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A Cross- sectional Study on Practice of Substance Abuse among School Adolescent of Varanasi, India

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Abstract

Increasing substance abuse and its impact on physical and psychosocial health is a worldwide public health concern affecting the early youth and subsequently the whole life of the individuals. To plan effective interventions, it is essential to have information on the extent and type of substance abuse among school children and their attitude towards its control. This study is an attempt to assess the practice of smoking, drug use and alcohol consumption among school going boys of class IX and XI. A cross-sectional descriptive survey was conducted among students (12-19 years) studying in classes IX and XI in urban areas of Varanasi, India. A total of 446 boys studying in various government and private schools were interviewed through self-structured questionnaire in highly confidential manner. Overall 11% boys were involved in alcohol consumption, 9.6% boys in smoking and around 6% boys were taking drugs at the time of survey. We found that age of respondent, medium of school, relation with family, unhealthy sexual practices, academic performance were significantly associated with substance abuse. Logistic result shows that odds for substance abuse are higher for (16-19) age group. Although Varanasi is considered as a traditional city and substance abuse is considered to be forbidden for adolescents but our result portrays a real situation prevailing in the society. Thus, there is an urgent need to pay heed to this emerging problem by creating awareness among school students.

Introduction

Substance abuse statistics has reached alarming heights and it is increasing day by day. Although there is no comprehensive national survey available on the extent, pattern and nature of substance abuse in India. Small individual studies have suggested that together with the abuse of common substances like tobacco, alcohol, heroin, opium, etc., abuse of pharmaceutical composition has also seen an increasing trend (UNDCP Report 1995; World Drug Report 2010). The use of substance before 18 years of age increases the chance of developing substance dependence in adulthood (Kandel, 2001). According to WHO, substance abuse refers to the harmful or hazardous use of psychoactive substances including alcohol and drugs. The increase in sexual activity and other risk-taking behavior among adolescents is thought to have resulted from rapid urbanization, increased exposure to western cultures, increasing affluence, and weakening parental influence on children's daily activities (Harpham & Blue, 1995). However, no studies have reported on correlates of risk-taking behavior among high school students.

Psychoactive substances have been found to lead to dependence syndrome and also lead to persistent use of abused substance. Cannabis is globally the most commonly used (129-190 million people i.e. 2.5% of world population) psychoactive substance under international control. Approximately 4% of global burden of disease is now attributed to alcohol use(Room et al.,2005).There are 320 million young people between ages of 15-29 years dying from alcohol related causes, resulting in 9% of all the deaths in that age group(WHO, 2011). India has the largest adolescent population (253.2 million i.e. nearly22%) and one in every five is an adolescent (Census of India, 2011). Unhealthy behaviours like smoking, drinking & illicit drug use, which often gain roots in adolescence increase morbidity and mortality and pose serious public health challenge(Chang et al., 2011; Hale&Viner,2012).The increasing and ever going trend of individuals abusing substances may be attributed to rapid industrialization, urbanization and changing lifestyle. A substantial proportion of the adolescent population uses drug or alcohol to the extent that their health, interpersonal relationship, or school performance are adversely affected (Jhonston et al., 2003).

In India also this epidemic in children has reached alarming heights and has become an issue of serious concern. Child line foundation survey report in 2008 revealed that 13.1% of the people

involved in drug and substance abuse in India, are adolescents. According to a nationwide survey spread over 13 states by the NGO Prayas in association with the Ministry of Women and Child Development and other organization, 32.1% children, below the age of 18, have tasted alcohol, bhang, ganja, heroin or other form of narcotics(Mehta,2011).A survey reveals that of the children who came for treatment to various NGOs, 63.6% were introduced to drugs at a young age below 15 years. Overall 0.4% and 4.6% of total treatment seekers in various states were children (Mehta, 2011). Heroin, opium, alcohol, cannabis and propoxyphene are the five most common drugs being abused by children in India (Katoki et al., 2016). 20 million children are estimated to be getting addicted to smoking every year and nearly 55,000 children are becoming smokers every day in comparison to 3,000 in the US World Health Report (1999). Recent available data point out that among the alcohol, cannabis and opium users about 21%, 03% and 0.1%, respectively were below 18 years(World Drug Report, 2010).The problem in India is that there are no sensitization programs about drug abuse in schools or for children out of the school. India does not have a substance abuse policy. There are very few to no health centers that deal with child substance abuse problems, especially in the rural areas. There is also a high incidence of charging children under the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985.The Global youth Tobacco survey in 2006 showed that 3.8% of students smoke and 11.9% used smokeless Tobacco.

After extensive literature review, it has been gathered that the overall trend of lifetime drug taking secondary students has seen an upward movement. Also, the age of students, resorting to substance abuse has become younger. Prevalence of substance use among school children in Northern India is high and causes significant physical and psychosocial problems in this population (Qadri et al., 2013). Cases of drug abuse is fast rising with 12 per cent of drug addicts in the age group up to 15 years, 32 per cent in the age group 16-25 years and 56 percent in the age group 25-35 years(World bank report,2015). Substance abuse has been increasing among children as sizeable proportions of children in many states of India who experiment with drugs quite early in life (Ray, 2004).During the past few years; however, focus has shifted to reducing the impact & dependence on substance of abuse. This is mainly a result of the ever growing proportion of children as many parts of the world, particularly in India, who experiment with drug at quite an early age (Sarangi et al., 2008). Among the youths too the most grossly and severely affected are students who because of increasing academic and peer pressure, high expectations, for popularity and easy availability of many such illicit substances are easily drawn towards substance abuse. (Kapoor et al., 1995; Ray et al., 1998; Ningombam et al., 2011)

A review of published literature showed that most data is available from big Metropolitan cities in India, but it does not imply that the phenomenon of substance abuse is absent in other cities. So, it is important to examine the aspects of child substance abuse in a nation-wide survey. The study regarding the knowledge and perceptions of school-going adolescents regarding pubertal changes, pregnancy, abortion, menstruation, masturbation and problems of reproductive health has been conducted recently in Varanasi (Srivastava and Singh,2017; Singh et al., 2014) but there is no study related to substance abuse. The present study highlights the effects of socio-demographic variables on the problem of substance abuse among school going children of Varanasi (Uttar Pradesh). Such information would be valuable for program planning, priority allocation and mobilizing political commitment.

Materials and Methodology

The present study is a school based cross- sectional analytical study carried out in urban areas of Varanasi district. The study sample consists of 446 boys aged between 11 and 19 years of class IX and XI studying in Hindi/English medium government and private schools. Data have been collected during December 2015 by the Department of Statistics, Banaras Hindu University, Varanasi, India. The study was conducted after obtaining written permission from the principals of the selected schools. Consent has been received from students as well as their parents and school teachers for participating in the study. The questionnaire was explained thoroughly to the students participating in the survey. 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. 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 response of the students. Thereafter, the questionnaire was 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. The questionnaire was collected simultaneously from all the students and on an average 45minutes were spent for the whole process. Chi-squared tests were used for comparisons of categorical data and p value <0.05 and <0.01 was considered significant First, frequency distribution of all the measures were computed and second the selected demographic variables were cross tabulated with each of the substance abuse i.e. smoking, alcohol and drug. This part of the study was descriptive. To sought and explore the relationship between selected independent variables and the dependent variable a binary logistic regression model is applied to estimate the likelihood of each substance related through the presence of each binomial variable.

Results

Table 1 presents percentage of 446 male adolescent boys of age group 11-19 years according to their demographic profile considered in the study. The age group is divided into two group 11-15 and 16-19 years. More than 50 percent (54.5 %) of the study population belong to age group 16-19 years. Around 56 percent of them belong to English medium school and the rest belong to Hindi medium school. In the study population more than 75 percent students are from Government school. About half of the students belong to middle socio–economic group. It is interesting to note about two-fifth of the adolescent boys have unfriendly relationship with their parents.

Table 2 presents percentage distribution of prevalence of different type of substance abuse among study participants. Among 446 adolescent under study it has been observed that there were around 3% who took all the three type of substance abuse (Alcohol, smoking and drug) and 15% took at least one of the three. Maximum proportion of adolescents were found taking alcohol (11%) followed by smoking (9.4%) and drug (5.8%).

Table 3 presents the percentage distribution of adolescents who are using any substance according to background characteristics considered. Prevalence of substance abuse showed an increasing trend with increasing age of adolescent respondents. It can be observed from the table that it has increased from 13.9% in age group 11-15 years to 86.1 % in 16-19 years age group if we consider the substance alcohol. Similar trend has been observed for smoking and drug also. The difference of the prevalence of substance abuse in various age groups was found to be statistically significant for each substance. The substance abuse was more among Hindi medium students as compared to English medium. From the Table we can see that 67%, 69% and 69.2% students were taking alcohol, smoking and drug respectively are from Hindi medium school whereas, this percentage is only 33%, 31% and 31% for the English medium school and the difference is highly statistically significant.. Relation with family is in inverse relation with substance users. Almost 69% among those who take alcohol and smoking and 65% taking drug have unfriendly relation with their family.

The table 3 shows the perception of boys in terms of percentage regarding their belief in unhealthy sexual practices like pre-marital sex and intimate relationship. Higher proportion of substance abusers had their perception in favor of premarital sex. About (60%) of adolescent boys who were engaged in smoking and alcohol responded that premarital sex was okay. This percentage was much higher for drug intake group of adolescents (77%). About 70% of smoking, alcohol and drug users responded that they ever had intimate relationship. Maximum proportion (more than 80%) of substance abusers had ever faced some or the other type of serious crisis in their life. Higher percentage of the study population those taking drugs (73%) responded that their academic performance is more likely degrading followed by alcohol takers (70%) and smokers (66%) and the difference with the boys whose performance is not disregarded is statistically significant.

Table 4 examines odds for smoking and taking alcohol and drugs with respect to some selected variables. It has been found that the adjusted odds for smoking & taking drug are 3.89 and 5.42 times respectively higher for higher age group (16-19years) as compared to younger age group (11-15years). In the similar manner adjusted odds for smoking and taking alcohol are 3.76 and 2.11 times respectively greater for those having unfriendly relation with their family as compared to their counterpart. This table also shows that taking any kind of substance abuse adverse the academic outcomes. The adjusted odds ratio for smoking and taking alcohol is 2.45 and2.31 times respectively

higher for students who believe that their academic performance is degrading as compared to those who believe it is not degrading. From the Table we see that adjusted odds ratio for taking drugs is significantly higher (4.8 times) for those responded that pre-marital sex is OK as compared to those responded negatively. The adjusted odds ratio for smoking and taking alcohol which is 3.84 and 2.86 times higher for those adolescent who ever involved in intimate relationship as compared to their counterpart. In our survey we found that adjusted odds ratio for taking drug is almost 16 times higher for those who have gone through serious crisis in their life than those who did not faced any such crisis. The unadjusted odds for smoking, and taking alcohol and drug was significantly higher (3.16, 2.96, 3.05 times respectively) for Hindi medium boys than those from English medium. However, the adjusted odds for smoking and taking alcohol and drug are not found significant.

Discussion

Worldwide studies have revealed that substance abuse is widespread and the age of initiation is falling rapidly. 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. The present study has brought out certain important observations which are being discussed here. The present study reveals the prevalence of at least one of the substance abuse to be 15.5% which however is much lower than similar studies conducted by (Juyal et al.,2006) in Dehradun (58.7%), (Ningombam et al., 2011) in Manipur (54%), (Jibril et al.,2009) in Nigeria (66.2%) and (Quadri et al., 2013) in Ambala (60%).

In the present study substance abuse was found to have significant association with age. Higher proportion was associated with age group 16-19 years in comparison to age group 11-15 years. The reason could be due to the fact that as children move from early adolescence phase to late adolescence phase and young adulthood, they go through dramatic physical, emotional and lifestyle changes. There is an increase in the risk taking behavior, experimentation and curiosity. Kapoor et al., 1995 and Qadri et al, 2013also observed in their studies that increasing age was significantly associated with increasing prevalence of substance abuse. The prevalence of alcohol is found most common (11%) followed by smoking (9.6%) and drug (5.8%). Many such studies like(Ningombam et al.,2011) in Manipur, (Varma, & Dang,1979) in Chandigarh, (Mohan et al.,1976) in Delhi, and (Sarangi et al.,2008) in Sambalpur have showed that the ever use of alcohol was 29%, 21.6%, 26.2%, and 14.7% respectively among adolescent students. Relation with family also plays a crucial role in shaping the habits of adolescents, parental supervision, and their level of care have a significant impact on their attitude and behavior. Our present study shows that children indulged in these unhealthy activities i.e. taking these substances were mostly having unfriendly relation with their family members. Role of family has been shown important by (Thakur et al., 2017).

A large proportion of boys who take any substance are taking multiple risks similar to adolescents in other societies. As for instance, more than 60% students who had experienced intimate relationship and believed premarital sex to be ok had also experienced drinking, smoking or drug. Similar result has been found by (Han et al., 2001). Our study also revealed that increasing academic pressure and facing any serious crisis in life can be considered a reason for adopting such habits. Adolescent health programs should pay special attention to those who have initiated any kind of risk-taking behavior, providing them with intensive education and prevention programs concerning all forms of risk-taking activities.

Conclusion and Recommendations

Based on the findings, it can be concluded that adolescent boys (11-19 years) belonging to Varanasi district are at an increased risk of developing substance abuse behavior. An early identification of the factors causing substance abuse may improve scope for planning and preventive approaches required for this vulnerable group before the problems becomes serious and interventions become too difficult. Also the school authorities should pay adequate attention to acknowledge those students showing any sign of development of substance abuse. Counseling of such students along with their parents at school level might help to resolve the increasing percentage of these risk taking behaviors of adolescents. Efforts can also be made at regional and national levels to limit this growing problem among adolescents.

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Table 1: Percentage distribution of adolescent boys and their demographic profile considered in the study.

Characteristics	Percentage
Age of respondent	
11-15	45.5
16-19	54.5
Medium of school	
Hindi	43.9
English	56.1
Type of school	
government	76.7
non-government	23.3
Socio economic status	
Upper	10.6
Middle	49.4
Lower	40 .0
Relation with family	
Friendly	61.7
Unfriendly	38.3
Total	446

Table 2: Percentage Distribution of prevalence of different type of substance abuse among study participants

Type of substance	Percentage
Alcohol	11
Smoking	9.6
Narcotic Drug	5.8
At least one of the three	15.5
All of the three	2.9

Table 3: Percentage distribution of respondents as per background characteristics who are using any substance

Variables	Alcohol Percentage	Smoking Percentage	Drug Percentage	p-value
Age of respondent				
11-15	13.95	14.28	7.69	
16-19	86.05	85.72	92.31	**<0.01**
Medium of school				

Hindi	67.44	69.05	69.23	
English	32.56	30.95	30.77	**<0.01**
Relation with family				
Friendly	23.25	23.8	34.62	
Unfriendly	76.75	76.19	65.38	**<0.05**
Your belief on Premarital Sex				
Okay	60.47	59.53	76.92	
Not okay	39.53	40.47	23.08	**<0.01**
Ever had intimate relationship				
Yes	69.76	69.04	69.23	
No	30.23	30.96	30.77	**<0.01**
Ever faced any serious crisis in life				
Yes	81.39	80.96	96.16	
No	18.61	19.04	3.84	**<0.01**
Is your academic performance degrading				
Yes	69.76	66.66	73.07	
No	30.24	33.34	26.93	**<0.05**
Total Number of Observation	49	42	26	

Table 4: Odds ratios and 95% confidence intervals showing determinants of smoking, alcohol, drug use among adolescent boys

Variables	Smoking		Alcohol		Drug	
	unadjusted	adjusted	unadjusted	adjusted	unadjusted	adjusted
	OR (95% CI)		OR (95% CI)		OR (95% CI)	
age of respondent (16-19 years)[a]	5.71* (2.35-13.85)	3.89 * (1.46-10.37)	2.27* (1.18-4.35)	1.39 (0.67-2.9)	11.01* (2.57-47.19)	5.42 * (1.15-25.42)
relation with family (Unfriendly)[b]	6.10 * (2.91-12.77)	3.76 * (1.63-8.66)	3.49 * (1.87-6.52)	2.11 ** (1.05-4.3)	3.26* (1.42-7.49)	1.26 (0.46-3.46)
poor academic performance (Degraded)[c]	3.31* (1.69-6.49)	2.45 ** (1.12-5.37)	2.87 * (1.54-5.3)	2.31** (1.16-4.59)	3.58 * (1.52-8.43)	2.01 (0.74-5.46)
premarital sex (OK)[d]	4.99 * (2.59-9.64)	2.12 (0.95-4.72)	3.8 * (2.07-6.98)	2.01 (0.99-4.10)	11.1 * (4.33-28.41)	4.88 * (1.65-14.41)
Medium of school (Hindi Medium)[e]	3.16* (1.59-6.27)	1.75 (0.75-4.04)	2.96* (1.57-5.550)	1.91 (0.92-3.963)	3.05* (1.30-7.19)	1.99 (0.72-5.52)
ever had intimate relationship (Yes)[f]	9.04 * (4.49-18.16)	3.84 * (1.68-8.7)	6.35 * (3.40-11.87)	2.86 * (1.39-5.89)	8.13* (3.42-19.31	2.40 (0.85-6.84)
ever faced serious crisis (Yes)[g]	5.18* (2.34-11.47)	2.43 (0.99-5.9)	4.25 * (2.11-8.55)	2.67** (1.24-5.71)	19.97* (4.02-23.25)	16.01* (2.04-25.89)

* *p* value < .05, ** *p* value < .01

Reference category- a: (11-15 years); b: friendly; c: not degraded; d: not OK; e: English Medium; f: No; g: No

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