



ASSESSMENT OF BURDEN OF CAREGIVERS OF OPIOID DEPENDENCE SYNDROME: A CROSS-SECTIONAL STUDY FROM NORTH-EASTERN INDIA

Dr. Parinita Dutta	Registrar, Department of Psychiatry, Gauhati Medical College and Hospital, Guwahati, Assam, India
Dr. Shyamanta Das	Associate Professor, Department of Psychiatry, Dhubri Medical College and Hospital, Dhubri, Assam, India
Dr. Raktim Engti*	Assistant Professor, Department of Community Medicine, Pacific Medical College and Hospital, Udaipur, Rajasthan, India *Corresponding Author

ABSTRACT **Background:** Long term opioid abuse may cause significant physical, emotional, social as well as financial distresses that, in turn, can lead to a trail of problems or adversities in lives of not only the abusers but also their caregivers, which can be termed as 'burden'. This study was conducted to study the burden of caregivers of patients with opioid dependence syndrome and find its association with socio-demographic background of caregiver and clinical profile of the patients. **Methods:** Caregivers of 100 patients of opioid dependence syndrome attending Psychiatry OPD or admitted in Psychiatry ward of a tertiary care general hospital were selected by convenient sampling and interviewed using a self-designed proforma. Caregiver burden was assessed by using Modified Burden Assessment Schedule. **Results:** Majority (40%) of the caregivers reported to have mild burden, followed closely by severe burden (39%). Significant association was found between burden perceived and occupation of the caregiver. Caregiver burden was also found to be significantly associated with few aspects of patient's clinical profile, like duration and route of opioid use, presence of hepatitis and history of prior de-addiction. **Conclusion:** Our study found that caregivers of opioid abuse experience substantial burden, more so if the patient is abusing since long, or uses intravenous route, or has comorbidity like hepatitis, or is a multiple treatment failure, and also if the caregiver is weak occupation-wise. These findings indicate scope of future research in this area.

KEYWORDS : Burden, Burden Assessment Schedule, caregivers, opioid dependence syndrome

INTRODUCTION

Like worldwide Indian society is also witnessing a huge surge in illicit use of opioid now-a-days. In India, the prevalence of current use of opioid overall is 2.06%, and about 0.55% (i.e. 60lakh) Indians fall in harmful use or dependent category (National Drug Dependence Treatment Centre, All India Institute of Medical Sciences report, 2019). The North-Eastern part of this country is more vulnerable to opioid abuse because of easy supply from its neighboring countries namely Myanmar, Thailand and Laos, which constitute the infamous Golden Triangle.^[1]

Long term opioid abuse may cause physical, emotional, social as well as financial distresses that, in turn, lead to a trail of problems or adversities in lives of the abusers and their family members, which can be described as 'burden'.^[2] The caregivers who provide care for family members with psychiatric illness are at potential risk for burden and consequent decrease in health status.^[3] The emotional impact on family members due to caregiving, as expressed in the form of psychological distress, is appraised by the person as "taxing or exceeding his or her resources and endangering his or her well-being".^[4] Social harms associated with psychoactive substance use include interpersonal problems that impact adversely on relationships with family members, friends, colleagues and members of society.^[5] Parental opioid use has been also associated with internalizing disorders like depression and anxiety.^[6] Opioid use disorder is often considered a stigmatizing condition, probably due to its association with delinquent activities, and presence of other stigmatizing health conditions like HIV. Apart from the emotional, psychological, physical and economic impact, the concept of 'burden of care' also involves subtle but distressing notions like shame, embarrassment, feelings of guilt and self-blame.^[7]

India, with a population of about 1.30 billion individuals with diverse lifestyles, has more than 11.5 million individuals affected by opioid use problems.^[8] In this scenario, as no formal or informal training is being provided to the caregivers to deal with this kind of burden, they end up adopting some unhealthy coping mechanisms and become victim of lifelong vicious cycle of sufferings. Because of historical emphasis on substance dependence as individual problem, study of family problem has been grossly neglected.^[9] N. Lamichhane et al compared the burdens of caregivers of opioid abusers and alcohol abusers in Nepal and found that burden is higher in the former group.^[10] In a Turkish study by Erdinc Cicek et al showed that the family burden increased and quality of life decreased in relatives of heroin dependent patients as the duration of the disorder increased.^[11] Coming to Indian scenario, a study by Shyangwa et al. done in a tertiary care centre in

India reported that a high percentage of spouses of opioid abusers perceived severe burden.^[12] In 2010 Mattoo et al conducted a study amongst the caregivers of alcohol and/or opioid abusers attending the drug deaddiction centre of Post Graduate Institute of Medical Education and Research, Chandigarh, which found that almost all (95-100%) such caregivers reported severe burden.^[13] In the study done in a tertiary hospital in Rajasthan, Sekhawat et al found that wives of both alcohol and heroin dependent patients had moderate- to-high burden of caregiving.

Taking these reviews into consideration, it is evident that there is absolute paucity of such kind of studies in North-Eastern part of the country. Keeping this in mind our study was taken up to emphasize upon the importance of caregiver's health and mental status in order to mitigate the problem of opioid dependence in society in a more comprehensive manner.

AIM:

To study the burden of caregivers of patients with opioid dependence syndrome attending psychiatry department of a tertiary care general hospital.

OBJECTIVES:

To study the association of sociodemographic characteristics and the burden of caregivers of patients with opioid dependence syndrome attending psychiatry department of the tertiary care general hospital.

To study the association of clinical profile of patients with opioid dependence syndrome attending psychiatry department of the tertiary care general hospital and the burden of their caregivers.

METHODS

Study Site: The study was conducted in the Department of Psychiatry, Gauhati Medical College and Hospital for a period of 1 year from June 2019 to May 2020.

Study type: The study was a cross sectional observational study.

Sample size: 100

With the previous study reporting caregiver burden close to 50%^[14] and the desirability to not underestimate the sample size for the present study, we decided to take the prevalence of burden on caregivers of opioid-dependent patients to be 50%. With precision of 10%, power 50%, and keeping alpha error at 0.05, a sample size of 100 was

determined using the formula $4PQ/d^2$ where P is the proportion of the outcome of interest, q compliment of p, and d denotes precision. A design factor of 1.2 was taken to compensate for the fact that patients were being admitted to the same hospital and that there might be clustering of such patients in the hospital catchment area.

Participants:

100 patients of opioid dependence syndrome attending Psychiatry OPD or admitted in Psychiatry ward of Gauhati Medical College and Hospital (GMCH) during one-year study period were randomly selected. Their diagnosis was made according to the diagnostic criteria of the ICD-10 Classification of Mental and Behavioral Disorders: Clinical Description and Diagnostic Guidelines, WHO, 1992. Now one caregiver for each patient was interviewed and the data was entered in Microsoft Excel.

2.5 Tools used:

The patient particulars and caregivers' information were collected in a self-designed semi structured proforma. Socio-economic status was assessed by Modified Kuppuswamy Socio-economic Scale (updated for January, 2018) and burden of caregivers was measured by Modified Burden Assessment Schedule (BAS), a standardized 20-item scale modified from the 40-item scale of Thara et al. Written informed consent was taken from all the participant caregivers prior to the study.

Inclusion criteria:

1) Criteria for patients:

- I) Patients must fulfil the diagnostic criteria of opioid dependence syndrome as per tenth revision of International Statistical Classification of Diseases and Related Health Problems (ICD-10).
- II) Patients mainly seeking treatment for opioid related problems (if comorbid other substance abuse is also present).

2) Criteria for caregivers:

- I) The family members accompanying the patient if they were living together with the patient and were involved in their care indirectly in terms of general life care, and directly in terms of their opioid dependence and its treatment related assistance or supervision for more than one year.
- ii) Age group of caregiver: 18-65 years.
- iii) Caregivers giving written informed consent for the study.

Exclusion criteria:

1) Criteria for patients:

- i) Patients having other psychiatric illness or intellectual disability.
- ii) Patients having history of opioid abuse but presenting at OPD for health issues related to substances other than opioid.

2) Criteria for caregivers:

- i) Caregivers themselves having any psychiatric illness or intellectual disability.
- ii) Caregivers abusing any psychoactive substance in dependence pattern, excluding tobacco.

Statistical analysis:

The socio – demographic data are shown using descriptive statistics by frequencies and percentages. In inferential statistics, t – test and chi – square were used to compare the burden of caregivers of patients with opioid dependence syndrome attending psychiatry outpatient department and admitted in psychiatry ward of the tertiary care general hospital and find the association between level of burden and socio – demographic profile of care – givers and clinical profile of the patients. The p – value < 0.05 was considered statistically significant. The statistical calculation was performed using IBM SPSS version 26.0.

2.9 Ethical Clearance:

This research was reviewed and approved by the institutional review board of Gauhati Medical College and Hospital (registration number 190/2007/Pt-11/MAR-2019/PG/95). Informed consent was obtained from all participants.

RESULTS

The total number of caregivers in our study were 100 with a mean age of 38.72 ± 11.65 years. The majority of the caregivers' (29%) were from 45 – 55 years and with the least (10%) being 15 – 25 years. Almost 8 out of 10 caregivers were females while only 19% were males. More than half (57%) of the caregivers were parents, one quarter (24%) were spouse and 14% were siblings. Most of the caregivers were illiterates

(36%) followed by matriculate (10%) while only 6% were graduates. More than half (54%) of the caregivers were housewives followed by unskilled workers (20%) while the least belonged to unemployed category (3%). The socio – economic status according to modified Kuppuswamy socio – economic scale found 34% belonged to lower class, 23% belonged to upper – lower and 23% to lower – middle, 17% belonged to upper – middle and 3% belonged to upper socioeconomic class. (Table 1)

Table 1 Sociodemographic and clinical characteristics of the caregivers (n=100)

Age group	Frequency (n)	Percentage (%)
15 – 25 Years	10	10.0
25 – 35 Years	27	27.0
35 – 45 Years	23	23.0
45 – 55 Years	29	29.0
55 – 65 Years	11	11.0
Total	100	100.0
Gender wise distribution of caregivers		
Male	19	19.0
Female	81	81.0
Total	100	100.0
Distribution based on their relationship with patient		
Parents	57	57.0
Spouse	24	24.0
Siblings	14	14.0
Grandparents	2	2.0
Others	3	3.0
Total	100	100.0
Distribution based on caregivers' education status		
Illiterate	36	36.0
Primary	13	13.0
Up to class 8	9	9.0
Matriculation	23	23.0
12 Passed	13	13.0
Graduation	6	6.0
Total	100	100.0
Distribution based on caregivers' occupation		
Unemployed	3	3.0
Unskilled worker	20	20.0
Skilled Worker	4	4.0
Clerical Worker	10	10.0
Housewife	54	54.0
Others	9	9.0
Total	100	100.0
Distribution based on socio-economic status		
Lower	34	34.0
Upper - lower	23	23.0
Lower - middle	23	23.0
Upper - middle	17	17.0
Upper	3	3.0
Total	100	100.0

The documentation of level of burden of caregivers of patients with opioid dependence syndrome on the basis of BAS score was done. It was found that 40% of the caregivers experienced mild, 21% reported to experience moderate and 39% reported to experience severe burden. The means of total BAS scores of mild, moderate and severe burden are found to be 22.42 ± 3.15 , 29.66 ± 1.15 and 37.05 ± 4.59 respectively. (Table 2)

Table 2 Level of burden of the caregivers on the basis of Burden Assessment Schedule (BAS)

Category	Cut - off	Frequency	Percentage	Mean	SD
Mild	< 27.77	40	40.0	22.42	3.64
Moderate	27.775 – 31.52	21	21.0	29.66	1.15
Severe	> 31.525	39	39.0	37.05	4.59
Total		100	100.0	29.650	7.50

Assessment of the association between burden of caregivers of patients and their socio-demographic characteristics viz. age, gender, caregivers' relation with patient, education, occupation and socio – economic status was documented. (Table 3) Statistically significant association was found between burden of caregivers and their occupation ($\chi^2=19.10$ DF=10, $p=0.039$).

Table 3 Test of association of the burden of caregivers with that of their socio-demographic profile

	Level of Burden			Chi	DF	p
	Mild	Moderate	Severe			
Age				9.73	8	0.284
15 – 25 Years	2 20.0%	2 20.0%	6 60.0%			
25 – 35 Years	14 51.9%	8 29.6%	5 18.5%			
35 – 45 Years	9 39.1%	3 13.0%	11 47.8%			
45 – 55 Years	11 37.9%	7 24.1%	11 37.9%			
55 – 65 Years	4 36.4%	1 9.1%	6 54.5%			
Gender				3.18	2	0.203
Male	10 52.6%	5 26.3%	4 21.1%			
Female	30 37.0%	16 19.8%	35 43.2%			
Care giver's relationship with patient				11.15	8	0.193
Parents	23 40.4%	11 19.3%	23 40.4%			
Spouse	8 33.3%	5 20.8%	11 45.8%			
Siblings	8 57.1%	5 35.7%	1 7.1%			
Grandparents	0 0.0%	0 0.0%	2 100.0%			
Others	1 33.3%	0 0.0%	2 66.7%			
Education				7.67	10	0.660
Illiterate	11 30.6%	6 16.7%	19 52.8%			
Up to primary school	7 53.8%	2 15.4%	4 30.8%			
Up to class VIII	4 44.4%	2 22.2%	3 33.3%			
Matriculation	8 34.8%	7 30.4%	8 34.8%			
Up to 12 Passed	7 53.8%	2 15.4%	4 30.8%			
Up to graduation	3 50.0%	2 33.3%	1 16.7%			
Occupation				19.10	10	0.039*
Unemployed	0 0.0%	3 100.0%	0 0.0%			
Unskilled worker	5 25.0%	5 25.0%	10 50.0%			
Skilled Worker	3 75.0%	0 0.0%	1 25.0%			
Clerical Worker	4 40.0%	3 30.0%	3 30.0%			
Housewife	25 46.3%	7 13.0%	22 40.7%			
Others	3 33.3%	3 33.3%	3 33.3%			
Socio – Economic Status				6.05	8	0.641
Lower class	10 29.4%	7 20.6%	17 50.0%			
Upper - lower	9 39.1%	4 17.4%	10 43.5%			
Lower - middle	10 43.5%	6 26.1%	7 30.4%			
Upper - middle	9 52.9%	4 23.5%	4 23.5%			
Upper	2 66.7%	0 0.0%	1 33.3%			

Note: *: Significant at 5%

Association between burden of caregivers and patients' clinical profile was documented viz. duration of opioid use, substance used, route of opioid use, needle sharing, Hepatitis B or Hepatitis C positive status,

history of prior de-addiction. Statistically significant associations were found between burden of caregivers and clinical profiles of patients like duration of opioid use, route of opioid use, Hepatitis B or Hepatitis C positive status and presence of prior de-addiction. The caregivers of the patients whose route of opioid use was fixing, 32.0% had mild, 21.3% moderate and 46.7% had severe levels of burden. The caregivers of the patients whose route of opioid use was chasing, two-third (66.7%) had mild, less than one fifth (16.7%) had moderate and severe levels of burden each. All the caregivers (100%) of the patients who used other routes of opioid use had moderate level of burden. There was a statistically significant association between route of opioid use of patients and burden of the caregivers ($\chi^2=13.64$, $DF=4$, $p=0.009$). The caregivers of the patients who used opioid for 5 years or less, 50.0%, 18.4% and 31.6% had mild, moderate and severe levels of burden respectively. The caregivers of the patients who had used opioid for 5 years to 10 years, 9.5%, 28.6% and 61.9% had mild, moderate and severe levels of burden respectively. There was a statistically significant association between duration of opioid use of patients and burden of the caregivers ($\chi^2=18.37$, $DF=8$, $p=0.019$). The caregivers of the patients who had Hepatitis B or C positive status, one fifth (20%) had mild, nearly half (46.7%) had moderate and one third (33.3%) had severe level of burden. Among the caregivers who did not have Hepatitis B or C, nearly half of them (49.2%) had mild, less than one fifth (16.7%) had moderate and more than one third (34.4%) had severe levels of burden respectively. For those patients who had their status unknown for Hepatitis B or C, 29.2% of caregivers had mild, 16.7% moderate and 54.2% had severe levels of burden. The association between duration of opioid use of patients and burden of the caregivers was found to be statistically significant ($\chi^2=10.89$, $DF=4$, $p=0.028$). Similarly, it was observed that more caregivers of patients with past history of de-addiction reported severe burden while caregivers of treatment naïve patients reported mild level of burden and this was statistically significant ($\chi^2=7.83$, $DF=2$, $p=0.02$). (Table 4)

Table 4 Association of clinical profile of patients and the burden of their caregivers

	Level of Burden			Chi	df	p
	Mild	Moderate	Severe			
Duration of substance use				18.37	8	0.019*
0 – 5 Years	38 50.0%	14 18.4%	24 31.6%			
≤10 Years	2 9.5%	6 28.6%	13 61.9%			
≤ 15 Years	0 0.0%	0 0.0%	1 100.0%			
≤ 20 Years	0 0.0%	1 100.0%	0 0.0%			
≤ 30 Years	0 0.0%	0 0.0%	1 100.0%			
Substance use				15.61	10	0.111
Only Opioid	3 33.3%	2 22.2%	4 44.4%			
Opioid and one substance	22 56.4%	9 23.1%	8 20.5%			
Opioid and two substances	4 19.0%	5 23.8%	12 57.1%			
Opioid and three substances	9 39.1%	5 21.7%	9 39.1%			
Opioid and four substances	2 28.6%	0 0.0%	5 71.4%			
Opioid and five substances	0 0.0%	0 0.0%	1 100.0%			
Route of opioid use				13.64	4	0.009**
Fixing (intravenous)	24 32.0%	16 21.3%	35 46.7%			
Chasing (foil inhalation)	16 66.7%	4 16.7%	4 16.7%			
Other routes	0 0.0%	1 100.0%	0 0.0%			
Needle sharing				4.248	2	0.120
Present	10 22.7%	11 25.0%	23 52.3%			
Absent	14 45.2%	5 16.1%	12 38.7%			

Hep B or Hep C positive status			10.89	4	0.028*
Positive	3	7	5		
	20.0%	46.7%	33.3%		
Negative	30	10	21		
	49.2%	16.4%	34.4%		
Status unknown	7	4	13		
	29.2%	16.7%	54.2%		
History of prior de-addiction			7.83	2	0.020*
Present	13	14	22		
	26.5%	28.6%	44.9%		
Absent	27	7	17		
	52.9%	13.7%	33.3%		

Note: *: Significant at 5%, **: Significant at 1%

DISCUSSION

The family members, especially the ones directly engaged in caregiving of mentally ill patients, have to bear a significant load which mostly remain unnoticed and unappreciated. This is more relevant in case of caregivers of substance abusers as they at times also have to face social stigma and domestic violence while dealing with the substance related issues at home. Among the substances, opioid is least studied in our native purview. The mean age of the caregivers in our study was at par with few of the other studies conducted by Mattoo et al.^[15] and Sharma et al.^[15] In our study majority of the caregivers were females (81%). Similar results were obtained in studies conducted by Sharma et al. (68%)^[15] and Lamischhane et al. (53.3%).^[10] This study found that majority of the caregivers were parents followed by spouse. The study conducted by Mattoo et al. found that in majority of opioid abusers' caregivers were fathers (37.5%) and mothers (30%) followed by wives (27.5%).^[15] This difference might be due to the fact that majority of our patients were married. We had 36% illiterate caregivers, which is comparable to other similar studies.^[15] Occupation-wise concordant results were obtained that majority of the caregivers were housewives.^{[16][19][20]} In our study we have found that 40% of caregivers experienced mild, 21% experienced moderate and 39% reported severe burden. Sharma et al also found similar results in their study that reported severe subjective burden (74%) was more common than moderate subjective burden (26%).^[13] Sekhawat et al. also commented from their study that wives of heroin abusers perceived moderate to severe burden.^[16] But, Mattoo et al. found that majority of caregivers (55%) of opioid abusers experienced moderate subjective burden in their study.^[15] This difference could probably be due to the use of a different burden assessment scale in our study. In our study we did not find any association between perceived burden and caregiver's age, sex, education, marital status. This is similar to the study findings of Sharma et al.^[15] and Mattoo et al.^[15] We found significant association between caregiver's burden and their occupation. Mattoo et al also commented that unemployed subjects complained of more subjective burden in the financial area than the employed ones.^[15] This is contradictory to earlier study by Sharma et al.^[15] This difference might be attributed to socio-cultural variation across different geographical areas depending upon places of studies.

In our study we have found significant association between burden of caregiver and clinical profile of patient in the areas of duration of opioid use, route of opioid use, presence of hepatitis B or C and prior de-addiction. As these factors obviously affect financial issues of the family, so impact on caregiver burden is understandable. We saw that majority of the caregivers (46.7%) of patients using opioid via fixing feel severe burden, while majority of caregivers (66.7%) using opioid via chasing feel mild burden. This is similar to the finding of Nebhinani et al in 2010 who also reported higher level of burden in injectable drug abuser group.^[17] As injectable drug use is usually complicated by comorbidities like hepatitis or HIV-AIDS, the cumulative burden weighs greater in their caregivers. We found that burden is more in caregivers of patients using opioid for longer duration. This is in the line of finding by Mattoo et al.^[15] Our study did not find any significant association between number of substance of abuse and burden. It is contradicted by the finding of Sharma et al who reported that burden is more for patients using more number of substances^[15]. We saw that burden is more in caregivers of patients having comorbid hepatitis B or C. This parameter was not considered by the earlier studies of similar type. Our study found that more caregivers reported severe burden in case of patients undergoing de-addiction treatment earlier than the caregivers of treatment naïve opioid users. This is similar to the findings of the earlier study by Sharma et al.^[15] Repeated treatment failures definitely frustrate the caregivers and many a times they lose their morale too.

Strength of this study:

- 1) First study of its kind conducted in a tertiary care centre in North-Eastern India.
- 2) Burden of caregivers of not only outdoor patients but also of patients admitted in the ward are explored.
- 3) Role of medical co-morbidities in patients imparting burden on caregivers is also evaluated.
- 4) For measuring caregiver burden Burden Assessment Schedule is used, which is comparatively a newer scale specifically designed for assessing subjective burden.

Limitation of this study:

- 1) This is a hospital based study and the findings cannot be generalized in the community.
- 2) No controls were taken.
- 3) Since this was a cross-sectional study, temporality cannot be ascertained.
- 4) Only one family member was taken as caregiver for each patient.

CONCLUSION

This study has found that around 60% of the caregivers of opioid dependent patients seeking treatment reported moderate to severe burden, which, if detected earlier, can definitely be cut down, even if not to zero level but at least to mild category. As we saw significant association between burden perceived and occupation of the caregiver, the need for vocational training programmes for unemployed caretakers should draw more attention. We also found that caregiver's burden is significantly associated with duration and route of opioid use, presence of medical comorbidity like hepatitis, and history of prior de-addiction. It thus can be concluded that early reporting of the substance using habit by the family members as well as education and awareness about availability of treatment and risk reduction methods are of utmost importance.

The present study has thrown light on the vital necessity of educating and skillful training of caregivers of opioid abusers or any substance abusers as a whole. This could be implemented in health care policies for better and wider approach to deal with the burgeoning issue of substance abuse. This type of study needs to be done reaching the community level as patients coming for treatment only represent the tip of the iceberg.

Acknowledgements

Sakhee Bujarbaruah, Department of Computer Science, North East Regional Institute of Management, Guwahati, Assam for assistance in data handling and teaching the basics of data analysis.

Conflict of interest: The authors declare that they have no conflicts of interest.

Funding: Nil

REFERENCES

1. Dey R, Medhi D. A cross-sectional study to see the prevalence of psychiatric comorbidities among opioid dependent patients. *International Journal of Scientific Research*. 2018 May; 7(5): 66-67.
2. Platt S. Measuring the Burden of Psychiatric Illness On the Family: An Evaluation of Some Rating Scales. *Psychological Medicine*, 1985; 15:383-389.
3. Chang H-Y, Chiou C-J, Chen N-S. Impact of mental health and caregiver burden on family caregivers' physical health. *Arch Gerontol Geriatr*. 2010; 50(3):267-71.
4. Lazarus RS, Folkman S. *Stress, Appraisal and Coping*. New York: Springer; 1984.
5. World Health Organization. WHO expert committee on problems related to alcohol consumption. (WHO Technical Report Series, No. 944). Geneva: World Health Organization; 2007.
6. Lieberman DZ. Children of alcoholics: An update. *Curr Opin Pediatr* 2000; 12:336-40.
7. Awad AG, Voruganti LN. The burden of schizophrenia on caregivers: a review. *Pharmacoeconomics* 2008; 26(2):149-62.
8. Ambekar A, Agrawal A, Rao R, Mishra AK, Khandelwal SK, Chadda RK. National survey on extent and pattern of substance use in India(2019). Magnitude of Substance Use in India. New Delhi: Ministry of Social Justice and Empowerment, Government of India.
9. Marcon SR, Rubira EA, Espinosa MM, Barbosa DA. Quality of life and depressive symptoms among caregivers and drug dependent people. *Revista Latino-Americana De Enfermagem*. 2012; 20(1):167-74.
10. Lamichhane N, Shyangwa PM, Shakya R. Family burden in substance dependence Syndrome. *J Gandaki Med Coll Nepal* 2008; 1:57-65. https://www.researchgate.net/publication/22_8333401.
11. Cicek E, Demirel B, Ozturk HI, Kayhan F, Cicek IE, Eren I. Burden of Care And Quality of Life in Relatives of Opioid Dependent Male Subjects. *Psychiatria Danubina*, 2015; Vol. 27, No. 3, pp 273-277.
12. Shyangwa PM, Tripathi BM & Lal R: Family Burden in Opioid Dependence Syndrome in Tertiary Care Centre. *J Nepal Med Assoc* 2008; 47:113-9.
13. Mattoo SK, Nebhinani N, Anil BN, Basu D, Kulhara P. Family burden with substance dependence: A study from India. *Indian Journal of Medical Research* 137, April 2013, pp 704-711.
14. Connors GJ, Donovan DM, DiClemente CC. Substance abuse treatment and the stages of change: selecting and planning interventions. New York: Guilford Press; 2001.

15. Sharma A, Sharma A, Gupta S, Thapar S. Study of family burden in substance dependence: A tertiary care hospital-based study. Indian Journal of Psychiatry Volume 61, Issue 2, March-April 2019.
16. Shekhawat BS, Jain S, Solanki HK. Caregiver Burden on Wives of Substance Dependent Husbands and Its Correlates At A Tertiary Care Centre in Northern India. Indian Journal Of Public Health, vol 61, issue 4, October-December, 2017.
17. Nebhinani N, Anil BN, Mattoo SK, Basu D. Family Burden in Injecting Vs Non-injecting Opioid Users. Indian Journal of Psychiatry 2013, 22: 138-142.