Family Burden in Opioid Dependence Syndrome in Tertiary Care Centre

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ABSTRACT

This is a cross-sectional, hospital based study conducted in De-Addiction centre under department of psychiatry, AIIMS, New Delhi, India. Patients and their spouses fulfilling inclusion criteria were enrolled in the study after taking informed consent. A diagnosis of Opioid Dependence Syndrome (ODS) was made based on ICD-10 criteria and the assessment of severity of ODS was determined by Addiction Severity Index (Hindi version). Subsequently the family burden, perceived by spouses was assessed using Family Burden Interview Schedule (FBIS).

Most of the subjects were from urban or semi-urban areas, mostly from around the service facility. The maximum number of subjects was of age group 31-40 years with majority of having below high school level education. Both subjective and objective family burden was perceived as "severe" by subjects' spouses. The relationship between spouses' perceived burden and socio-demographic variables including duration of substance abuse were not correlated. Hence it was found that opioid dependent subjects cause considerable amount of distress to their care providers.

Key words: *opioid dependence, family burden, severity of substance use, subjective and objective burden perception*

INTRODUCTION

Substance abuse is widely prevalent, and no country or community is completely free from its problem. Substance abuse/dependence causes significant harm to self, family and society as a whole. Some of the harms are directly caused by substance used while others are due to the associated behavioral patterns, whose manifestation depends upon the complex substance –individual-society interaction. The burden caused by substance use is dependent on various factors and one of the most important factors is the severity of dependence.[1] The term burden is defined and perceived differently by different people. For the research purpose, burden has been operationally defined as 'effects of subject upon family' on various areas, namely financial, family routine, family leisure, family interaction, and physical & mental health of others. The financial burden, one of the major burden areas, is likely to be experienced by the families due to loss of patient's income and use up of funds to procure substances they are dependent upon.[2] Substance abusers generally lack social skills and, thus have difficulties in engaging in appropriate and rewarding forms of interpersonal interactions which are necessary for satisfaction of human needs.[3] A large number of the

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relatives of substance users report physical violence towards themselves, unpredictable behavior, stealing, being lethargic and behaving in an embarrassing way in front of others.[4]

Substance users also exert negative effects on physical health of other family members.[2] Bush et al reviewed prevalence of physical abuse and neglect in substance abusing families, and concluded that prevalence and magnitude of physical, sexual abuse and neglect in substance abusing families are common. The substance abusing individuals often have a disruptive effect on the mental health of other family members. Children in these families have increased risks for anxiety disorders, substance abuse and depression in adulthood.[5]

As the severity of dependence is the major factor of burden, several careful studies have been done on this issue. Solomon demonstrated that the severity of dependence affects various spheres of family life and gives rise various degrees of burdensome consequences.[6] When family burden is concerned, most of the studies have examined the family as an etiological entity, where family process has typically been studied to examine the effect of the family on the subject's substance habit.[7] However the burden on families on account of substance abuse by a family member has begun to come into focus since the 1990s and there is a dearth of comprehensive study on family burden resulting from substance use, particularly of opioid use in the literature.[8] Thus, this study was embarked on to study the impact of substance abuse has on the family system, especially in the family of developing country where family tie is more cohesive and supportive in comparison to those in the west.

MATERIAL AND METHODS

This is a cross-sectional hospital based study conducted in De-Adiction centre under department of psychiatry, AIIMS, New Delhi, India. Subjects and their spouses fulfilling inclusion and exclusion criteria were included in the study after taking informed consent. A diagnosis of opioid Dependence Syndrome (ODS) was made based on ICD-10 criteria. Hindi version of Addiction Severity Index was administered to assess the severity of ODS.[10] Subsequently subjects' spouses were administered Family Burden Interview Schedule.[11] Interview was conducted after rapport was established.

Patients were recruited both from Inpatient and Outpatient departments of Drug Dependence Treatment centre, All India Institute of Medical Sciences, New Delhi. Subjects with opioid use and their spouses, who are staying with users, were screened for potential inclusion in the study, accordingly 50 cases of opioid dependent and their spouses were assessed.

Patient with the diagnosis of opioid dependence syndrome according to ICD-10 (WHO,1992),[9] age range of 20-45 years, married male. The patient with major chronic psychiatric illness: organic psychosis, schizophrenia, mental retardation, history of major psychiatric or chronic physical illness in the family and who did not give consent for participating in the study were excluded.

Addiction Severity Index (ASI)

The Hindi version of ASI adapted by department of psychiatry (AIIMS) was used for current study. This is a semi-structured, comprehensive, and clinical/research schedule designated to assess the multiple problems seen in drug and alcohol dependent persons seeking treatment. The assessing problem areas affected by substance abusers are as following:

1. Medical status
2. Employment / support status
3. Drug/alcohol use
4. Legal status
5. Family/social relationship
6. Psychological status

Two types of measures result from the collected data in each problem areas; severity (subjective) rating and composite (objective) scores.

Each item is rated on a 10-point scale where '0' denotes 'no need of treatment/help' and '9' denotes treatment/ help needed to intervene in life-threatening situation.

The permission for conducting this study was obtained from institutional research committee.

RESULTS

Most of the subjects in this study were from urban or semi-urban areas, mostly from and around Delhi. This study included married male subjects of 20-45 years age group. However the maximum number of subjects was of age group 31-40 years. Majority of the subjects had 'below high school level education' (60.0%). Both subjective and objective family burden was perceived as "severe" by subjects' spouses. The relationship between spouses' perceived burden and socio-demographic variables including duration of substance abuse were not correlated.

Majority (62.0%) of the patients was of age group 31-40 yrs. Majority (60.0% of the subjects had 'below high school level education' (Table 1).

Majority (32.0%) spouses were of 31-35 yr. age. Majority (64.0%) had below high school education (Table 3).

The relationship between spouses' perceived burden and socio-demographic variables including duration of substance abuse were not correlated by using Student's t-test (Table 7).

Tables 1. Socio-demographic Profile

Age range (in years)	Frequency (n)	Percentage
20-25	1	2.0
26-30	12	24.0
31-35	16	32.0
36-40	15	30.0
41-45	6	12.0
Education level		
Below high school	30	60.0
Completed high school	15	30.0
Higher education	5	10.0
Religion		
Hindu	40	80.0
Sikh	6	12.0
Islam	4	8.0
Employment status		
Unemployed	13	26.0
Employed:		
Self-employed	17	34.0
Skilled	12	24.0
unskilled	8	16.0
Total	**50**	**100**

Table 2. Types of household structure

Types	Frequency (n)	Percentage
Joint/extended	26	52.0
Nuclear	24	48.0
Domicile of subjects		
Urban/suburban	30	98.0
Rural	1	2.0
Monthly Subjects earnings (in rupees)		
0-999	18	36.0
1000-2999	20	40.0
3000-4999	10	20.0
5000 >	2	4.0
Monthly money expense(in rupees)		
0-999	14	28.0
1000-2999	16	32.0
3000-4999	14	28.0
5000 >	6	12.0
Total	**50**	**100**

Duration of marriage (in years) with Mean-12.78 (SD- 4.51)

Table 3. Spouses' socio-demographic profile

Age range (in years)	Frequency (n)	Percentage
20-25	8	16.0
26-30	15	30.0
31-35	16	32.0
36-40	9	18.0
41-45	2	4.0
Education level		
Below high school	32	64.0
Completed high school	11	22.0
Higher education	7	14.0
Employment status		
House wife	28	56.0
Employed	22	44.0
Spouses' monthly earnings (in rupees)		
0-999	14	28.0
1000-2999	9	18.0
3000-4999		
5000 >		
Total	*****	*****

Table 4. Family burden: Objective & Subjective burden perceived by spouses (n = 50)

Objective burden	Frequency (n)	Percentage
No burden (0)	0	0
Moderate (1-24)	12	44.0
Severe (25-48)	28	56.0
Total	**50**	**100**
Subjective burden		
No burden (0)	0	0
Moderate (1-24)	13	26.0
Severe (25-48)	37	74.0
Total	**50**	**100**

Table 5. Family burden (Objective) perceived by spouses of Opioid Dependent Subjects in different problem areas (n = 50)

Burden areas	Mean	SD
Financial burden (0-6-12)	6.24	1.68
Effects on family routines (0-5-10)	16.0	2.34
Effects on family leisure (0-4-8)	14.0	1.97
Effects on family interaction (0-5-10)	6.0	2.33
Effects on physical health (0-2-4)	1.26	1.42
Effects on mental health (0-2-4)	2.00	0.89

Table 6. Family burden (Objective) perceived by spouses of Opioid Dependent Subjects in different problem areas (n = 50)

Subjective burden	Mean	SD
(0-1-2)	1.74	0.44
Degree of subjective burden		
	Frequency (n)	**Percentage**
Moderate (up to 1)	13	26.0
Severe burden > 1	37	74.0
Total	**50**	**100**

DISCUSSION

This was a hospital based study on opioid dependent individuals registered in the Drug Dependence Treatment Centre (DDTC) in short: De-Addiction centre. Initial one to one interaction helped to establish rapport, then a formal interview with subjects and subsequently with their spouses was conducted. Almost always information was forthcoming, except for current legal status, and illegal activities. Although a bit evasive, fairly adequate information could be gathered on persuasion, even in these areas.

The study examined the burden perceived by spouses of opioid dependent subjects using the 'Family Burden Schedule'[11] and the relationship between family burden with severity of addition was assessed by using the 'Addition Severity Index'.[10]

Although the word 'severity' is frequently used term in the parlance of substance dependence, it has been defined in many ways; social complication withdrawal severity, quantity and frequency of use and inability to abstain.[12-14] In this study the term severity implies as need for treatment (help) in multiple problems areas, as operationalized by authors of ASI 10.[15] The problem areas include medical status, legal status, employment/support status, drug/alcohol use, family/social relationship and psychological status.

Socio-demographic profile

The most of the subjects were from lower socioeconomic strata and urban setting, except one. This could either be due to the location of the facility within city or lack of awareness of availability of facilities to rural population or possibly burden perceived consequent to substance dependence may not be severe enough to warrant treatment. In contrast to the western studies where dependence is more common in broken homes, the majority of subjects in this study came from cohesive families.[16]

Likewise very few subjects had higher education, which may be explained by the fact that the subjects from lower socio-economic strata generally come to government run hospitals for their treatment where facilities are available free of cost.

Most of the subjects in this study earned less than Rs. 3000 (~80$) per month and a large number of subject generated money from selling property, extorting money from family members and friends. Few of them were indulged in illegal activities, though they were not freely forthcoming. All these are in accordance with the literature from the West.[4] The findings of this study also showed that the overall expenditure in the month to maintain his substance use habit was more than what the earning. The mean expenditure incurred to purchase the substance of abuse was calculated to be Rs. 2466 per month.

Table 7. Relationship between spouses' perceived family burden (total) and their socio-demographic variables (n = 50)

Variable	Categories	Mean	SD	P-Value	Significance
Age of spouse	20-30 yrs.	25.85	8.68	0.7971	NS
	31-41 yrs.	25.26	7.23		
Education	(0-5) Primary	26.30	+ 10.37	0.4589	NS
	(6-12 + 2) high school +	24.34	+ 6.55		
Family structure	Joint/extended	25.76	+ 8.45	0.8635	NS
	Nuclear	25.37	+ 7.59		
Duration of marries	0-10 years	25.76	+ 8.45	0.7162	NS
	11 > years	25.37	+ 7.59		
Duration of substance use	0-10 years	25.76	+ 8.35	0.8538	NS
	11 > years	25.81	+ 7.65		

Table 8. Severity of addiction (subjective) in subjects (n = 50)

Domains	Mean	SD
Medical status (0-9)*	1.48	+2.19
Employment status (0-9)	3.04	1.84
Drug use (0-9)	5.44	1697
Legal status (0-9)	0.74	1.61
Family /social relationship (0-9)	4.04	2.48
Psychological status (0-9)	1.10	1.25

*Range:

0- No need of treatment/help

9- Treatment/ help is needed to intervene in life-threatening situation

Table 9. Severity of addiction (composite/objective scores) in the subjects (n = 50)

Domains (range)*	Mean	SD
Medical status (0.0-1.0)	0.262	+0.31
Employment status (0.0-1.0)	0.641	0.20
Drug use (0.0-1.0)	0.264	0.10
Legal status (0.0-1.0)	0.071	0.14
Family /social relationship (0.0-1.0)	0.360	0.23
Psychological status (0.0-1.0)	0.100	0.13

*Range:

0.0- No need of treatment/help

1.0 - Treatment/ help is needed to intervene in life-threatening situation.

In this study majority of subjects (62.0%) were of 31-40 years age group, whereas 26-30 year age group also consisted significant proportion (30.0%). Western studies however show an increased prevalence of substance use among teenagers and adolescents.[16,17]

The mean duration of opioid use was 9.64 years (SD-3.85), and most of them became dependent on opioid within a matter of month, which is comparable with the findings of study conducted by, where mean duration of heroin use was 9.2 years.[17]

Subjective burden

This study showed a strikingly high percentage (74.0%) of spouses who had perceived severe burden due to their husband's opioid dependence, which is higher than burden consequent to chronic psychiatric and physical illness showed high burden. While studying family burden in paranoid versus non-paranoid schizophrenics observed that more than 50% of key relatives of both groups reported 'severe' burden. Gautam and Nijhawn in their study reported that 52.0% of relatives of chronic lung disease patients had perceived moderate burden, 44.0% had perceived severe burden, and only 4.0% perceived no burden.[19-20] Opioid dependent individuals are likely to cause increased burden because schizophrenia patients are comparatively less troublesome for others, except during excitation phase, whereas opioid dependent individuals exhibit not only their deviant behavior under the influence of or during withdrawal, but they are more quarrelsome, demanding, incapable of managing money matter, stealing, selling properties leading to making life miserable.

Table 10. Relationship between Family burden (total) score and each problem areas of Addiction Severity Index (ASI), (subjective severity) (n = 50)

Problem domains	Coefficient	Standard Error	T	P (2 Tail)	Significance
Medical status	1.416	0.4977	2.85	0.01	*
Employment status	0.240	0.6035	0.40	0.69	
Drug use	-0.064	0.6265	-0.10	0.92	
Legal status	-0.714	0.7228	-0.10	0.92	
Family /social relationship	1.3693	0.4305	3.18	0.00	†
Psychological status	-0.4809	0.8901	-0.54	0.59	

*P = < 0.05, †P < 0.001

Problem domain	R^2
Medical status	15.16%
Family/social relationship	13.20%
Total of two problem areas	28.36%
Total for all 6 domains	29.20%

Objective burden

Opioid dependent subjects place objective burden on areas of: financial, effects on family routine, effects on family leisure, effects on family interaction, and effects on mental and physical health of others.

About 56.0% of spouse perceived 'objective burden' as severe which was less than subjective burden (76.0%). This difference might be due to the structure of

questionnaire, where subjective burden was assessed by only one question and that was basically related to emotional feeling, whereas objective burden was measured by more precise method i.e. adding score from multiple items (24 items).

1. Financial Burden

The majority of the subjects were unemployed and from low socio-economic strata indicating their financial hardship. Financial burden is likely to be experienced by the families due to loss of patient's income, especially when the individual happens to be the sole bread winner of the family.

2. Effects on family routine

Family rituals, such as daily meal time, festivals and celebration can be interrupted due to intoxication or apathetic behavior.[22]

In this study 54.0% of spouses had perceived moderate burden. Sequeira et al (1990) reported that 43.3% of mothers of severely handicapped children perceived severe burden on this sphere.[23]

Our study showed that 46.0% of spouses of opioid dependence felt severe and 54.0% moderate burden in terms of disruption of routine family activities.

By and large, the burden perceived by spouses of opioid dependent individuals was similar to burden perceived by key informants of severe mentally ill patients.

3. Effects on family leisure

The findings of the present study indicate that the burden caused by disruption of family leisure activities was higher (Mean 4.82, SD 1.43) compared to burden caused by chronic medical illness (Mean 2.96, SD 1.47) and schizophrenia (Mean 3.8, SD 2.07).

4. Effects on family interaction

About 60.0% of spouses felt their husbands' habit as severely burdensome (Mean 5.90, SD 2.33), where range value was (0-5-10).Clinical literature often describes that the substance abusers lack social and communication skills, and have difficulties in engaging in appropriate and rewarding form of interpersonal interactions which are necessary for satisfaction of human needs.[24]

5. Effect on physical health of others

Fourteen percentage spouses had perceived severe, 54.0% moderate, and 30.0% perceived no burden, reflecting opioid dependence and other illness have similar low burdensome effects on others physical health. Burden on this domain has been found to be quite low in schizophrenia, bipolar affective disorder, and chronic medical illness.[20]

6. Effect on mental health of others

Majority (64.0%) of spouses perceived moderate burden related to 'effects on mental health of others' and 36% felt severe burden, with mean score 2.00, SD 0.89. In the present study, out of six areas the majority of the subjects caused severe burden, i.e. >50.0% of spouse perceived severe burden, except in the physical and mental health domain.

Severity of substance dependence

In this study, severity (subjective) rating showed 'drug use' as most impaired problem area whereas composite score method showed most impaired area as 'employment status'. Second most impaired problem area was "family/support relationship" in both scoring methods. Similarly least impaired domain in both scoring methods was legal status.

One reason for low employment score by composite score could be the culture specific questions, like do you have driver's license? This has low relevance in our society.

Although composite score shows that employment sphere was most severely impaired, the socio-demographic variables showed only 26.0% subjects were unemployed. This could be explained by the fact that 'unemployment" was operationally defined as not having been working for last 6 month or more. In our study most of the subjects were self-employed, unskilled, laborers, daily wagers who could join their business as soon as they get treated and go back, so they in fact needed little help for their employment difficulties, reflecting in lower rater's (subjective) scoring.

Severity of dependence and perceived burden

Severity of opioid dependence is related to various variables like quantity and pattern of use, frequency of use, sex, and psychiatric condition in an individual.

The findings of this study demonstrated that family burden perceived by spouses was positively associated with 'medical status' and 'family/social relationship' domain of ASI of studied subjects. It was observed that these two domains influenced 28.0% of total family burden out of 29.0% and about 1.0% of total family burden was influenced by rest domain. Mortality and morbidity produced by substance abuse is a consequence of complex interaction involving wide range of factors, including pharmacological and toxicological properties of substances used, combination of substance used, route of administration and social support of substance users.[25]

However in this study most of the subjects had minimal severity in medical status domain. A few reported chest infection, pulmonary TB and abscess (18.0%, cumulative).

Clinical and research literature often describes substance abusers as lacking social skills and their as having difficulties engaging in appropriate and rewarding form of interpersonal interactive which are necessary for satisfactory human relation.[24]

In the present study it was seen that there was a correlation between family relationship of ASI and family burden which could be explained by following facts: family interaction was the most burdensome domain, among all six problem domains in Family Burden Schedule in our study. And "Family/social relationship" domain stood second most impaired in both rater's (subjective) scoring and composite scoring.

CONCLUSION

Opioid dependent subjects cause considerable amount of distress to their care providers, i.e. spouses. A strong association between family relationship measured by ASI and family burden in spouses was evident.

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