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SOCIO-DEMOGRAPHIC CHARACTERISTICS OF SUBSTANCE ABUSERS AMONG SCHOOL CHILDREN IN NORTHERN INDIA

Syed Shuja Qadri¹, Rambha Pathak², Jagjeet Singh², Feroz Ahmad¹, Tufel Ahad Baba¹, Humaira Bashir¹

¹Department of Community Medicine, Sheri-i-kashmir Institute of Medical Sciences, Soura, Srinagar (Jammu & Kashmir) India

²Department of Community Medicine, MMIMSR, Mullana, Ambala (Haryana) India

E-mail of Corresponding Author: ssaqadri@yahoo.com

ABSTRACT

Background:- Substance abuse among children has become a major public health problem which has assumed alarming dimensions. They cause enormous human suffering in terms of morbidity, mortality and economic loss; threaten the very social fabric of almost all families, communities and nations around the world. Among young people children are the most vulnerable group as the initiation into substance abuse first starts during this period. **Aims and Objectives:-** To find out the socio-demographic factors associated with substance abuse. **Material and Methods:-** A descriptive cross-sectional survey was conducted among students (13-19 years) studying in classes 7th-12th in rural and urban areas of district Ambala, using the Self-Administered WHO Model Core Questionnaire. Stratified random sampling technique was used to select the respondents. A total of 1500 students studying in various government and private schools were taken for the study purpose. **Results:-** A significant impact of substance abuse was seen among male urban students (17-19 years) belonging to nuclear families and of middle socioeconomic class (SE-III). Parental physical/mental abuse, parental/friends drug abuse, family discoid, bad relationship with parents/teachers, were the triggering factors associated with substance abuse ($p < 0.001$). **Conclusion:-** Early identification of the factors related to substance use can improve scopes for planning and preventive approaches for this vulnerable group before the problems get serious after which interventions become difficult.

Keywords:- Substance abuse, Morbidity, Mortality, School children.

INTRODUCTION

Substance abuse among school children has become an issue of immense concern throughout the world.¹ Increasing prevalence of abuse and its impact on social, physical and mental health is a worldwide public health concern affecting the early youth and subsequently the whole life of the individuals. Its use poses a significant threat to the health, social and economic fabric of nations. Substance abuse depicts harmful or hazardous use of psychoactive substances which can lead to dependence syndrome.²

Cigarette smoking, excessive alcohol consumption and the use of illicit psychoactive drugs place large segments of population at increased risk of ill health and death. Surveys of childhood behaviour and substance use shows that alcohol is the most common substance abused by children.³ Factors contributing to adolescent substance use and misuse evolve over a complex relationship between personal and community variable. Genetic vulnerability may be influenced by environmental factors and psychological deregulation. Other variables

predicting childhood substance use include parent's poor parenting skills, parental substance abuse and childhood mis-treatment.⁴ Consequences of substance abuse such as increased morbidity and mortality, increased criminality, decreased productivity, absenteeism, academic problems and accidental injuries are the social costs the family and the community has to bear. This assumes greater relevance in developing countries like ours already burdened by inadequate health care facilities consequent to our population, poverty and illiteracy.⁵

The problem of substance abuse continues and will continue, at least in the foreseeable future, driven both by large-scale vested interests at a macro-level as well as man's inherent pleasure seeking propensity and psychobiological vulnerabilities at a micro-level. However, with a combined multi-pronged effort at multiple levels, aimed not just at supply reduction but also at demand and harm reduction, countries and their people can potentially contain the problem at a manageable level.⁶ Social environment plays a vital role on the acceptance of substances/ drugs among the children. The present study highlights the effects of socio-demographic variables on the problem of substance abuse among school going children of Ambala (Haryana). Such information would be valuable for programme planning, priority allocation and mobilizing political commitment.

MATERIAL AND METHODS

The present study was a school based cross – sectional study carried out in 8 Government and 4 Private schools of rural and urban areas of District Ambala, Haryana. The study was carried out over a period of one year and consisted of school going children of 13 to 19 years studying in 7th -12th classes. A Stratified random sampling technique was used for sample collection. As the data on prevalence rate of substance abuse for Haryana state (India) was not available, the

sample size was calculated by presuming the prevalence of substance abuse to be 21% (mean reported prevalence in India) and as such the sample size for the study came out to be 1500.

Sampling Technique

Ambala District had a total number of 224 higher secondary and senior secondary schools (as per the record available with the District Education Office, Ambala). These schools are situated in rural and urban areas of the district. These are further grouped into two categories: Government and Private schools. Both the type of schools, situated in urban and rural areas of the District Ambala were included in the study. To adjust for the difference in environment of only boys, only girls and co-educational schools, only co-educational schools were taken in study. There were 134 government and 69 private co-educational schools in the 6 Community Development blocks of District Ambala. As the number of schools in the government and private sectors were in the ratio of 2:1, so the number of schools included in the study were 8 government and 4 private schools, which were selected at random. The number of schools in the government sector was more in rural areas and greater numbers of private schools were located in urban areas so the students were proportionately allocated to cover a sample size of 1500 (1075 from government and 425 from private schools. Out of a total of 1500 surveyed, only 1454 were included for the study making a response rate of 96.9%. The reasons for exclusion were incompletely filled, wrongly filled and the proformas left blank. One section of each class from selected school was included in the study which was taken at random. Students in age group from 13-19 years from all classes of 7th standard to +2 were included in the study.

Questionnaire (Content validity and reliability)

Two pretested questionnaires were used to assess the prevalence of substance abuse in schools. These were:-

- 1) A self-reporting questionnaire, as developed by WHO (1980),⁷ to screen students for substance abuse. This proforma is most commonly used proforma internationally to screen individuals for substance abuse.
- 2) A self designed, self-report questionnaire to assess effect of socio-environmental factors on substance abuse.

Data collection procedure

The study was conducted after obtaining written permission from District Education Officer, Ambala. Permission was also obtained from the Principals of the selected schools. Both the questionnaires were translated in Hindi and retranslated in English to ascertain any unacceptable deviation from the original. The two versions were used freely according to the preference of the respondents. The weekly schedule of the students was taken and adjusted accordingly to make them available for the study, without disturbing much of their teaching schedule. One section of each class was included at random where more than one section was there. The students were explained the purpose of the study. They were assured of utmost confidentiality. The method of filling the questionnaire was explained to the students. The respective teachers were requested to stay away from class rooms because their presence could influence the students. Thereafter the performas were filled by the students in the presence of researcher. No interpersonal discussions were allowed in between and all the queries raised by students were clarified by the researcher. The performas were collected simultaneously from all the students and on an average 50 minutes were spent for the whole process.

Data analysis

The completed questionnaires were scored according to the guidelines of WHO Model Core

Questionnaire. The prevalence and pattern of various substance abuse disorders was also calculated. Analysis was done using SPSS Version 17 software. Categorical variables were compared employing non parametric tests (chi-square, fisher exact test) whereas continuous variables were compared by using student's t-test and p value <0.05 was considered significant.

RESULTS

A total of 1454 students studying in classes 7th to 12th participated in our research study (males=1015 and females=439). Around 60.0% had used a substance at least once in lifetime (ever users) while 34.93% were regular users. Among regular substance users prevalence was more (39.65%) in urban students as compared to their rural counterparts (29.78%) and this difference was found to be highly significant ($p < 0.001$) [Table-1].

Gender wise it was found that substance abuse had higher preponderance towards male students (42.36%) as compared to females (17.76%). Further it was seen that the impact of abuse was more among Hindu students (37.25%) as compared to other religions and belonging to the nuclear families (42.46%) ($p < 0.001$) [Table-2].

[Table-3] depicts that substance abuse increased with increasing age of the students (13–15 years=26.17%, 15–17 years=33.77% and 17–19 years=43.64%). The mean age of substance abuse was 16.5 years in rural area & 15.5 years in urban area. Overall the difference in the prevalence of substance abuse in various age groups was found to be statistically significant ($p < 0.001$).

It can be seen from [Table-4] that the prevalence of substance abuse among various socioeconomic classes was found to be maximum in the middle slab i.e. social classes II, III and IV. It was found to be maximum (42.50%) in SE class III, followed by SE class II, IV and I (36.42%, 34.55% and 25.0% respectively). The abuse was more in

urban area students in all the socio-economic classes. The overall difference in the prevalence rate of substance abuse among various socio-economic classes was found to be statistically significant ($p < 0.001$).

Our research revealed that the prevalence of substance abuse was higher (42.06%) in students with a positive family history of drug abuse (48.06% in urban area and 32.30% in rural area). This difference was more in urban school students (48.06%) as compared to rural school students (32.30%) ($p < 0.001$). Further it was much higher (45.80%) among students who had a history of parental physical / mental abuse as compared to those who had a negative history (26.03%). Similarly the abuse was more among students whose friends/peers were substance abusers (64.69%) as compared to non-substance abusers (26.53%) and this difference was found to be significant ($p < 0.001$) [Table-5].

Regarding relationship with family members and teachers it was revealed that substance abuse had significant impact on students who had strained relationship with the family members (54.25%). Subsequently it was more (43.20%) among students who had bad/below average relationship with their teachers ($p < 0.001$) [Table-6].

Multiple Logistic Regression analysis showed five important independent factors, which had strong association with substance abuse. Addiction in family had the highest odds (3.828), followed by physical/mental abuse (3.548) and age of the school children (2.969). The logistic regression model highlights the tremendous impact of familial addiction on the likelihood of substance abuse among children. S.E status and family relationships were also significant with odds of 1.032 and 1.279 respectively [Table-7].

DISCUSSION

Substance abuse is dependent on multiple variables that have been explored in details in developed countries but still in developing countries like India, there are not many studies done on this problem. Overall 60.0% had used a substance at least once in lifetime (ever users) while 34.93% were regular users. Urban students were using more drugs as compared to their rural counterparts (39.65% and 29.78 %) which supports the observations of Juyal *et al*⁸ in Dehradun (urban-37.9% and rural-24.4%) and Tsering and Pal⁹ in West Bengal (urban-15.1% and rural-10.7%). The above findings results reflect a stronger external or western influence on urban than rural adolescent drug use behaviour.

Our research revealed that substance abuse was significantly more among male students (42.36%) of Hindu origin. The reason is attributed to the fact that in males the level of exposure is more whereas in females there is family and societal binding. Sarangi *et al*¹⁰ in Sambalpur (49.5% and 34.6%), Gupta *et al*¹¹ in rural India (51.0% and 5%) and Dube *et al*¹² in Agra (73.9% and 26%) found akin results. Similar observations were found by Verma *et al*¹³ who reported that Hindu students were more prone (60.0%) to drug abuse than other religion students. Prevalence of abuse was more in students coming from nuclear families (42.46%). In a similar study by Sundaram *et al*¹⁴, it was found that the abuse was more in males belonging to nuclear families.

Substance abuse was found to have significant association with age. Saxena *et al*¹⁵ and Tsering and Pal⁹ also observed that increasing age had positive impact on substance abuse. Ahmad *et al*¹⁶ also found in their study that substance abuse was less in 10-13 years (4.8%) and maximum in 16-19 years (20.9%).

In our research, it was found that substance abuse was significantly more in higher socioeconomic classes (II, III and IV). Khan and Unnitham¹⁷ also

found maximum number of substance abusers in higher socioeconomic classes.

Substance abuse was higher among students with a positive family history of substance abuse and physical/mental abuse. Mohan et al¹⁸ and Krishnamurthy et al¹⁹ found substance abuse by one or more family members was highly associated with drug abuse among children. Similarly Sarangi et al¹⁰ found that a significant proportion of substance abusers were associated with parental abuse. The fact that social environment plays an important role in the use or disuse of various substances. Moreover physical/mental abuse damages children physically, emotionally and socially. Further it was noticed that substance abuse was significantly more among students whose friends/peer groups were abusers (64.69%). In a similar study by Atwoli et al²⁰, it was seen that the influence of addicted peers was found to be 75.1%.

It was revealed in our research that substance abuse was more in students who had strained relations with their family members (54.25%) as well as with teachers (43.20%) in the school. Khan and Unnitham¹⁷ found that inter-parental and inter-generational tensions in the family had a bearing in drug abuse tendencies in students. Similarly in a study by Kamal et al²¹, Ghulam et al²² and Tripathi et al⁵, it was revealed that when the family relationship is not close and loving towards children, prevalence of substance abuse increases.

CONCLUSION

Based on the findings, it can be concluded that male urban Hindu students (17-19 years) belonging to nuclear families who had unsatisfactory school performance and were victims of familial physical/mental abuse were found to be at an increased risk of developing substance abuse behaviour. So school authorities should pay special attention to the students belonging to such high-risk categories. An "at risk" approach aiming at primordial prevention

can be initiated at the time of admission to a secondary school. Students belonging to high-risk categories should be closely watched for any signs of development of substance abuse. Parents should be counselled to spend more quality time with their children and to inconspicuously keep a check on their spending habits. These findings can be taken into consideration while formulating policies for drug/ substance abuse prevention and control programme.

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Table-1: Prevalence of Substance abuse according to Residential status

RESIDENTIAL STATUS	No. of Students	EVER USERS		REGULAR USERS	
		No.	%age	No.	%age
Rural	695	361	52.08	207	29.78
Urban	759	510	67.30	301	39.65
TOTAL	1454	871	60.0	508	34.93

$(\chi^2 = 23.02, df = 1, p < 0.001)$

Table-2: Prevalence of substance abusers as per Gender, Religion and Type of Family

Characteristics	RURAL (n=695)		URBAN (n=759)		TOTAL (n=1454)	
	No. of Students	No. of Regular Users	No. of Students	No. of Regular Users	No. of Students	No. of Regular Users
RELIGION						
Hindu	516	164 (32.10)	547	232 (42.41)	1063	396 (37.25)
Sikh	129	33 (25.6)	161	55 (34.50)	290	88 (30.34)
Muslim	44	09 (20.45)	43	13 (30.23)	87	22 (25.28)
Christian	0	0	0	0	0	0
Others(Jain)	06	01 (16.66)	08	01 (12.50)	14	02 (14.28)
$(\chi^2 = 11.39, df = 3, p < 0.05)$						
TYPE OF FAMILY						
Nuclear	196	104 (53.06)	640	251 (39.21)	836	355 (42.46)
Joint	499	103 (20.64)	119	50 (42.01)	618	153 (25.08)
$(\chi^2 = 49.01, df = 1, p < 0.001)$						
SEX						
Male	469	177 (37.73)	546	253 (46.33)	1015	430 (42.36)
Female	226	30 (13.20)	213	48 (22.4)	439	78 (17.76)
χ^2 (df)	43.65(1)		36.27(1)		81.56(1)	
P value	<0.001		<0.001		<0.001	

Table-3: Distribution of Substance abusers as per age

Age Group (Years)	RURAL (n=695)		URBAN (n=759)		TOTAL (n=1454)	
	No. of Students	No. of Regular Users	No. of Students	No. of Regular Users	No. of Students	No. of Regular Users
13 – 15	145	30 (21.2)	153	48 (31.37)	298	78 (26.17)
15 – 17	352	95 (26.98)	403	160 (39.70)	755	255 (33.77)
17 – 19	198	82 (41.4)	203	93 (45.8)	401	175 (43.64)
TOTAL	695	207 (29.78)	759	301 (39.65)	1454	508 (34.93)

$(\chi^2 = 23.88, df = 2, p < 0.001)$

Table-4: Prevalence of Substance abuse as per Socio-economic status

SOCIO-ECONOMIC STATUS	RURAL (n=695)		URBAN (n=759)		TOTAL (n=1454)	
	No. of Students	No. of Regular Users	No. of Students	No. of Regular Users	No. of Students	No. of Regular Users
I	35	7 (20.0)	85	23 (27.2)	120	30 (25.0)
II	100	32 (32.0)	202	78 (38.6)	302	110 (36.42)
III	190	73 (38.42)	257	117 (45.52)	447	190 (42.50)
IV	210	59 (28.09)	172	73 (42.9)	382	132 (34.55)
V	160	59 (22.5)	43	10 (23.25)	203	46 (22.66)
TOTAL	695	207 (29.78)	759	301 (39.65)	1454	508 (34.93)

$(\chi^2 = 30.26, df = 4, p < 0.001)$

Table-5: Distribution of Substance abusers as per Family history of substance abuse and Physical/Mental abuse

Characteristics of abusers	RURAL (n=695)		URBAN (n=759)		TOTAL (n=1454)	
	No. of Students	No. of Regular Users	No. of Students	No. of Regular Users	No. of Students	No. of Regular Users
Family History of Substance abuse						
Positive	325	115 (32.30)	362	174 (48.06)	687	289 (42.06)
Negative	370	102 (27.56)	397	127 (31.98)	767	229 (29.85)
$(\chi^2 = 23.56, df = 1, p < 0.001)$						
Family History of Physical/Mental Abuse						
Positive	345	123 (35.62)	310	177 (57.09)	655	300 (45.80)
Negative	350	84 (24.0)	449	124 (24.61)	799	208 (26.03)
$(\chi^2 = 61.88, df = 1, p < 0.001)$						
TOTAL	695	207 (29.78)	759	301 (39.65)	1454	508 (34.93)

Table-6: Distribution of substance abusers as per Relationship with Family members and Teachers

Relationships	RURAL (n=695)		URBAN (n=759)		TOTAL (n=1454)	
	No. of Students	No. of Regular Users	No. of Students	No. of Regular Users	No. of Students	No. of Regular Users
Relationship with Parents						
> Expected	196	36 (18.36)	187	48 (25.16)	383	84 (21.93)
= Expectation	349	101 (28.93)	381	138 (36.22)	730	239 (32.73)
< Expected	150	70 (46.66)	191	115 (60.20)	341	185 (54.25)
<i>($\chi^2 = 86.01, df = 2, p < 0.001$)</i>						
Relationship with teachers						
Good	276	80 (28.98)	366	110 (30.05)	642	190 (29.59)
Average	341	97 (28.44)	265	132 (49.81)	606	229 (37.78)
Below Average	78	30 (38.46)	128	59 (46.03)	206	89 (43.20)
<i>($\chi^2 = 16.42, df = 2, p < 0.001$)</i>						
TOTAL	695	207 (29.78)	759	301 (39.65)	1454	508 (34.93)

Table-7: Multiple Logistic Regression analysis

Variables entered	B	S.E.	Wald	Df	Sig	Exp-B
S.E status	1.298	0.182	54.9	1	0.000	1.0327
Physical/Mental abuse	1.301	0.177	56.9	1	0.000	3.548
Family relationships	1.35	0.124	42.57	1	0.000	1.279
Age	1.054	0.199	28.63	1	0.000	2.969
Addiction in family	1.278	0.103	42.557	1	0.000	3.828

