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ORIGINAL RESEARCH

A Study To Assess The Prevalence And Pattern Of Substance Abuse In Urban Slums Of Amritsar City.

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ABSTRACT:)

Background: The miasma of urban slums makes adolescents vulnerable to this multi-dimensional problem. In these deplorable health conditions, substance abuse further adds to the agony. Recently, substance abuse has been increasing among children and adolescents, as sizeable proportions of them experiment with drugs, quite early in life. Overpopulation, illiteracy, industrialization and urban migration making slums vulnerable to social stress environment, giving rise to unemployment, problem families, broken homes which form the root cause of drug abuse and dependency. Hence, this community-based study was conducted among slum dwellers in Amritsar city to investigate the prevalence and pattern of substance use. **Materials & Methods:** The proposed study was carried out in slum population of Amritsar city. 64 slum areas were recognized according to Draft master plan 2011-2031 by PUDA MOHALI. These 64 areas were divided into 4 sectors depending upon their location and then from each sector, one area was selected randomly by lottery method. After the selection of areas by random method, the households present in these areas were enlisted and from each area, 400 houses were surveyed by investigator by systematic random method. So in total 1600 households were surveyed for this study. **Results:** Out of 1273 respondents who had abused any substance with prevalence rate of 14.09% amongst 9029 population, majority of the respondents were between the age group of 15-34 years i.e. 830 (65.2%) with the prevalence rate of 41.4% combined. Amongst 1273 respondents, 487 (38.26%) consumed alcohol only, 353 (27.72%) exclusively consumed tobacco. While in drug combination majority i.e. 338 (26.55%) consumed alcohol in combination with tobacco, whereas 42 (3.29%) combined alcohol with opiates. 18 (1.41%) of them consumed volatile solvents with alcohol. Other combinations were availed by 34 (2.67%) respondents. **Conclusion:** The present study indicates the initiation of substance dependence following a step ladder approach, from alcohol or tobacco primarily and then shifting on to combination of drugs. The pattern of substance abuse was observed based on types, duration and frequency of consumption. While it provides a vague picture of current usage as well as harmful usage of substance abuse, however dependency criteria needs to be addressed in order to label the subject as substance dependent.

Key words: substance abuse, prevalence, pattern, urban slums

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INTRODUCTION

India is getting urbanized rapidly, with more than one third of the urban population living in cities with settlements more than 10 lakh people. In India alone, slum population is 65 million (2011). It is estimated that by 2030, 40.6% of the country's

population will be living in urban areas. A large proportion of the migrants end up residing in subhuman conditions in slums. The rapid growth of cities has widened the gap between demand and supply of essential services and infrastructures, forcing people to live in crowded slums in unsanitary conditions, exposing

themselves to pollution and natural calamities.¹ Many of the health problems in urban slums stem from lack of access to or demand for basic amenities. Basic service provisions are either absent or inadequate in slums. Lack of safe drinking water, clean, sanitary environment and adequate housing and garbage disposal pose a series of threats to the health of slum dwellers. In these deplorable health conditions, substance abuse further adds to the agony. The miasma of urban slums makes adolescents vulnerable to this multi-dimensional problem. Recently, substance abuse has been increasing among children and adolescents, as sizeable proportions of them experiment with drugs, quite early in life. Overpopulation, illiteracy, industrialization and urban migration making slums vulnerable to social stress environment, giving rise to unemployment, problem families, broken homes which form the root cause of drug abuse and dependency. According to the World Health Organization, substance abuse is persistent or sporadic drug use inconsistent with or unrelated to acceptable medical practice. Today, no part of the world is free from the curse of drug trafficking and drug addiction. All across the world, millions of people with drug addiction are leading miserable lives between life and death. India too is caught in this vicious circle of substance abuse, and the numbers of drug addicts are increasing day by day.² Drug abuse is a complex phenomenon, which has various social, cultural, biological, geographical, historical, and economic aspects. The disintegration of the old joint family system, absence of parental love and care in modern families where both parents are working, decline of old religious, and moral values, etc., lead to a rise in the number of drug addiction cases, who take drugs to escape hard realities of life. Drug use, misuse, or abuse are also primarily due to the nature of the drug abused, the personality of the individual, and the individual's immediate environment.³

Drug abuse has created a detrimental impact on the society. It has led to increase in the crime rate. Individuals with addiction resort to crime to pay for their drugs. Drugs remove inhibition and impair judgment egging one to commit offenses. The incidence of eve-teasing, group clashes, assault, and impulsive murders increases with drug abuse. In a study conducted in India, the mean age of the initiation of substance use was 20.89.⁴ Hence, this community-based study was conducted among slum dwellers in Amritsar city to investigate the prevalence and pattern of substance use and any associated sociodemographic factors for planning and developing effective strategies to reduce substance use among this high-risk population.

MATERIALS AND METHODS

The proposed study was carried out in slum population of Amritsar city. Amritsar city has recognized 64 slum areas according to Draft master plan 2011-2031 by PUDA MOHALI. These 64 areas were divided into 4 sectors depending upon their location and then from each sector one area was selected randomly by lottery method. After the selection of areas by random method, the households present in these areas were enlisted and from each area 400 houses were surveyed by investigator by systematic random method. So in total 1600 households were surveyed for this study. The purpose of study was explained and written consent was taken from the respondent and if minor, then from the parents of the drug abuser, or any other responsible member of family. Questionnaire prepared in vernacular language was used by the observer. After taking

consent, pretested questionnaire was filled in. The data thus collected was compiled and analyzed statistically and valid conclusions were drawn.

RESULTS

The present study regarding prevalence of substance/drug abuse in urban slums in Amritsar city was carried out in total of 1600 households, selected randomly, surveyed in four slum areas having a total population of 9029, 1109 families had one or the other member consuming substance/drugs with a total of 1273 respondents. So a total of 1273 respondents were interviewed through a pre-designed proforma evolved for the study and valid conclusions were drawn after analysing the data.

Sociodemographic profile

Table 1 depicts, amongst 1273 substance abusers, 860 (67.55%) were from nuclear families and rest 413 (32.44%) were from joint families. Hindus being 919 (72.19%), Sikhs being 307 (24.11%), while 43 of the respondents were Muslims (3.37%) and only 4 (0.3%) belonged to Christian religion. Majority belonged to Scheduled caste i.e. 1042 (81.85%), whereas 102 (8.01%) were from Backward caste, 97 (7.6%) were from Schedule tribe and rest 32 (2.5%) were from General category. 1256 (98.66%) were males while only 17 (1.33%) were females who abused any form of substance. Majority were married i.e. 878 (68.97%), 372 (29.22%) were unmarried, while 20 (1.57%) were divorcee and 3 (0.23%) were widower. Predominantly i.e. 1169 (91.83%) belonged to upper lower class according to modified Kuppuswamy scale of socio-economic status, 66 (5.18%) belonged to lower middle class and 38 (2.98%) belonged to lower class.

Prevalence rate and pattern of substance abuse

Table 2 shows that out of 1273 respondents who had abused any substance with prevalence rate of 14.09% amongst 9029 population, majority of the respondents were between the age group of 15-34 years i.e. 830 (65.2%) with the prevalence rate of 41.4% combined, 287 (22.54%) of the respondents were between the age group of 35-44 years having a prevalence rate of 25.69%, while 139 (10.91%) were above the age group of 45 years, only 17 (1.33%) belonged to age group less than 15 years of age with a prevalence rate of 15.79% and 0.56% respectively.

Table 3 shows that amongst 1273 respondents, 487 (38.26%) consumed alcohol only, 353 (27.72%) exclusively consumed tobacco. While in drug combination majority i.e. 338 (26.55%) consumed alcohol in combination with tobacco, whereas 42 (3.29%) combined alcohol with opiates. 18 (1.41%) of them consumed volatile solvents with alcohol. Other combinations were availed by 34 (2.67%) respondents, while 1 (0.07%) was indulged in opiate abuse only.

Table 4 describes that out of 1273 respondents, 876 (68.81%) first tried drugs between the age of 12-18 years, 379 (29.77%) between the age group of 19-25 years, while only 8 (0.62%) and 10 (0.78%) tried drugs for the first time at the age less than 12 years and more than 25 years respectively. Out of 566 respondents who initiated substance abuse through tobacco, 536 (94.69%) started consuming tobacco between the age 12-18 years whereas, amongst 705 subjects who started from alcohol almost 50% indulged into drinking after the age of 18 years. The age of initiation of Tobacco amongst substance abusers was found to be in younger age group as compared to the other respondents and

this difference was found to be statistically highly significant ($p < 0.001$).

Type and pattern of alcohol

Out of 911 respondents, majority consumed country liquor i.e. 709 (77.82%) while 182 (19.97%) consumed whisky, and beer consumed by 4 (0.43%) and 16 of them consumed other type of liquor. 511 (56.09%) had been consuming alcohol for the past 5-10 years, 247 (27.11%) were consuming alcohol for 1-5 years, 130 (14.27%) for more than 10 years and only 23 (2.52%) indulged into liquor consumption within a year ago. 344 (37.76%) were inconsistent or occasional drinkers, 316 (34.68%) consumed alcohol more than three times in a week, while 212 (23.27%) consumed alcohol less than three times in a week and rest 39 (4.28%) respondents consumed alcohol on daily basis. Asking the approximate quantity being consumed or measurement in pegs doesn't provide a clear picture in order to assign a subject being substance dependent.

Type and pattern of tobacco

Out of 708 respondents consuming tobacco, 293 (41.38%) consumed smoke k-form of tobacco (beedi/ cigarette), while 364 (51.41%) consumed smokeless form of tobacco (gutkha, khaini, pan masala etc.), whereas 51 (7.20%) consumed both forms of tobacco. Majority i.e. 307 (43.33%) had been consuming tobacco for more than ten years, while 233 (32.91%) respondents had been taking tobacco for the past five to ten years, 106 (14.97%) respondents were consuming tobacco for past one to five years, whereas 62 (8.75%) of them started taking tobacco in last one year. 342 (48.31%) consumed tobacco less than five times a day, 336 (47.45%) of them consumed tobacco between five to ten times a day, whereas only 30 (4.23%) consumed tobacco more than ten times a day.

Type and pattern of cannabis

Out of 16 respondents consuming cannabis, 14 (87.5%) respondents predominantly consumed charas, while only 2 (12.5%) consumed ganja. The respondents extract the resin of cannabis and consume them as replacement of charas. 10 (62.5%) have been consuming cannabis for the past one to five years, while 5 of them (31.25%) started within a year and 1 (6.25%) respondent had been consuming cannabis for more than five years. 10 (62.5%) respondents consumed between 2-5 times and 5 (31.25%) consumed cannabis for less than two times per day and only 1 (6.25%) consumed cannabis for more than five times a day.

Type and pattern of sedatives

Out of 13 respondents consuming sedatives, 5 (38.46%) consumed Pheniramine, while 2 (15.38%) were dependent on other tranquilizers, and rest 6 (46.15%) were either addicted to alprazolam/clonazepam/nitrazepam depending upon its availability. 7 (53.84%) had been consuming sedatives for past 1-5 years, whereas 4 (30.76%) respondents became dependent on sedatives in the past one year and remaining 2 (15.38%) had been

dependent on sedatives for more than five years. 8 (61.53%) of them took sedatives more than 3 times per day, while 5 (38.46%) consumed it less than 3 times per day.

Type and pattern of volatile solvents

Out of 18 respondents addicted to volatile solvents, 14 (77.77%) respondents sniffed thinner while 4 (28.22%) were addicted to some form of glue or paint. 13 (72.22%) respondents indulged in volatile solvent in less than a year, while 5 (27.77%) have been consuming volatile solvents between 1-5 years. 11 (61.11%) sniffed between 3-5 times per hour, while 7 (38.88%) sniffed less than 2 times per hour.

Type and pattern of opiates

Out of 52 respondents dependent on opiates, majority i.e. 26 (50%) consumed capsules of opioid derivative, 12 (23.07%) consumed poppy husk (bhukki), whereas 9 (17.31%) consumed smack while 5 (9.61%) consumed other forms of drugs or mixed various forms of opiates. Other reason of low incidence of opium use in our study may be due to under reporting by family members. Field investigators observed that in few cases, spouse reported regular drug use while mother or father denied it. Amongst 26 subjects taking capsules of opioid derivatives, 4 (15.38%) initiated within a year, 16 (61.53%) were consuming for 1-5 years, 5 (19.23%) were consuming between 5-10 years while 1 (3.84%) was addicted for more than 10 years. 17 (65.38%) among 26 subjects were consuming 10-20 capsules per day, 6 (23.07%) consumed 20-40 capsules/day, 2 (7.69%) consumed less than 10 capsules/day while 1 (3.84%) had more than 40 capsules/day. Majority i.e. 23 (88.46%) amongst 26 subjects took 5-10 capsules at a time. Out of 12 subjects consuming bhukki, 7 (58.33%) of them were consuming for 1-5 years with majority i.e. 8 (66.66%) taking 50-100 grams per day. 9 (17.31%) amongst 52 respondents indulged in opioid abuse were addicted to smack/heroin. 4 (44.44%) of them started taking heroin last year while 5 (55.55%) had been consuming opioid for 1-5 years. 5 (55.55%) consumed less than 2 grams per day. Remaining 5 (9.61%) out of 52 opioid dependent subjects, consumed other forms of opioid derivative in injectable form (morphin) with majority injecting 5-10 ml per day.

DISCUSSION

Substance abuse surveys among urban slum dwellers provide useful information about the extent and pattern of substance abuse amongst population. This cross sectional study was conducted with the aim to understand prevalence and pattern of substance abuse in slum area of Amritsar. According to NFHS-3 survey (2006), 64.6% of the families residing in urban slums of Delhi were nuclear families, whereas in Chennai over 69% of the families living in the slum region were nuclear. Remaining percent of families was either extended nuclear, joint or mixed families.⁵ A study conducted by Ranjan et al (2004-05) in urban slum community of Mumbai, majority of the respondents belonged to the age group between 15-34 years (61.8%) whereas 19.1% were in the middle age of 35-44 years.

Table 1: Distribution of respondents on the basis of Sociodemographic profile

Sociodemographic profile (n=1273)	Parameters	No. of respondents (%age)
Type of family	Nuclear	860(67.5%)
	Joint	413(32.44%)
Religion	Hindu	919(72.19%)
	Sikh	307(24.11%)
	Muslim	43(3.37%)
	Christian	4(0.3%)
Caste	Scheduled caste	1042(81.85%)
	Scheduled tribe	97(7.6%)
	Backward caste	102(8.01%)
	General	32(2.5%)
Gender	Male	1256(98.66%)
	Female	17(1.33%)
Marital status	Married	878(68.97%)
	Unmarried	372(29.22%)
	Widow/widower	3(0.23%)
	Divorce	20(1.57%)
Socioeconomic status	Lower	38(2.98%)
	Upper lower	1169(91.83%)
	Lower middle	66(5.18%)
	Upper middle	Nil
	Upper	Nil

Table 2: Distribution of respondents, according to their present age, in relation to any substance abused (n=1273)

Age group	Male	Female	Total	No. of respondents	Percentage	Prevalence rate
<15 years	1481	1568	3049	17	1.33%	0.56%
15-24 years	993	925	1918	326	25.61%	16.99%
25-34 years	1067	998	2065	504	39.59%	24.41%
35-44 years	602	515	1117	287	22.54%	25.69%
>45 years	478	402	880	139	10.91%	15.79%

Table 3: Distribution of respondents according to the use of substance as one type or in combination (n=1273)

Substance combination	No. of respondents	Percentage
Alcohol	487	38.26%
Tobacco	353	27.72%
Opiates	1	0.07%
Alcohol + Tobacco	338	26.55%
Alcohol + Cannabis	4	0.31%
Tobacco + Cannabis	8	0.62%
Alcohol + Opiates	42	3.29%
Alcohol + Sedatives	9	7.07%
Alcohol + Volatile solvents	18	1.41%
Alcohol + Opiates + Sedatives	4	0.31%
Alcohol + Tobacco + Cannabis	4	0.31%
Alcohol + Tobacco + Opiates	5	0.39%
Total	1273	100%

Table 4: Distribution of respondents in relation to their age of start of drugs (n=1273)

Age when started	Alcohol	Tobacco	Opiates	Total
<12 years	1 (12.5%) [0.14%]	7 (87.5%) [2.65%]	—	8
12-18 years	340(38.81%) [48.22%]	536(61.18%) [94.69%]	—	876
19-25 years	354 (93.4%) [50.21%]	23(6.07%) [4.06%]	2 (0.52%) [100%]	379
>25 years	10 (100%) [1.41%]	—	—	10
Total	705	566	2	1273

Chi square= 341.9 p value<0.00

Table 5: Distribution of the respondents on the basis of pattern of substance abuse

Substance	Type	Respondents (%age)	Duration	Respondents (%age)	Frequency	Respondents (%age)
Alcohol	Whisky	182(19.97%)	<1 year	23(2.52%)	Daily	39(4.28%)
	Country liquor	709(77.82%)	1-5 years	247(27.11%)	>3/ week	212(23.27%)
	Beer	4(0.43%)	5-10 years	511(56.09%)	<3/ week	316(34.68%)
	Others	16(1.75%)	>10 years	130(14.27%)	Inconsistent	344(37.76%)
	Total	911(100%)	Total	911(100%)	Total	911(100%)
Tobacco	Smoke form	293(41.38%)	<1 year	62(8.75%)	<5times (smoke/ smokeless)	342(48.31%)
	Smokeless form	364(51.41%)	1-5 year	106(14.97%)	5-10 times	336(47.45%)
	Both	51(7.20%)	5-10 year	233(32.91%)	>10 times	30(4.23%)
	Total	708(100%)	>10 year	307(43.33%)	Total	708(100%)
			Total	708(100%)		
Cannabis	Ganja	2(12.5%)	<1 year	5(31.25%)	<2 times/ day	5(31.25%)
	Charas	14(87.5%)	1-5 year	10(62.5%)	2-5 times/ day	10(62.5%)
	Total	16(100%)	5-10 year	1(6.25%)	>5 times/ day	1(6.25%)
		Total	16(100%)	Total	16(100%)	
Sedatives	Pheniramine (Avil)	5(38.46%)	<1 year	4(30.76%)	<3 times/ day	5(38.46%)
	Alprazolam/	6(46.15%)	1-5 year	7(53.84%)	>3 times/day	8(61.53%)
	Nitrazepam					
	Others	2(15.38%)	5-10 year	2(15.38%)	Total	13(100%)
	Total	13(100%)	Total	13(100%)		
Volatile solvents	Thinner	14(77.77%)	<1 year	13(72.22%)	1-2 sniffs/ hour	7(38.88%)
	Paint/Glue	4(22.22%)	1-5 year	5(27.77%)	3-5 sniffs/ hour	11(61.11%)
	Total	18(100%)	Total	18(100%)	Total	18(100%)
Opiates	a) Capsules	26(50%)	<1year	4 (15.38%)	<10 capsules	2 (7.69%)
			1-5 years	16 (61.53%)	10-20 capsules	17 (65.38%)
			5-10 years	5 (19.23%)	20-40 capsules	6 (23.07%)
			>10 years	1 (3.84%)	>40 capsules	1 (3.84%)
			Total	26 (100%)	Total	26 (100%)
	b) Poppy husk (bhukki)	12(23.07%)	<1 year	—	<50 gm/day	3 (25%)
			1-5 years	7 (58.33%)	50-100 gm/day	8 (66.66%)
			5-10 years	3 (25%)	>100 gm/day	1 (8.33%)
			>10 years	2 (16.66%)	Total	12
		Total	12	Total	12	
	c) Smack/ Heroin	9(17.31%)	<1 year	4 (44.44%)	<2 gms/day	5 (55.55%)
			1-5 years	5 (55.55%)	2-5 gms/day	4 (44.44%)
			Total	9 (100%)	Total	9 (100%)
d) Others (Injectables)	5(9.61%)	<1 year	2 (40%)	<5ml/day	1 (20%)	
		1-5 years	3 (60%)	5ml-10 ml/day	4 (80%)	
	Total	5 (100%)	Total	5 (100%)		

Out of total 497 drug abusers, 370 (74.5%) were males and 127(25.5%) were females.⁶ Although the prevalence of substance abuse is comparatively less in case of females than males, but due to social stigma attached to drug indulgence, underreporting of the cases might have been the reason for widening of the difference. Sarangi L. et al (2004-05) observed in their study in urban slums of Sambalpur, that Gudakhu and pan were initiated more in the early adolescent age group. The mean age for the onset of use of Gudakhu was 14.65 years (\pm 0.63) and 14.98 years (\pm 1.08) for pan, while smoking, alcohol, and cannabis were initiated more in the late adolescent period. The mean age for the onset of smoking, alcohol, and cannabis was 16 years (\pm 1.5), 16 years (\pm 1.5), and 16.75 years, respectively.⁷

Meena V et al observed in their study that country liquor was consumed by majority of the respondents (69.07%) in slums of Rohtak city.⁸ Deswal BS et al observed in their study that 12.1% of the respondents were regular users and 38.1% were occasional alcohol users.⁹ Girish N et al in urban slums of Bangalore district, found 16.7% of the respondents consuming alcohol everyday while 39.1% of them consuming on one or two occasions per week.¹⁰ He found frequent heavy drinkers to be around 20%, while 59.4% of the respondents consumed frequent light drinks. Binge drinking was done by 37.3% of the respondents, every time they consumed alcohol.¹⁰ A study conducted by Gupta V et al in urban slum of Faridabad district, observed that beedi was smoked by 36.7% of the urban slum dwellers while 6.3% amongst them smoked cigarettes.¹¹ Burungale et al in their study in urban slums of Nagpur, observed that 33% of the study subjects were smokers for less than 10 years whereas 40.77% of them had the habit for more than 20 years.¹² Most of the smokers (65.01%) had habit of smoking tobacco 1-5 times/day, 15.51% smoked 6-10 times/day and 10.24% of them smoked more than 10 times/day.¹²

In a study by Kabir M.A et al in urban slums of Bangladesh, 3.7% of substance abusers were consuming cannabis, amongst which 2.8% smoked ganja while 0.9% smoked charas.¹³ Street based interview in Kolkata city by Karmakar (1998) found 92% male used cannabis regularly amongst total substance abusers.¹⁴

Overall, at the national level, 0.70% of Indians aged 10-75 years are current users of Inhalant products. Prevalence in the adult population is 0.58% while the prevalence among children and adolescents is 1.17%. In case of inhalants too, males greatly outnumber females using inhalants.¹⁵ Pagare et al (2004) in their study found that amongst total substance abusers, 25% of the subjects abused inhalants in street children of Delhi.¹⁴ Quiraishi R et al in their study amongst treatment seekers in Tertiary care centre in North India found the duration of inhalant use ranged between 1 month and 7.5 years.¹⁶

The current use and problem use of opioid users in India amongst males between 10-75 years is 0.52% and 0.1% respectively, with heroin being 1.14% in current use and 0.57% in problem usage, while other pharma opioids comprise 0.96% and 0.23% respectively in current and problematic usage.¹⁵ Opiate consumption was found to be 6.46% which is lower than as reported by Ningombam et al¹⁷ in Manipur (12%) and higher than as revealed by Ray et al¹⁸ in Delhi who found the ever use of opiates as 1.3% respectively.

CONCLUSIONS

The present study indicates the initiation of substance dependence following a step ladder approach, from alcohol or tobacco primarily and then shifting on to combination of drugs. Prevalence was predominant amongst males and that too in age group 15-34 years. Age of initiation of substance indulgence was majorly between 12-18 years. The pattern of substance abuse was observed based on types, duration and frequency of consumption. While it provides a vague picture of current usage as well as harmful usage of substance abuse, however dependency criteria needs to be addressed in order to label the subject as substance dependent.

LIMITATIONS

As the present study deals only with the prevalence and pattern of substance abuse, criteria for substance dependence can be included in order to assess the real burden of this menace.

As there is varying strength of different types of substances, a standardized measure is needed to determine the quantity of substance consumed.

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