on drug abuse	0.037	0.807	-0.074	0.620	-0.088	0.557	0.104	0.486	0.243	0.100
Frequency of use per day	0.080	0.593	-0.254	0.085	-0.214	0.149	0.039	0.792	0.275	0.061
Social dysfunction	-0.191	0.198	-0.146	0.326	-0.160	0.282	-0.310	0.034*	-0.030	0.843
Vocational dysfunction	-0.072	0.632	-0.147	0.324	-0.097	0.517	-0.115	0.441	0.052	0.730
Personal dysfunction	-0.291	0.047*	-0.217	0.143	-0.172	0.247	-0.288	0.050*	0.220	0.138
Family dysfunction	-0.109	0.465	0.062	0.679	0.000	0.997	-0.322	0.027*	-0.085	0.571
Cognitive dysfunction	-0.057	0.704	-0.127	0.397	0.050	0.737	-0.074	0.620	0.001	0.994
Total dysfunction	-0.168	0.258	-0.132	0.377	-0.090	0.549	-0.269	0.068	-0.062	0.678
Social support	0.124	0.408	0.180	0.225	-0.022	0.883	0.242	0.102	0.092	0.537

\**P*<0.05**Table 5: Variables related to heroin dependence**

Stated reasons for initiation of heroin use			
Peer pressure N (%)	Curiosity N (%)	Stress/ tension N (%)	Total N (%)
36 (76.6)	10 (21.3)	01 (2.1)	47 (100)
Stated reasons for maintenance of heroin use			
Habit or enjoyment	Withdrawal avoidance	Peer pressure	Total
44 (93.6)	02 (4.3)	01 (2.1)	47 (100)
Stated reasons for seeking treatment			
Financial problem	Health problem	Family/ marital problem	Self motivation
04 (8.5)	02 (4.3)	29 (61.7)	12 (29.3)

social support from family, friends and other recovering drug users can play a vital role in preventing/delaying relapse<sup>[33,34]</sup> and abstinence from drug, in other words, improved QoL. Our findings also echo the same as the opioid-dependent subjects had a poor social support along with a poor QoL. Hence, enhancement of social support is an important strategy for improving the QoL in heroin-dependent subjects. The assessment of the various factors related to heroin abuse shows that the primary reason for initiation of the abuser is peer pressure (76%), and maintenance is because of the enjoyment aspect and withdrawal effects (93%). The main reason for seeking treatment is because of the family pressure (30%). These findings have been found to be similar to the other studies;<sup>[5,12]</sup> these parameters can be made use of in spreading awareness and involving the community in the prevention issues. Family and peer group can be positively used toward fostering a positive living and forming a good social support basis so as to maintain the abstinent state.<sup>[35]</sup>

The results of the present study need to be interpreted keeping its limitations in mind. First, the small sample

size, purposive sampling could yield type II errors. Intake of subjects from a single treatment center could cause bias and difficulty in generalizing the results. Secondly, the results of this clinic-based study cannot be extrapolated to the community. Furthermore, we would like to suggest that future studies with a larger and diverse sample along with a pre post intervention program are needed to make robust conclusions. Our study indicates that heroin-dependent subjects experience a lower QoL and a poor social support when compared with the normal controls.

## Acknowledgment

All the subjects and their families who participated in the study.

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**How to cite this article:** Giri OP, Srivastava M, Shankar R. Quality of life and health of opioid-dependent subjects in India. *J Neurosci Rural Pract* 2014;5:363-8.

**Source of Support:** Nil. **Conflict of Interest:** None declared.