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Pathways Traversed by Patients with Opioid Dependence Syndrome in two Settings: An Exploratory Study

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Abstract

Background: There is limited published literature from India on pathways traversed by patients with opioid dependence syndrome (ODS). The study was carried out in north Indian UT tertiary care hospital and its attached community outreach center. Aims: The current study assessed and compared paths traversed by patients with opioid dependence syndrome (ODS) in two settings. Settings and Design: It was a cross-sectional and exploratory study conducted at two different treatment settings i.e., a de-addiction Clinic (DAC) in a hospital and Community Outreach Clinic (COC). Materials and Methods: A total sample of 100 consecutive male patients with ODS as per ICD-10 were enrolled from DAC (n=50) of tertiary care teaching hospital of North India and COC(n-50). Socio-demographic and clinical details of the clinical sample were collected on semi-structured proforma and the pathways to care were assessed through a specifically designed questionnaire. Statistical Analysis: Data was analyzed using licensed SPSS (version 20.0). The Kolmogorov-Smirnov test (Lilliefors Significance Criterion) was used to determine the normality of the data. The chi-square test was used to compare the variables on socio-demographic data and clinical profiles of patients of both groups. Results: The mean age of the OPD sample was 29.94 ± 8.89, while the mean age of the community sample was 32.38 ± 9.94 years. The majority of DAC patients (54%) used a semi-synthetic form of opiate while 44% of COC sample used the natural form of opioid (p = 0.022). However, only 42% of DAC patients had sought treatment in the past, while 22% of COC patients had a history of treatment (p = 0.032). In the DAC group, 20% of patients directly sought treatment from DAC, while 74% of the patients at COC sought help for the very first time directly. None of the patients in either group went to faith healers. Additionally, patients with lower income, lower education and using natural opiates with longer duration of dependence and earlier age of onset prefer COC services. Conclusion: This study found out that more than 2/3rd of patients in the COC directly sought treatment for the first time from COC, depicting shorter pathways traversed against 1/5th of DAC sample.

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INTRODUCTION

Opioid dependence is a worldwide health problem with enormous economic, personal, and public health consequences. Opioids are the main drugs of abuse in Asia, Europe and much of Oceania, and it is estimated that globally consumption of opioids is ever-increasing. [1] It is a known fact that opioids are amongst the world's most problematic, illegal, dependence producing substances. There were an estimated 3.3 crore opioid users globally in 2014. [2] India is a substan-

tial contributor to this estimate. The 2004 National Survey estimated opioid use prevalence to be 0.7% in the general population, corresponding to 20 lakh opioid users and five lakhs opioid-dependent population. [3] According to the National Survey by Ambekar et al 2019, there are 2.3 crore opioid users in India, including 77 lakhs -problem users and 28 lakh dependent users. Various factors responsible for onset of drug abuse in adolescents are – peer influence, family structure, parental influence, role model, advertising and promotion, socio-economic factors, availability and knowledge, aptitude, and beliefs. [4]

In spite of high prevalence of opioid use, many patients neither seek treatment nor visit recognized de-addiction services. One of the common reasons for not seeking treatment is not perceiving the need for treatment which further adds to the delay in treatment. Moreover, patients with SUDs are known to seek help only when their clinical condition worsens and that too from non-medical practitioners and unrecognized de-addiction centers. Contrary to this, very limited research has been carried out to explore pathways to care among individuals with substance use worldwide. [5]

The authors could find very few studies mapping the pathways to care in patients of alcohol and opioid dependence wherein the first point of contact was a tertiary care addiction psychiatrist in 56.9% while traditional healers were consulted by about 5.2% of the patients. [6,7,8,9] The opioid dependence syndrome, similar to any substance dependence disorder, with its penchant for desolation, affects youth's most productive years of life in developing countries like ours. In order to better understand the process of treatment-seeking as one of the factors in managing this menace effectively, the index study was carried out especially in light of the paucity of research in this field. Moreover, as the department of psychiatry has been organizing community deaddiction camps for more than 2 decades, some people prefer to be treated within their community rather than visiting a tertiary care facility. Hence, there was need to know and compare the socio-demographic and clinical parameters of the patients visiting the community outreach service and specialized de-addiction services at a tertiary care teaching hospital and also to know and compare the pathways chosen by them before reporting at these two cites. This will help to understand the need to sensitize patients and family and other health and non-health professionals to refer these patients at the earliest, so that unnecessary pathways traversed by these patients can be reduced.

Materials and Methods

Considering the prevalence of opioid use in the community and the prevalence of treatment seekers, a sample of 100 patients with opioid dependence syndrome was considered. The study included consecutive male patients (50 each from the de-addiction clinic (DAC) of the tertiary care teaching hospital and community outreach clinic (COC)) in the age group of 18–60 years who met the diagnostic criteria of mental and behavioral disorder due to use of opioids as per ICD10.[10] Patients with co-morbid dependence on other substances except for nicotine and caffeine, neurologically impaired, having active symptoms of psychotic illness, intoxicated and not accompanied by reliable informants were excluded through clinical interviews.

Procedure

The department of Psychiatry provides community outreach services for 3 days a week and one day of de-addiction OPD at the hospital. The principal investigator was posted at both places. Principal investigator interviewed all the ODS patients at both settings. After obtaining informed consent, the socio-demographic and clinical details were noted on the department's proforma. The patients were further asked to describe the pathway they had traversed before reaching the current care facility. Though the WHO pathway encounter form [11] for mental disorders was available, it did not address the pathways for substance use disorders, especially ODS. Hence, the investigators prepared a semi-structured questionnaire from their experience working in the field and available literature. The questionnaire was modified after the pilot testing on 5 patients each in DAC and COC setting where input from the subjects was taken for modification, deletion or addition of an item. The final

S. No	Question	Response
1	Are you seeking help directly first time ever from this centre?	Yes/No
2	Did you seek help from Alternative medicine/ Ayurvedic/homeopathic (AYUSH)before/ever?	Yes/No
3	Did you seek help from religious faith healer before/ever?	Yes/No
4	Were you referred from other departments?	Yes/No
5	Did you seek help from other Tertiary care centre/deaddiction community camp before/ever?	Yes/No

questionnaire consisted of 5 items. The final questionnaire was administered to 100 patients along with the addiction severity index (ASI)[12] 5th edition and Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)[13] version 8D to find out the severity of dependence and their readiness to change respectively. The final questionnaire had the following questions.

The principles enunciated in the Declaration of Helsinki [14] and Indian Council of Medical Research [15] were followed. The study was approved by the institution's ethical review committee and registered with the clinical trials registry of India.

Statistical Analysis

Data was analyzed using licensed SPSS software. [16] The Kolmogorov-Smirnov test (Lilliefors Significance Criterion) was used to determine the normality of the data. Categorical data was presented in numbers and percentages while continuous data as mean and standard deviation. The Chi square test was used to compare the variables on socio-demographic data and clinical profiles of patients of both groups and to compare pathways to care. *p-value* of less than 0.05 was statistically significant.

Results

The subjects from both treatment settings were comparable on mean age (29.94 ± 8.89 in DAC group, 32.38 ± 9.94 in COC group, p 0.582), marital status, occupation, religion, family type and locality. However, patients reporting to COC had lower income; lower education and the majority were from North Indian tertiary care hospitals (site of study). Table 1 shows a clinical profile of the patients reporting to two settings. Significantly more patients reporting to COC used natural opiates (p 0.022). More patients from COC had longer duration of dependence, earlier age of onset and had not taken treatment in the past, although these variables didn't reach to a significant level.

Discussion

This is the first study from India comparing the pathways traversed by patients with opioid dependence syndrome visiting two different treatment settings. Existing information on pathways to care in opioid dependence syndrome is mostly speculative. Indian literature is scant with studies highlighting the pathways to seek treatment in opioid dependence syndrome [17,18].

The index study was conducted in a small city with a population of around 12 lacs with three big government hospitals within the 5–7 kilometers area for the de-addiction services. The tertiary care teaching hospital (centre of index study) is a reputed government hospital in the region. Hence, the authors opined that patients with SUDs, especially ODS would prefer to visit this centre or any other government hospital directly rather than going to other health/non-health centres.

Sociodemographics of the Sample

The index study investigated and compared the care pathways in patients with opioid dependence syndrome seeking treatment at a de-addiction clinic (DAC) of a tertiary care teaching hospital and community outreach clinic (COC). Most of the variables on socio-demographic proforma were comparable between the 2 groups except for significant differences in education, income and residence. The mean age of the total sample was 31.16 years, which is comparable with earlier studies in the same field,[19,20] yet contrasts with the study by Parmar et al who have a mean age of 46.17 ± 11.98.[17] The index study included male patients, only taking into account the past 10 year record of the department in which majorly male patients have been attending the DAC and Community set-up, which is also consistent with other studies.[19,21] More than 50% of the patients

Table 1: Socio-demographic profile of OPD and Community outreach clinic patients

S. No.	*Socio-demographic Variable*		*OPD (n=50) N(%)*	*Community (n=50) N(%)*	*X2 (df)*	*p-value*
1	Age (Mean in years ± SD)		29.94 ± 8.89	32.38 ± 9.94	27.787 (30)	0.582^{NS}
		Married	28(56%)	29(58%)		
2	Marital status	Single	21(42%)	21(42%)	1.018 (2)	0.601^{NS}
		Separated/divorced	1(2%)	0		
		Illiterate	1(2%)	4(8%)		
		Primary/Middle	11(22%)	23(46%)		
3	Education	Matric	24(48%)	12(24%)	10.594$^{\#}$ (4)	0.032*
		+2/diploma	5(10%)	3(6%)		
		Graduate/Post-graduate	9(18%)	8(16%)		
		Job/Business	17(34%)	33(66%)		
		Farmer	6(12%)	13(26%)		
4.	Occupation	Driver	13(26%)	3(6%)	25.235 (4)	0.598^{NS}
		Student	1(2%)	0		
		Unemployed	13(26%)	1(2%)		
		<25000	27(54%)	47(94%)		
5	Income	25001-50000	5(10%)	1(2%)	20.872 (2)	0.000*
		>50001	18(36%)	2(4%)		
		Hindu	14(28%)	23(46%)		
6	Religion	Sikh	34(68%)	25(50%)	3.562 (2)	0.168^{NS}
		Other	2(4%)	2(4%)		
		Nuclear	20(40%)	18(36%)		
7.	Family type	Joint	29(58%)	27(54%)	2.843 (2)	0.241^{NS}
		Extended	1(2%)	5(10%)		
8	Locality	Urban	20(40%)	25(50%)	1.010 (1)	0.315^{NS}
		Rural	30(60%)	25(50%)		
9.	Resident	Chandigarh	11(22%)	30(60%)	14.924 (2)	0.001*
		Punjab	37(74%)	19(38%)		
		Haryana/Other state	2(4%)	1(2%)		

^{NS} p= not significant, * p <0.05, X^2 - chi-square, df – degree of freedom , # fisher exact test

in both treatment set-ups were married which is in consonance with the available literature.[21], whereas the study by Parmar *et al.* has 76.8 % married sample, which may be attributed to the later mean age of the study sample.[17] Regarding education, 54% of patients visited the COC were under-matric while 76% patients visited tertiary care DAC were at least matriculated in the index study. This difference is statistically significant and similar to the population samples in other studies.[22,23] COC attending patients had a monthly family income less than those attending DAC of tertiary care teaching hospital, like the available literature in substance use disorder study conducted in North India [24]. The possible reason for this can be that people from higher socio-economic group prefer to approach the tertiary care centre more commonly than those attending the community set-up. As

Table 2: Clinical Profile of De-Addiction Clinic and Community outreach clinic patients

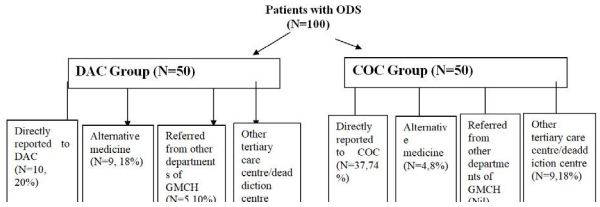
S.No.	*Clinical Variable*		*DAC (n=50) N (%)*	*COC (n=50) N (%)*	*X^2(df)*	*p-value*
1.	Type of opiate	Natural	11(22%)	23(46%)	7.664(2)	0.022*
		Semi-synthetic	27(54%)	15(30%)		
		Synthetic	12(24%)	12(24%)		
2.	Route of administration	Oral	23(46%)	31(62%)	3.193(2)	0.203^{NS}
		Intravenous	16(32%)	9(18%)		
		Nasal/chase/sniff/ other	11(22%)	10(20%)		
3.	Age at first use of opioid	<25 years	40(80%)	35(70%)	1.333(1)	0.248^{NS}
		>/= 25 years	10(20%)	15(30%)		
4.	Duration of use	<5 years	27(54%)	23(46%)	24.277$^{\#}$(24)	0.446^{NS}
		6-15 years	17(34%)	14(28%)		
		16-25 years	4(8%)	9(18%)		
		>26 years	2(4%)	2(4%)		
5.	Duration of dependence	< 5 years	35(70%)	30(60%)	19.609 (22)	0.607^{NS}
		6-15 years	11(22%)	13(26%)		
		16-25 years	3(6%)	6(12%)		
		>26 years	1(2%)	1(2%)		
6.	Past Treatment History	Yes	21(42%)	11(22%)	4.596 (1)	0.032*
		No	29 (58%)	39(78%)		
7.	Family history	Yes	41(82%)	45 (90%)	1.329(1)	0.249^{NS}
		No	9 (18%)	5(10%)		

^{NS} p= not significant, * p <0.05, X^2 - chi-square, df – degree of freedom,# fisher exact test

Table 3: Pathways traversed to De-Addiction Clinic and Community outreach clinic

S. No.	Pathway	DAC (n=50) N(%)		COC (n=50) N(%)		*X^2(df)*	*p-value*
		Yes	No	Yes	No		
1.	Are you seeking help directly first time ever from this centre?	10(20%)	0	37(74%)	0	29.741 $^{\#}$ (3)	0.000*
2.	Did you seek help from Alternative medicine/ Ayurvedic/homeopathic (AYUSH) before/ever?	9(18%)	0	4(8%)	0		
3.	Did you seek help from religious faith healer before/ever?	0	0	0	0		
4.	Were you referred from other departments?	5(10%)	0	0	0		
5.	Did you seek help from other Tertiary care centre/deaddiction community camp before/ever?	26(52%)	0	9(18%)	0		

^{NS}p= not significant, *p <0.05, X^2 - chi-square, df – degree of freedom, # Yates correction



Flow Diagram 1: Pathways traversed by DAC and COC group

Chandigarh caters to the population from Punjab, about 50% patients in both groups were from Sikh background, belonged to joint family and hailed from rural backgrounds, consistent with another regional study due to Sikh predominance in the village areas where study was carried out. [25]

Opioid use Pattern

The index study shows the use of a semi-synthetic form of opiates in about 54% of the DAC attending patients while 46% of the COC attending patients were using opiate in the natural form. This is in consonance with the higher socio-economic status of the sample of patients visiting DAC relative to the COC. The most common route of opioid consumption was oral in both groups with approximately 45 and 60% of the DAC and COC patients, respectively, consistent with other study findings. [25] Besides, the intravenous route of administration of opioids (32% versus 18%) was significantly more common in opioid users visiting DAC than COC. This study potentiates the literature citing the onset of opioid use at age less than 25 years as depicted by 80% and 70% of the patients attending DAC and COC, respectively. [26] Most probable reasons for this can be easy availability of the drug, peer pressure and zeal to try something new in the youth, role modeling as opioid dependence has a high prevalence in rural population of this part of country.

Pathways Traversed

Looking at pathways traversed by the patients before reaching to current treatment facility. The results showed that majority of the patients (74%) in the COC sample sought treatment for the first time in spite having longer duration of opioid dependence than DAC sample. This means that either they did not feel the need for treatment in the past or were unaware of the treatment facility. But the results clearly indicate that 74% of patients in COC traversed short path and reached directly to COC (as shown in flow diagram 1) as opposed to the study by Bhad et al where only 29% participants directly visited the community deaddiction clinic.[18] Further, only 20% of the DAC patients reached tertiary care hospital setting, directly denoting that many patients choose other pathways before reaching the current treatment facility. About 52% of DAC patients went to other tertiary care de-addiction centers before reaching to current facility, whereas only 18% of community patients visited other tertiary care centres as shown in Table 2 , 3 and flow diagram 1. It means that overall, 52% of DAC patients were on treatment from the de-addiction service against 18% patients in COC group. The duration of drug abuse was slightly longer in the community outreach sample, more patients started using the substance at a younger age (70%), and the majority (60%) had severe dependence. Despite these factors, the majority (78%) didn't seek treatment in the past. Conversely, the high number (74%) of direct turnout of patients at community outreach clinic also reflects the awareness about the community de-addiction services being rendered in the community areas by the Department of Psychiatry through regular COCs, one day and annual free indoor de-addiction camps and door to door visits in the local areas. Overall, also the total number of patients sought help from recognized de-addiction service and other tertiary care teaching /de-addiction centres for COC patients was higher than DAC patients (92 v/s 72%). This reflects better awareness and acceptability of treatment to the patients and families in the community from de-addiction psychiatrists.

In both the setting viz. DAC of tertiary care teaching hospital and COC, the subjects seeking help from alternative medicine were considerably small (18 and 8%) , which present a stark contrast to study on alcohol use disorder[25]and in consonance with Bhad et al [18] .It could be because of better awareness amongst the opiate users to seek treatment from a de-addiction centre/Psychiatry specialist for the drug problem, easily accessible and affordable community services in the area being available for past more than 2 decades or both. Surprisingly, in the index study referral rate was found to be very less

(10%), similar to the study by Bhad *et al.* [18], which could be because of deficient training of non-mental health professionals regarding the identification of SUDs and need of psychiatry referral for de-addiction services or poor reporting of the patients to their primary physicians/surgeons about opioid use or both. Hence, there is a need to provide training to non-mental health professionals regarding the identification and management/ referral of patients with SUDs for a comprehensive treatment plan. Due to the paucity of research in the field of care pathways in patients with opioid dependence syndrome, we thus present our study as the first of its kind in this very important area. We tried to compare the findings of our study with a similar study in alcohol-dependence patients, which reported high (43%) treatment-seeking from non-psychiatrists.[27] Another study on pathways to care in mental illness cited that 48% sought first-time help from non – psychiatrists, yet another study points out less than half with mental illness have first contact with a psychiatrist.[24] However, Index study puts forward unique findings in patients with opioid dependence syndrome that only 20% DAC attending and 74% of the COC attending patients in index study region have sought treatment directly from these two treatment settings. Overall, 92% COC patients and 72% DAC patients preferred to seek treatment from a recognized de-addiction service/ addiction psychiatrist and which reflects good awareness in patients with ODS and which is contrary to study by Balhara *et al.* [27] No other study could be found to compare the index study finding, to the best of our knowledge.

Findings of current study shows that patients with ODS preferred to seek treatment from the addiction services/addiction psychiatrist in both the settings. The patients in the COC group traversed the short and direct pathways to avail the services than the DAC group. None of the patients in either group went to faith healers for treatment of ODS.

The study has few limitations in the form of small sample size and male patients only. We also could not include the patients who came intoxicated at first visit and land up in an emergency to comment on the pathways traversed by these patients. Additionally, the questionnaire for pathways traversed by patients with ODS was developed considering the geographical area of the study and hence might not be generalized to the rest of the country. Despite these limitations, Index study is the first of its kind study mapping the pathways traversed by patients with opioid dependence syndrome. The current study compares two different settings of DAC of tertiary care teaching hospital and COC on the aforementioned parameters. A specific questionnaire for opioid dependence syndrome patients was developed and used. The study had a homogenous sample.

Conclusion

It can be concluded from the index study that the majority of the patients with opioid dependence syndrome attending the community outreach clinic as well as tertiary care teaching facility preferred to seek help from the tertiary level Addiction psychiatrist, and very small number went to alternative medicine and none of the patients reported visiting the faith healers before reaching to tertiary care center. The findings indicate the utility of community de-addiction services and there is a further need to improvise and/or start new de-addiction services in the community at the doorsteps of the affected population to minimize the treatment lag. Alternative medicine consultation is less and needs further strengthening and referral as well needs up-gradation by sensitization of non-mental health professionals for timely referral to decrease the chronicity of the ever-growing menace of opioid addiction.

Ethical Statement

This study was approved by Institutional Ethics Committee with reference number – EC/2016/0045.

Declaration of Patient Consent

Patient consent statement was taken as per institutional ethical committee approval along with consent taken for participation in the study and publication of scientific results/ clinical information/ images without revealing their identity, name, or initials. The patient is aware that anonymity cannot be guaranteed though confidentiality would be maintained.

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Conflict of Interest

Nil

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