

AN EPIDEMIOLOGICAL STUDY ON SUBSTANCE ABUSE AMONG COLLEGE STUDENTS OF NORTH INDIA (KASHMIR VALLEY)

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ABSTRACT

Background: Substance abuse disorder is among the leading public health problems in modern day world as they cause enormous human suffering in terms of morbidity, mortality and economic loss; and threatens the very social fabric of almost all communities around the world and as such is a great threat to the global health, economy and peace. Like most social behaviours the etiology of substance abuse is complex, varying through time, geographical regions and by demographic characteristics. Among young people, students are the most vulnerable group as the initiation into substance abuse first starts during this period.

Aims & Objective: To find out the prevalence and pattern of substance abuse and its association with various socio-cultural and demographic variables.

Material and Methods: Multi-stage random sampling method was adopted to select the study subjects. The study subjects were asked about the substance abuse and related socio-demographic variables by means of WHO model core questionnaire format and results were subjected to statistical analysis.

Results: The overall life-time prevalence of for substance abuse among college students was found to be 31.3%. Male students had significantly higher prevalence of substance abuse as compared to female counterparts (37.5% versus 19.6% respectively). The most common substance being abused was Tobacco products (22.5%) followed by solvents (10.0%), alcohol (6.2%), sedatives (5.9%), cannabis (4.4%), amphetamine products (2.1%), hallucinogens (0.5%) and cocaine (0.3%). Age, gender and family type were found to be strongly associated with substance abuse ($p < 0.001$).

Conclusion: Prevalence of substance abuse among college students is high and causes significant problems in this population; therefore there is necessity of targeted interventions to reduce this huge burden.

KEY-WORDS: Substance Abuse; College Students; Prevalence

Introduction

The history of use and abuse of psychoactive substances is as old as history of civilizations. Human beings have been using various forms of substances derived from plants, as well as alcohol for thousands of years. The recorded history indicates that some of these substances were used not just for their presumed therapeutic effects, but also for recreational purposes to enhance pleasure and relieve stress.^[1] However new and often more harmful drugs and patterns of use are replacing traditional practices. In recent years the consumption of legalized or licit (tobacco, alcohol) as well as illicit substances has increased greatly.

According to World Health Organization (WHO), substance abuse is defined as, "*Persistent or sporadic use of a drug inconsistent with or unrelated to acceptable medical practice*".^[2]

Substance abuse is a broader term which implies the use of harmful or hazardous psychoactive substances including alcohol, tobacco and other illicit drugs like opioids, heroin, amphetamines, cannabis and many more.^[2] Substance abuse disorders are among the world's leading public health problems and cause enormous human sufferings, cost and threaten the very social fabric of almost all communities around the world.

Adolescence is the critical period when the first initiation of substance abuse takes place. Among the adolescents, students are particularly vulnerable due to various reasons like academic pressure, temptation by peer groups, the lure of popularity and identification and easy availability of many such substances like tobacco (cigarettes) and other psychoactive drugs.^[3] Changing social values, globalization, violence and conflict ridden cultures in nations across the world have

undoubtedly added tremendous stress on all human beings and especially adolescents and young adult population making them vulnerable to substance abuse. Research has shown that exposure to violence with armed conflict is a potential risk factor not only for post-traumatic stress disorders and psychosocial problems but also for indulgence in substance abuse.^[4]

Kashmir valley (India) at present is among those unfortunate regions of the world where exposure to a variety of severely distressing traumas has become almost a daily affair for the majority of population irrespective of their age, gender, domicile and profession. The number of people seeking help for their emotional disorders has shown colossal increase over the years. Obviously due to perpetual stress arising out of declining economic growth, destruction of life and property, overwhelming fear and uncertainty, an increasing number of people are resorting to medication with drugs that induce at least momentary tranquillity and also sleep. There has also been an extra-ordinary increase in the number of people suffering from mental disorders like depression, stress and adjustment related disorders. These people are also at increased risk of developing drug dependence because of the fact that drugs are used to relieve anxiety symptoms.^[5]

Materials and Methods

Kashmir valley has ten districts, out of which five districts i.e. 50% of districts, were selected randomly for the study purpose. The research study was carried out in degree colleges of different districts of Kashmir valley. Multi stage sampling procedure was employed for the selection of study subjects which is discussed as follows:

Stage I: All the districts of Kashmir valley were enlisted followed by selection of 50% of the districts randomly. So 50% of districts i.e. 5 districts were included in the study by random selection.

Stage II: From the selected districts all the degree colleges were enlisted followed by selection of 50% of degree colleges from each district randomly. In case a selected district had

only one male and /or one female degree college, then these colleges were included and similarly if a selected district had only one co-educational degree college then the same college was included.

Stage III: From each randomly selected degree college the number of male and female students to be included in the study were taken proportionately in accordance with the total number of male and female students respectively in the college.

Stage IV: The students from a selected college were chosen by systematic random sampling. A sample size of 1300 students was taken after calculation of the same using the formula: $n = \frac{Z^2 P (1-P)}{d^2}$ Where n =sample size, Z = static for confidence interval = expected prevalence and d= Precision. Each selected college was visited twice at an interval of one week. During the visit a pre-tested, self-administered questionnaire originally developed by W.H.O and modified according to local conditions was distributed to all selected students after assuring them about anonymity of their identification and explaining to them the nature of study. Verbal and written consent was taken from the selected college students included in the study. The questionnaire elicited information regarding the socio-demographic profile of respondents as well as details of substance abuse.

Exclusion criteria: All those students whose questionnaire forms were incompletely filled or who did not provide consent for their inclusion in the study were excluded from the study.

Statistical Analysis: The Data obtained was described as Mean +SD and percentages. All the intergroup comparisons were made by Chi-square analysis at 95% confidence interval. Furthermore logistic regression analysis was used to determine the best predictors. MS Excel Minitab, java stat and SPSS Software was used for data analysis.

Results

Table-1 shows that out of total 1300 subjects studied, 50.5% belonged to adolescent age group

while as 49.5% belonged to adult age group with 65.5% males and 34.5% females. Majority of the students were Muslims (98.6%), unmarried (97.6%) and belonged to rural areas (68%) respectively. 52.4% subjects were from nuclear families, while 44.1% were from joint families. The categorization of the level of education of the parents of students showed that 30.9% had high school/college level education each. A total of 41.9% had a monthly family income of more than 10000 Rupees.

A total of 26.5% and 36.2% students in adolescent and adult age group admitted having abused any substance. The proportion of substance abuse was significantly higher with increasing age ($p < 0.005$). Substance abuse was more among males as compared to females (37.5% vs 19.6%). The difference in the prevalence of substance abuse among gender groups was also statistically significant. It was more in urban students (34.1%) belonging to Muslim caste (31.7%) respectively. Among the students whose parents were literate, 32.0% were ever users. Maximum substance abuse was found in students from extended families (56.5%) followed by joint families (35.2%) respectively (Table-2).

Table-3 shows the overall prevalence of substance abuse was 31.3%. Regarding the prevalence of different substances abused it was found that Tobacco and its products were maximum (22.5%) followed by Inhalants (10%) and Alcohol (6.2%) respectively. Out of the total 407 students who were ever users of substance abuse, 264 (64.9%) was single substance users while as the number of multiple substance abusers was 143 (35.1%).

Out of the total 407 students who had ever abused any substance in their life time, it was found that the most common causes found were failure in love affair (29.2%), followed by peer group pressure (26.3%) and family discord (20.6%) respectively (Table-4).

Regarding perception of disease occurrence it was seen that most of the students mentioned Lung cancer (52.6%) as the most common occurring disease followed by Depressive illnesses (38.8%) where as they were less unaware of hepatitis/ AIDS (3.2% and 2.9%) respectively (Table-5).

Table-1: Socio-demographic Characteristics of the Study Participants

Characteristics		N	%
Age (yrs)	Adolescent	656	50.5
	Adult	644	49.5
	mean \pm SD	19.8 \pm 1.7 (17, 33)	
Gender	Male	851	65.5
	Female	449	34.5
Dwelling	Rural	884	68.0
	Urban	416	32.0
Religion	Islam	1282	98.6
	Others	18	1.4
Present Residence	Hosteller	119	9.2
	Non-hosteller	1180	90.8
Marital Status	Married	31	2.4
	Unmarried	1269	97.6
Literacy Status of parents	Literate	890	68.5
	Illiterate	410	31.5
Level of Literacy	Primary level	13	1.5
	Middle school	104	11.6
	High school	276	30.9
	College	276	30.9
	Postgraduate	118	13.2
	Professional	106	11.9
Income	\leq 5000	360	27.7
	5000 to 10000	395	30.4
	> 10000	545	41.9
	mean \pm SD	13062 \pm 11107 (1000, 90000)	
Family Type	Nuclear	678	52.4
	Joint	571	44.1
	Extended	46	3.6

Table-2: Prevalence of Substance Abuse across Socio Demography

Socio-demography		Yes		No		p value
		N	%	N	%	
Age (yr)	Adolescent	174	26.5	482	73.5	0.005 (Sig)
	Adult	233	36.2	411	63.8	
Gender	Male	319	37.5	532	62.5	0.001 (Sig)
	Female	88	19.6	361	80.4	
Dwelling	Rural	265	30.0	619	70.0	0.132 (NS)
	Urban	142	34.1	274	65.9	
Religion	Islam	406	31.7	876	68.3	0.018 (Sig)
	Others	1	5.6	17	94.4	
Present Residence	Hosteller	44	37.0	75	63.0	0.164 (NS)
	Non-hosteller	363	30.8	817	69.2	
Marital Status	Married	13	41.9	18	58.1	0.197 (NS)
	Unmarried	394	31.0	875	69.0	
Literacy Status of parents	Literate	285	32.0	605	68.0	0.413 (NS)
	Illiterate	122	29.8	288	70.2	
Income	\leq 5000	114	31.7	246	68.3	0.455 (NS)
	5000 to 10000	112	28.4	283	71.6	
	> 10000	181	33.2	364	66.8	
Family Type	Nuclear	180	26.5	498	73.5	0.002 (Sig)
	Joint	201	35.2	370	64.8	
	Extended	26	56.5	20	43.5	

Table-6 revealed that the most common source of acquiring substance of abuse was from local grocery shops (52.6%) followed by acquiring from friends (29.7%). Moreover it was reported that students acquired the substance from local

chemist shop and unknown dealers (12.5% and 13.0%) respectively.

Table-3: Prevalence of Substance Abuse

Characteristics		N	%
Substance Abuse	Ever Used	407	31.3
	Never Used	893	68.7
Type	Tobacco	293	22.5
	Alcohol	80	6.2
	Cannabis	57	4.4
	Cocaine	4	0.3
	Amphetamine	27	2.1
	Inhalants	130	10.0
	Sedatives	77	5.9
	Hallucinogens	6	0.5
Number of Substances Used	1	264	20.3
	2	87	6.7
	3	28	2.2
	4	7	0.5
	5	7	0.5
	6	10	0.8
	7	3	0.2
	8	1	0.1
Substances User	Single	264	64.9
	Multiple	143	35.1

Table-4: Causes for Initiation of Substance Abuse

Initiation	N	%
Peer group pressure	107	26.3
Curiosity of drugs	48	11.8
Family discord	84	20.6
Present turmoil in valley	31	7.6
Failure in academics	38	9.3
Failure in love affair	119	29.2
Others (Specify)	34	8.4

Table-5: Disease Perception of Substance Abuse

Diseases	N	%
Hepatitis	13	3.2
HIV/AIDS	12	2.9
Lung cancer	214	52.6
Sexually transmitted diseases	20	4.9
Bronchial asthma	35	8.6
Depression	158	38.8
Any other, Specify	39	9.6

Table-6: Source of Substance Abuse

Source	N	%
Local grocery shop	214	52.6
Local chemist	51	12.5
Unknown dealer/non local	53	13.0
Friends	121	29.7
Drivers	24	5.9
Beggars	6	1.5
Any other (specify)	26	6.4

Discussion

Substance abuse has deeply penetrated in almost every society and in the process has not only destroyed the social fabric of the community but also has led to huge economical losses. Substance

abuse has engulfed human population and has led to great chaos. It has assumed epidemic proportion in the society involving adolescents, adults and people in all other age groups. The prevalence of substance abuse has shown a continuous upward trend. New and non-conventional substances are being used by younger generations replacing the older ones. These newer and non-conventional substances are much more harmful and lead to greater morbidity and mortality in people abusing these drugs and especially younger generations. There are various factors which contribute into the indulgence into substance abuse, and while some of the factors vary from place to place, time to time and person to person, many remain universal throughout the world.

In our research study the overall prevalence of substance abuse among college students was found to be 31.3%. PR Kokiwar and GRS Jogdand^[6] in their study found an overall prevalence of 32.7% for substance abuse among male adolescents in urban slums in Karim Nagar, Andhra Pradesh. This prevalence is similar to that observed in our study. However it was lower than as reported by Sarangi L et al^[7] and Juyal R et al^[8] (Dehradun) who in their studies found the overall prevalence of substance abuse to be 49.5% and 58.7% respectively. This higher prevalence found by in their studies could be attributed to the fact that chewing tobacco was included in their study which is frequently taken by children in that part of India. However the use of chewing tobacco is not so much prevalent in students of Kashmir valley. However our results were much more than Margoob M et al^[9] who found an overall prevalence of 2% for drug abuse in patients attending the OPDs of Psychiatric Disease Hospital in Kashmir Valley. The reason being that while the study done was a Hospital based on patients attending OPDs and does not reflect the overall prevalence in community and secondly it was done on patients attending for Psychiatric diseases and not for treatment of substance abuse. The most common substance being abused in our study was Tobacco in its various forms (22.5%) especially cigarette smoking (20.2%) and the least being abused was cocaine (0.3). Sinha et al^[10] in their study reported a prevalence of 19.4% for tobacco smoking in school students in Bihar. This

was almost similar to the prevalence of tobacco smoking we found in our study. The results were lower than as studied by Ningombam et al^[11] who found the prevalence of tobacco as 35.0%. According to WHO Health Statistics^[12] report the use of tobacco among 13-15 years of adolescents of both sexes was found to be 17.5% in the year 2004 in India. Tobacco use in other forms like chewing, paste, bidi etc. was found to be almost negligible in our study. This is because tobacco chewing in its various forms is not so much acceptable in this part of India while as tobacco smoking is very much acceptable and prevalent in Kashmir valley.

The overall prevalence of substance abuse among male college students was more (37.5%) as compared to their female counterparts (19.6%). Thus the gender difference in the prevalence of substance abuse shows that more male students are involved in substance abuse than female students. Juyal R et al^[8] also reported similar observations in their study and found that substance abuse was significantly much more among male students(45.8%) while as the prevalence among females was lower (7.3%). Kapoor et al^[13] also reported a prevalence of 14.2% in males while as 2.3% for females in his study conducted in Haryana thus showing the higher prevalence in males as compared to females. Similarly Vaidya and Naik^[14] found the prevalence rates for male and female students for substance abuse to be 22.0% and 13.0% respectively in his study conducted in Goa, India.

In our study we found that most of the students involved in substance abuse gave failure in love affair as the reason for initiation of substance abuse (29.2%) followed by peer group pressure (26.3%). However in a study by Niaz U et al^[15] (32%), Margoob MA et al^[9] (44.4%) and Sarangi L et al^[7] (52.8%) it was found that the most common reason for indulgence into substance abuse was peer pressure followed by curiosity of taking drugs.

Commenting on the source of substance abuse it was found that most of the substance abusers were acquiring it from the local grocery shop (52.6%) followed by friends and unknown dealers. This could be explained by that fact that most of the substance abusers in our study were

using tobacco products especially cigarettes and as such acquired it from the local grocery shop. However in similar studies by Saxena V et al^[16], Nasker et al^[17] and Sarangi L et al^[7] reported the most common source was from friends/peer groups (75.5%, 45.5%) and family members (0.4%) respectively.

It was revealed in our study that most of the students reported that lung cancer (52.6%) and depressive illnesses (38.8%) as the most common acquired disorders due to substance abuse. This was due to the fact that most of substance abusing students were using tobacco smoking and thus thought that it can cause lung cancer in them. Margoob MA et al^[9] in his research reported that about half of the depressive patients are found to be smokers. He reported that depression is more common among smokers than non-smokers (60% v/s 15%). Oshodi OY^[18] et al in their study reported that the students involved in substance abuse perceived the following complications arising from their involvement in substance abuse-poor physical health (10%), poor finance (7.1%), declined academic performance (3.9%), problems with family relationships (2.9%) and emotional problems (1.6%).

Conclusion

The problem of substance abuse among students and as such in community is a multi-faceted problem with multi-factorial etiology. In fact substance abuse is not a simple problem but a social pathology whose roots are deeply penetrated in the society. Involvement in substance abuse can lead to depression and vice-versa. This can form a vicious cycle and thus ruin the lives of most productive part of our community that is young adolescent students.

Recommendations

Based on our findings we suggest the following measures and as such strongly recommend that they should be implemented in letter and spirit in order to wipe out this menace from the society.

- As we have observed that the prevalence of substance abuse was high among college going students and its initiation starts at young age, so we have to devise such a strategy such that

a multi- pronged at risk approach is adopted at various levels like at home, school, recreational centers etc.

- Parents have a special role in grooming their children, inculcating good habits and positive attitudes in their children and encourage them to adopt behaviours which are productive. Parents have to adopt following characteristics to know their children and prevent them from getting involved in substance abuse:
 - Be accessible and open-minded
 - Be clear
 - Keep it relaxed.
 - Grab opportunities
 - Discuss peer pressure
 - Practice what you preach
- We recommend that more and more IEC (information, Education and communication) activities be carried out to spread the knowledge about substance abuse and its prevention in the society.
- Last but not the least we recommend that more and more drug dependence treatment and counselling centers be formed at all district levels so that they can provide a comprehensive package essential to treat and counsel the people involved in this social evil.

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