



Original Article

Substance Abuse Among Male School Students in a Tribal Block of Paschim Medinipur District, West Bengal, India.

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Abstract:

Background

Substance abuse among children is a growing problem throughout the World and also an issue of concern in India. It is one of the most common causes of preventable human deaths. Tribal people are exposed to alcohol in various cultural activities and it increases the risk of substance abuse among tribal school students.

Objective

The purpose of this study was to estimate the magnitude and pattern of the problem among male school students in a tribal block of a district of West Bengal and its major determinants.

Materials & Methods

A School based descriptive cross-sectional study was conducted among 555 male students studying in class VII- XII of two randomly selected schools in a Tribal block (selected by simple random sampling) of Paschim Medinipur district ,West Bengal.

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Results

Overall prevalence of substance abuse among the students was 53.87% for ever abusers. Commonest age of onset was 14 years (30.37%). Majority (56.86%) were inspired by their peers. Students from families of Scheduled Tribe (ST) and farmers were more involved in substance abuse than students from non ST families and non-farmers. Prevalence of alcohol abuse showed an upward trend with increasing age of students. Substance abuse by family members and close friends had a great influence. Students whose mothers were illiterate were more inclined to use alcohol (36.40%) than the students whose mother was literate (21.42%) [P= 0.000].

Conclusion

Substance abuse by family members, peers and literacy level of mothers have significant influence on substance abuse among students.

Key Words: Substance abuse, students, tribal block

Introduction

Substance abuse among children has become an issue of concern throughout the world. It is one of the most common causes of preventable human deaths. Alcohol and tobacco are most commonly used substances. Other substances used are Ganja (Cannabis), Cocaine, Inhalants, Hallucinogens, Sedatives, Tranquilizers and intravenous drugs. It is also a growing problem in India. Earlier considered to be a problem of street children, working children and trafficked children, it has now become a wide spread phenomenon affecting all segments of the society. In India approximately 5500 children and adolescents start using tobacco products daily some as young as 10 years old.¹ In a number of studies prevalence has been found to be higher among boys.^{2,3} A school based study on Prevalence and Pattern of substance abuse among school children in Northern India found prevalence of 60% for ever users and 34.93% for regular users.⁴ Tribal people are exposed to alcohol in various cultural activities. This type of exposure increases the substance abuse among tribal school students. A cross sectional study on Prevalence of Substance use and its determinants among male tribal youths conducted by Kangule D et al⁵ found that the prevalence of substance use was 64.91%. This study is an attempt to get reliable information on the magnitude and pattern of the problem among male

school students in a tribal block of a district of West Bengal and its major determinants.

Methodology:

It was a school based cross-sectional study in a Tribal Block of Paschim Medinipur District, West Bengal conducted during August 2013 to February 2014. The study population were male school students of class VII to XII. Male school Students beyond class and those who were not willing to participate were excluded. Considering the prevalence of substance abuse as 60%⁴, allowable error (relative) 10%, and 95% level of confidence, estimated sample size (n) was 256. Taking design effect as 2 (since students were not selected by simple random sampling) the revised sample size estimated was 512.

Out of the three tribal Blocks in Paschim Medinipur District, one block named Nayagram was selected by simple random sampling. A list of all the high schools (V-XII) in the block was obtained from the department of education. From the list, two schools i.e. Baligeria SC High School and Salgeria Scheduled Academy were selected by simple random sampling. All students of class VII-XII from the two selected schools present on the day of survey were taken for the study. Total students participated in this study were 555.

Clearance of the ethical Committee of All India Institute of Hygiene & Public Health, Kolkata was obtained before conducting the study. Written consent was taken from the Head Masters of selected schools. Participants were given the option to participate in the study and students included in the study were assured confidentiality. A self-administered, predesigned and pre-tested semi structured anonymous questionnaire was used for collecting information. Suitable time schedule was fixed in consultation with class teacher without hampering their class. Pre-testing was done in another school of the selected Block. One week before the day of survey Head master and Class teachers were informed to instruct the students for collection of information regarding monthly family income and literacy status of parents.

The substances included in the study were smoking tobacco (cigarette, beedi), chewing tobacco (tobacco mixture, gutkha, pan, panmasala, zarda), alcohol, handiya, solvents, cannabis, opium, heroin, cocaine and LSD.

Operational definitions used for the study were:

Ever abuser: A person who had taken any of the mentioned substances at least once in his life time.

Regular abuser: A person who had taken any of the mentioned substances at least once a week or several times in the previous month.

Occasional abuser: Someone who had been taking any of the mentioned substances during last one year but not regularly.

Never user: A person who never used any form of substance

On the day of the survey participants were briefed about the objective of the study as well as questionnaire. Their willingness to participate in the study were obtained and were requested to fill in the questionnaire within specified time period. After collection of data the students were sensitised regarding harmful effects of substance abuse.

Results:

Out of the 555 students who participated in the study, representation from each of the classes VII to XII was 16%, 15.50%, 20.90% 19.30%, 15.90% and 12.40% respectively . The mean age was 15 years. Majority of the participants belonged to the age group of 14-15 (50.60%) years. Proportion of Scheduled Tribe (ST) was maximum (45.40%) followed by General (26.30%), Scheduled Caste (14.60%) and Other Backwards Caste (13.70%). Proportion of Hindu students was 89.50% followed by Christian (6.80%), Islam (2.50%) and others (1.10%). Students belonging to the joint families were 61.26%. Most of the students (71.35%) belonged to lower socioeconomic status (SE class V - Prasad's Socio Economic Status Classification 2013). Majority of fathers of the students (78.81%) were farmers,

55.20% studied up to primary and 19.52% were illiterate. In contrast, majority of the mothers (90.04%) were housewives, 35.25 % studied up to primary and 33.89% were illiterate.

Overall prevalence of substance abuse among the students was 53.87% for ever abusers. Prevalence of abuse of tobacco substance (regular and occasional) was 34.41%. Among the study participants, 22.20% had smoked tobacco at least once in life time (ever abusers) while 22.70% and 3.20% were regular and occasional users respectively. Chewing tobacco was used at least once in life time by 16.21% of students ,while 22.16% and 1.08% students were regular and occasional abusers respectively. Occasional and ever abusers of alcohol were 26.48% and 14.41% respectively. The prevalence of cannabis & related products and inhalational drugs was 20.40% and 4% respectively. There were no cocaine, opium, heroin and intravenous drug abusers among the participants. Multiple responses to the type of substance abuse were observed.

Commonest age of onset of substance abuse was 14 years (30.37%) followed by 13 years (23.09%) and 15 years (18.85%). Two (1.05%) students initiated substance at the age of 10 years. The mean age of initiation was 14.17 years.

The majority (56.86%) of students were inspired by their peers followed by experimentation (24.25%), relief from tension (11.04%), smartness (2.68%) and curiosity (2.00%)

In Hindu families proportion of abusers were more e.g. smoking tobacco: 26.80%, chewing tobacco: 23.90 % & alcohol 23.90 % whereas from non-Hindu families, these were 19.00%, 17.20% and 17.20 % respectively .In Joint families proportion of abusers were higher (27.90 %) compared to nuclear families (22.80 %) . In lower socio economic group the substance abuse among the students were more e.g. smoking tobacco: 27.30%, and alcohol 29.00% compared to upper socio economic group in which these were 22.60 % and 20.10% respectively. In chewing tobacco the proportion was more in upper socio economic group (23.90%) than the lower socio economic group (23.00%). The students whose mothers were housewives were

more inclined to abuse substances e.g. smoking tobacco: 26.80 %, chewing tobacco: 23.90 % & alcohol 27.00 % than the non-housewives 16.40%, 16.40 and 21.80 respectively. However, the differences were not significant statistically. (Table 1, 2, 3)

Table 1:- History of smoking tobacco (regular & occasional)

Characteristics		Yes	No	P Value	OR (95% CI)
Type of family	Nuclear	49(22.80)	166(77.2)	0.177	1.31 (0.87,1.99)
	Joint	95(27.90)	245(72.10)		
Caste	General	23(15.80)	123(84.20)	0.001	2.25 (1.34, 3.80)
	Others	121(29.60)	288(70.40)		
Religion	Hindu	133(26.80)	364(73.20)	0.200	1.56 (0.76, 3.30)
	Others	11(19.00)	47(81.00)		
*Fathers occupation	Farmer	124(29.20)	300(70.80)	0.001	2.53 (1.39, 4.66)
	Non-farmer	16(14.00)	98(86.00)		
**Mothers occupation	House wife	133(26.80)	364(73.20)	0.094	1.87 (0.85, 4.22)
	Other than house wife	9(16.40)	46(83.60)		
*Fathers education	Illiterate	28(26.70)	77(73.30)	0.86	1.04 (0.62, 1.73)
	Literate	112(25.90)	321(74.10)		
**Mothers education	Illiterate	51(27.30)	136(72.70)	0.551	1.13 (0.74, 1.72)
	Literate	91(24.90)	274(75.10)		
Monthly income per capita	<Rs.773	108(27.30)	288(72.70)	0.260	1.28 (0.81, 2.02)
	> =Rs.773	26(22.60)	123(77.40)		
Smoking tobacco by close friend	Yes	114(34.20)	219(65.80)	0.000	3.33 (2.09, 5.34)
	No	30(13.50)	192(86.50)		
Smoking tobacco by family members	Yes	123(30.30)	283(69.70)	0.000	2.65 (1.55, 4.55)
	No	21(14.10)	128(85.90)		
Age of the students	< = 16	113 (27.00)	306 (73.00)	0.000	2.77 (1.53, 5.08)
	> 16	16 (11.80)	120 (88.20)		

***17 Students lost their father.**

****3 Students lost their mother**

The proportion of abusers of smoking tobacco, chewing tobacco and consuming

alcohol among the students from General castes were significantly lesser than the other combined castes. Among the students from General caste smoking tobacco was 15.80%, whereas among others it was 29.60% [$p=0.001$]. Chewing tobacco was 14.4% in general caste and 26.4% among others [$p=0.003$] and alcohol abuse was 6.8% in general caste whereas among others it was 33.5% [$p=0.000$] (Table 1, 2, 3)

It was observed that students from the Scheduled Tribe (ST) families were more involved in substance abuse than the students from non ST families. In both alcohol consumption (45.63%) and chewing tobacco (28.17%) these were more than the non ST families (6.8% and 19.14% respectively) and the difference of findings were highly significant [$p=0.000$ and $p=0.012$ respectively]. (Table 2,3)

Table 2: History of chewing tobacco (regular & occasional)

Characteristics		Yes	No	P Value	OR (95% CI)
Caste	General	21(14.40)	125 (85.60)	0.003	2.14 (1.25, 3.69)
	Others	108(26.40)	301 (73.60)		
	ST	71(28.17)	181 (71.83)	0.012	1.66 (1.09, 2.51)
	Other than ST	58 (19.14)	245 (80.86)		
Religion	Hindu	119 (23.90)	78(76.10)	0.253	1.51 (0.71, 3.29)
	Other than Hindu	10 (17.20)	48 (82.80)		
*Fathers occupation	Farmer	108 (25.50)	316 (74.50)	0.0030	1.82 (1.02, 3.28)
	Non-farmer	18 (15.80)	96 (84.20)		
**Mothers occupation	House wife	119 (23.90)	378(76.10)	0.206	1.61 (0.73, 3.64)
	Other than house wife	9 (16.40)	46 (83.60)		
*Fathers literacy status	Illiterate	23 (21.90)	82 (78.10)	0.683	1.11 (0.65, 1.92)
	Literate	103 (23.80)	330 (76.20)		
**Mothers literacy status	Illiterate	40 (21.40)	147 (78.60)	0.474	1.17 (0.75, 1.82)
	Literate	40 (21.40)	147 (78.60)		
Monthly income per capita	< Rs.773	91 (23.00)	305 (77.00)	0.816	1.05 (0.67, 1.66)
	>=Rs.773	38 (23.90)	121 (76.10)		
Type of Family	Nuclear	48 (22.30)	167 (77.70)	0.684	1.09 (0.71, 1.67)

	Joint	81(23.80)	259 (76.20)		
chewing tobacco by close friend	Yes	109(32.70)	224(67.30)	0.000	4.91 (2.87, 8.50)
	No	20 (9.00)	202 (91.00)		
Chewing tobacco by family members	Yes	113 (27.80)	293 (72.20)	0.000	3.21 (1.78, 5.86)
	No	16 (10.70)	133 (89.30)		

***17 Students lost their father .**3 Students lost their mother**

The prevalence of alcohol abuse showed an upward trend with increase age of students. It increased from 25.30% in 13-16 years to 30.10% in 17-19 year age group, although the difference was not significant. (Table 3)

The majority of students using the substances were influenced by their close friends. The study showed that alcohol abuse among the students whose close friends also used it was 44.2%, whereas among the students whose close friends did not it was 6.5% [p=0.000]. Similar scenario was observed in the case of smoking and chewing tobacco. The students whose close friends had history of smoking tobacco, the proportion of abusers (34.2%) was more than those whose close friends did not (13.5%) [p= 0.000]. Similarly the students whose close friends had history of chewing tobacco, abusers (32.7%) were more than those whose close friends did not (9.0%) [p=0.000]. (Table 1,2,3)

It was also observed that students from the families of farmers were more involved in substance abuse than the students from the families of non-farmers. In all the three situations e.g. smoking tobacco (29.2%), chewing tobacco (25.5%) and consuming alcohol(31.6%) these were more than the non-farmer families (14.0%,15.8% and 9.6% respectively). The differences of the findings were observed to be significant. (Table 1,2,3)

The substance abuse by family members also had a great influence on the students to abuse. The study findings showed that smoking tobacco (30.30%), chewing tobacco (27.80%) and consuming alcohol(40.10%) were higher among the students whose family members used substances than those whose family members did not (14.10%,10.70% and 8.50% respectively). The differences of the findings were significant. (Table 1,2,3).

Alcohol abuse was found to be significantly associated with mother's literacy status. The students whose mothers were illiterate were abused to alcohol (36.40%) more than the students whose mothers were literate (21.42%) [$p= 0.000$]. However no such significant differences were observed with father's literacy level. (Table 3)

Table 3: History of use of alcohol (occasional)

Characteristics		Yes	No	P Value	OR (95% CI)
Age	<=16 years	106 (25.30)	313 (74.70)	0.266	1.27 (0.81, 2.00)
	>16 years	41 (30.10)	95 (69.90)		
Caste	General	10 (6.80)	136 (93.20)	0.000	6.85 (3.37, 14.31)
	Others	137 (33.50)	272(66.50)		
	ST	115 (45.63)	137(54.37)	0.000	7.11 (4.47, 11.35)
	Other than ST	32 (10.56)	271 (89.44)		
Religion	Hindu	134 (27.00)	363 (73.00)	0.458	1.28 (0.64, 2.58)
	Others	13 (22.40)	45 (77.60)		
*Fathers occupation	Farmer	134 (31.60)	290(68.40)	0.000	4.33 (2.17,8.82)
	Non-farmer	11 (9.60)	103 (90.40)		
**Mothers occupation	House wife	134 (27.00)	363 (73.00)	0.412	1.32 (0.65, 2.74)
	Other than house wife	12 (21.80)	43 (78.20)		
*Fathers education	Illiterate	35(33.30)	70 (66.70)	0.100	1.47 (0.90, 2.38)
	Literate	110 (25.40)	323(74.60)		
**Mothers education	Illiterate	68 (36.40)	119 (63.60)	0.000	2.10 (1.40, 3.16)
	Literate	78 (21.42)	287 (78.60)		
Monthly income per capita	<Rs.773	115(29.00)	281(71.00)	0.031	1.62 (1.02, 2.60)
	>=Rs.773	32 (20.10)	127 (79.90)		
Use of alcohol by close friend	Yes	130(44.20)	164(55.80)	0.000	9.98 (5.63, 17.90)
	No	17 (6.50)	214(93. 50)		
Use of alcohol by family members	Yes	127 (40.10)	190 (59.90)	0.000	7.22 (4.23, 12.44)
	No	20 (8.50)	216 (91.50)		

Discussion:

In this study it was found that 53.87% of the students were ever abusers. The finding was similar to studies conducted by Ningambam et al⁶ in Imphal, Manipur (54.00%), Juyal et al in Dehradun (58.7%)³ and Qadri et al⁴ in Ambala, Haryana (60.00%). However the prevalence was much higher than as reported by Saxena et al⁷ in Dehradun, Uttarakhand (46.90%), Sarangi et al² in Sambalpur, Orissa (43.40%) and Sing et al⁸ in National Capital Territory (9.80%). The reason for high prevalence of substance abuse could be due to easy availability and accessibility of substances and socio-cultural environment.

This study revealed that 34.41% of the students were abusing tobacco regularly. The finding was almost similar to the studies done by Mohan et al⁹ in Delhi (34.30%), Qadri et al⁴ in Ambala, Haryana (34.93%), Juyal et al³ in Dehradun, Uttarakhand (31.30%), and NFHS-3¹⁰ in India (28.60%) respectively. However the prevalence was higher than as reported by Kapoor et al¹¹ in Haryana (14.20%), Anees et al¹² in Aligarh (5.10%), Nigambam et al⁶ in Imphal (25%), GYTS (19%)¹³, Tsering et al¹⁴ in India (12.50%), Naraain et al¹⁵ in Noida (11.20%) and Sing et al⁸ in Delhi (5.40%). The prevalence of regular tobacco abuse was lower than as reported by Sinha et al¹⁶ in eight North-Eastern states (Nagaland: 69.10%, Sikkim: 68.10%, Arunachal Pradesh: 54.20%, Tripura: 50.40%, Mizoram: 58.40%, Assam: 45.20%, Manipur: 74.40% & Meghalaya: 54.70%). The variation in the findings between different regions of India may be due to socio-cultural diversity in different parts of the country.

The alcohol abuse of students came out to be 26.48% which was similar to studies done by Mohan et al⁹ in Delhi (26.20%), by Nigambam et al⁶ in Manipur (29.00%), Digamber et al⁵ in Andhra Pradesh (20.72%) and Ray et al¹⁷ in National Survey (19.30%), whereas it was lower than reported by Qadri et al⁴ in Haryana (44.49%). However, it was found to be higher than as reported by Sarangi et al² in Orissa (14.70%), by Saxena et al⁷ in Uttarakhand (8.70%), Anees et al¹² in Aligarh (3.80%) and by Health & Family Welfare nation-wide survey NFHS-3¹⁰(11%).

In this study regular smoking tobacco abuse was reported by 22.70% which was similar to a study by Sinha et al¹⁶ in eight North- Eastern states (Assam: 28.60%,

Tripura: 28.60%, Arunachal Pradesh: 31.80%, Sikkim: 32.90% & Meghalaya: 32.10%), Sarangi et al² in Orissa (26.60%) and Ahmadi et al¹⁸ in Iran (25.00%), whereas it was lower than as reported by Sinha et al¹⁶ in eight North- Eastern state (Nagaland: 38.7%, Mizoram: 40.70% & Manipur: 40.80%), Qadri et al⁴ in Haryana (35.69%),but it was much higher than as reported by Narain et al¹⁵ in Noida (3.70%).

The prevalence of regular abuse of chewing tobacco was reported by 22.16% which was similar to a study conducted by Sinha et al¹⁶ in eight North-Eastern states (Assam: 29.30% & Tripura: 29.70%), whereas this finding was much lower than the finding as reported by Qadri et al⁴ in Haryana (35.01%) and Sinha DN et al¹⁶ in eight North-Eastern states (Sikkim: 42.50%, Nagaland: 52.50%, Arunachal Pradesh: 35.00%, Mizoram: 45.70%, Manipur: 51.50% & Meghalaya: 43.00%), However this finding was much higher than the result as reported by Narain et al¹⁵ in Noida (2.50%).

The prevalence of cannabis and related products (20.40%) was found to be higher than as reported by Ningambam⁶ in Manipur (14.00%), Mohan et al⁹ in Delhi (12.01%), by Qadri et al⁴ in Haryana (8.54%) and by Ray et al¹⁷ in National Household Survey (3%). The prevalence of the inhalational drugs was found to be 4% in this study. It was similar to a study done by Qadri et al⁴ in Haryana (2.61%).

Regarding age of initiation of tobacco abuse, it was revealed that the commonest age of onset of substance abuse was 13-15 years (72.37%) with peak at 14 years of age (30.37%). This result was similar to a study done by Anees et al¹² in Aligohr (13-15 years with peak at 14 years-48.60%), Saxena et al⁷ in Doiwala block (14-15 years-55.30%) and Qadri et al⁴ in Haryana (13-16 years). The mean age of initiation of substance abuse was found to be 14.17 years in this study. This could be attributed to experimentation with substances, enjoyments and curiosity of taking substances which usually starts at 13-15 years of age. This might be attributed to the behavioral change among students from childhood to adolescence and from adolescence to adults. Regarding mean age of initiation of substance abuse, similar results were obtained in studies done by Qadri et al⁴ in Haryana (mean age: 14.50years) and Narain et al¹⁵ in Noida (mean age: 12.40 years). The majority of abusers had started the habit of substances abuse around 14 years of age, though few students reported at age 13 years or less.

In this study tobacco abuse was found to have significant association with age. It was observed that tobacco abuse decreased with increase of age which contradicts the finding of other studies. Qadri et al⁴ in Haryana observed in their study that prevalence of substance abuse increased significantly with increase of age.

This study revealed that history of abusing substance was significantly more among students whose close friends were also using it than among the students whose close friends were not using it. Similar findings were also observed in other studies.^{5,11,12,14,19,20}

This study also revealed that the history of abusing substance was significantly more among students whose family members were also using it than among students whose family members were not using it. Kapoor et al¹¹, Anees et al¹², Ningombam et al⁶, Ateji et al¹⁹, Nagasal Dida et al²⁰, and DigamberKangule et al⁵ also obtained similar findings.

Conclusion:

The study shows that prevalence of substance abuse is quite high among students of Tribal region. Substance abuse by family members, peers and literacy level of mothers have significant influence on substance abuse among students. There is urgent need to intervene and protect this vulnerable group from falling prey to it.

References:

1. Patel DR, Greydamus DE, Substance Abuse: a Paediatric concern. Indian J Pediatr. 1999; 557-67.
2. Sarangi L, Himangshu P, Acharya O, Panigrahi P. Substance abuse among adolescents in urban slums of Sambalpur. India J. Community Med 2008; 33:265- 267.
3. Juyal R, Bansal R, Kishore S, Negi K S, Chandra R, Semwal J. Substance abuse among Intercollege students in district Dehradun. Indian J Community Med 2006; 31: 252-54

4. Qadri S, Goyel RKD, Sing J , Ahluwalia S, Pathak R , Bashir H. Prevalence and Pattern of Substance Abuse among school children in Northern India: A Rapid Assessment study. *Int J Med Sci Public Health*. 2013; 2(2): 273-282
5. Kangule D , Darbastwar M, Kokiwar P . A cross sectional study of prevalence substance use and its determinants among tribal youths. *Int J Pharm Biomed Sci* 2011, 2(3), 61-64.
6. Ningombam S, Hutin Y, Murhekar MV. Prevalence and Pattern of substance use among the higher secondary school students of Imphal, Manipur, India. *Natl Med J. India*. 2011; 24: 11-5.
7. Saxena V, Saxena Y, Kishore G, Kumar P. A study on substance abuse among school going male adolescents of Doiwala Block, District Dehradun. *IJPH*. October- December 2010; Volume 54, 197-200.
8. Singh V, Pal H.R., Mehta M, Dwibedi SN, Kapil U. Pattern of Tobacco use among school children in National Capital Territory (NCT). *Indian J. Pediatr*. 2007-Nov; 74(11): 101-20.
9. Mohan D, Thomas MG, Sethi HS, Prabhu GG. Prevalence and Pattern of drugs use among high school students: a replicated study. *Bull Nasel*. 1979 July-Dece; 31(3-4): 77-86.
10. International Institute for Population Sciences, Mumbai and Macro International. 2008: National Family Health Survey- 3. India. URL: <http://www.nfhsindia.org> (Cited 2014 Nov 06)
11. Kapoor SK, Anand K, Kumar G. Prevalence of tobacco use among school and college going adolescents of Haryana, *Indian J. Pediatr*. 1995 July-Aug; 62(4) 3: 461-6.
12. Anees Ahmad, NajamKhalque, Zulfia Khan. Analysis of Substance Abuse in Male Adolescents. *Iran J. Pediatr* Dec 2009; Vol. 19(No. 4), Pp: 399-403.
13. Global Youth Tobacco Survey Collaborative Group: Tobacco use among youth: Across country comparison. *Tob Control* 2002; 11:252-70.
14. Tsering D, Pal R, Dasgupta A. Substance use among adolescent high school students in India: A survey of knowledge, attitude, and opinion. *J. Pharm. Bioall. Sci*, April-June 2010; 2 (2): 137-140.

15. Narain R, Sardana S, Gupta S, Sehgal A. Age at initiation & prevalence of tobacco use among school children in Noida, India. A cross sectional questionnaire based survey, Indian J. Med.Res. March2011; 133: 300-30.
16. Sinha DN, Gupta PC, Pednekar MS. Tobacc use among students in the eight North-Eastern states of India. Indian cancer;40: 43-59.
17. Ray R. The Extent, Pattern and Trends Of Drug Abuse In India, National Survey, Ministry Of Social Justice and Empowerment, Government Of India and United Nations Office On Drugs and Crime, Regional Office For South Asia. 2004.
18. Ahmadi J and Hasani M. Prevalence of substance use among Iranian High School Students. Behaviours: March 2003; 28(2): 375-379
19. Ondieki AG and Mokua OZ. A Comparative Analysis of Drug Use and Abuse among Male and Female Secondary School Students in Kisii County, Kenya. Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS),2012; 3(4): 506-513
20. Dida N, Kassa Y, Sirak T, Zerga E and Dessalegn T. Substance use and associated factors among preparatory school students in Bale Zone, Oromia Regional State, South east, Ethiopia. Harm Reduction Journal 2014, 11:21