A Study of Substance Use In Children and Adolescents In Community Setting

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Abstract:

Background: Substance abuse problems can be described as developing through a set of progressive stages. The adolescent period, it self is more vulnerable for beginning of various substance abuse. Adolescents usually begin to use legal drugs like tobacco, alcohol and then cannabis and other illicit drugs. **Objective:** To determine the socio-demographic profile of substance using children and adolescents in a community setting. **Methods:** 150 families were selected using systematic sampling with random start from a well-defined community. The study was carried out in two phases. In phase - I, 74 families were identified who had children in the age group 10-19 yrs. There were total of 141 children in this age group. They were further screened for substance use through interview of parents and children. In Phase II, Children who had been found to have used some psychoactive substance were taken in the case study group. Similar number of children who were not using any psychoactive substance were selected for control group from the same 150 families. Both the study group children and control group children were evaluated in detail for Sociodemographic information & nature and extent of substance use by using ICD-10 Diagnostic Criteria For Research. **Results:** The mean age of the both groups was comparable and males predominated (60.5%) in both group. In both groups, educational level was similar but there was higher number of children who were currently attending school in the control group. Majority of school drop-outs were seen from the study group. (57.9% as compared to 28.9% in the control group). This was statistically significant.). The prevalence of substance use was found to be around 27%. In our study the most commonly used substance was tobacco & Mishri was the most common form used. Chewing tobacco, cigarette and gutkha were various other tobacco containing products used. Further, Mishri was more commonly used by females, while cigarette and gutkha were more commonly used by males. Of the 23 tobacco dependent children 20 were above the age of 16 years. This finding was statistically significant. ($P < 0.05$). Only the males were found to use alcoholic beverages and all these boys were above the age of 16 years, Beer was the most common form used. **Conclusion:** Study findings can be used to generate awareness in the community regarding antecedents of substance abuse and the problems arising from it. Community based-longitudinal studies are needed to understand multiple factors influencing alcohol use and recommend targeted preventive measures.

Keywords: Tobacco, alcohol, children- adolescents, Socio-demographic factors

Introduction

It has been seen that early and late adolescence are probably the most important developmental phases of life due to various biological and psychological changes. Emerging attitudes and social norms pose various challenges to the person and those around him. In the process of coping with their own development more and more children and adolescents are now seen consuming alcohol, smoking cigarettes, using marijuana and other illicit drugs.[1-6] Since many years tobacco, alcohol and marijuana were thought to be gateway drugs', which precede the onset of problematic use of other illicit drugs.[1] The developmental progression works in an additive fashion, which often means adding use of 2nd or 3rd stage drugs to earlier one.[7]

The reasons for starting the use of these substances may be many and different from child to child. These may be Influence of peers, influence of parents who are using substance, high expectation from parents and teachers regarding scholastic achievements or as a thrill seeking experience or as the effect of advertisement and media.[4,8]

Whatever may be the reason, substance abuse is found to be associated with various psychological problems e.g. rage, aggression, fist fights, indiscretions, transient anti-social acts or even a well formed psychiatric illness as depression, anxiety disorders, conduct disorders, ADHD, bipolar affective disorder.[9-11] These various problems may be antecedent to substance use or arising together or may emerge later.[12]

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For many decades the problem of substance use disorders has been studied extensively in adults, and the triggering point was often noted to be in early and late adolescence.[3, 5, 6]

This community study of children in the age group of 10-19 yrs. will help to detect psychopathology related to substance use disorders (SUD), which may be the cause, effect or perpetuating factor. Attention to this psychopathology will help to stop labeling the child as a drug addict and also help to develop strategies for preventing substance use.

There is paucity of such relevant studies, done in the community in Maharashtra. The current study is planned as a part of larger departmental project aimed at prevention of substance abuse in children and adolescents.

Methodology

Aim & Objective: To assess the extent and nature of psychoactive substance use in the age group of 10-19 years

The present study was conducted in a whole well-defined community area. This area has been architecturally divided into group of houses arranged in the form of extended lanes. From these, two lanes were selected. In these lanes there were total 600 families, among which 150 families were selected using systematic sampling with random start. The study was carried out in two phases.

PHASE I: These 150 families were screened for any child aged between 10-19 yrs. 74 families were identified who had children in this age group. There were total of 141 children in this age group. They were further screened for substance use through interview of parents and children.

Consent: Written informed consent was obtained from child itself if above 18 yrs of age and from parents / guardians of any child below the age of 18 yrs, after the relevant information about the study was conveyed to them. Complete confidentiality was assured to the parents and the child.

PHASE II: Children who had been found to have used some psychoactive substance were taken in the case study group. Similar number of children who were not using any psychoactive substance was selected for control group from the same 150 families. Both the case/study group children and control group children were evaluated in detail for:

1.Sociodemographic information.

2.Nature and extent of substance use by using ICD-10 Diagnostic Criteria for Research and the severity of substance taking behavior was graded as harmful use and dependent use.

(The terms Harmful use' and Dependent use' were specifically used wherever it was mandatory, otherwise term substance use' was used for the general description regarding substance-taking behavior)

Instruments and tools: ICD 10 Diagnostic criteria for research (ICD - 10 DCR)

Observation & Results

Table 1: Age and Sex distribution of total number of children and adolescents between the age group of 10-19 yrs.

Age Groups (Years)	Male	Female	Total	Percentage
10-12	13	19	32	22.7
12-14	17	10	27	19.1
14-16	14	9	23	16.4
16-18	14	8	32	22.7
18-19	16	11	27	19.1
Total	76	67	141	100

Table 2: Prevalence of Substance Use In Children And Adolescents

	No. of children (N=141)	Percentage
Children with substance use	38	27
Children without substance use	103	73
Total	141	100

Table 3: Sociodemographic Data

3A) AGE

Variable	Children with Substance use (Study Group) N=38	Children without Substance use (Control Group) N=38
Mean age (SD)	15.86 (2.61)	14.5 (2.06)

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3B) GENDER

Gender	Children with Substance use (Study Group) N=38	Percentage	Children without Substance use (control Group) N=38	Percentage
Male	23	60.5	23	60.5
Female	15	39.5	15	39.5

3C) EDUCATIONAL STATUS

Educational Status	Children with Substance use (Study Group) N=38	Percentage	Children without Substance use (Control Group) N=38	Percentage
Primary	03	7.9	02	5.3
Secondary	34	89.5	31	81.6
11th Std &Above	01	2.6	05	13.1

3D) OCCUPATIONAL STATUS

Occupation	Children with Substance use (Study Group) N=38	Percentage	Children without Substance use (Control Group) N=38	Percentage
Students	16	42.1	27	71.1
School Drop Outs	22	57.9	11	28.9
a. Unemployed	05	13.2	04	10.5
b. Unskilled Labourer	13	34.2	05	13.2
c. Skilled labourer	4	10.5	2	5.2

P<0.05* Statistically significant

3E) RELIGION

Religion	Children with Substance use (Study Group) N=38	Percentage	Children without Substance use (Control Group) N=38	Percentage
Hindu	34	89.5	37	97.4
Muslim	04	10.5	01	2.6

3F) FAMILY TYPE

Family type	Children with Substance use (Study Group) N=38	Percentage	Children without Substance use (Control Group) N=38	Percentage
Nuclear	24	63.15	31	81.5
Joint	14	36.8	07	18.4

3G) FAMILY INCOME

Family Income	Children with Substance use (Study Group) N=38	Percentage	Children without Substance use (Control Group) N=38	Percentage
Up to 25000 Rs/ Year	6	15.8	5	13.2
25000 to 75000 / Year	32	84.2	33	86.8

Table 4: Distribution of Psychoactive Substances

Type of psychoactive substance	No of children	Percentage
Tobacco	38	27
Alcohol	07	18.4
Other illicit drugs	00	00

All 38 children were using Tobacco containing products. Out of 38 children 7 were also using alcoholic beverages.

Table 5: Various Forms of the Psychoactive Substance Use

5 A)

Tobacco containing products	No of children
Mishri	25
Chewing Tobacco	9
Cigarette	10
Gutkha	7

28 children were using 1 tobacco containing products.

08 children were using 2 tobacco containing products.

1 child was using 3 tobacco containing products.

1 child was using all 4 tobacco containing products.

5 B)

Alcohol containing beverages	No of children
Beer	7
Whisky	2
Rum	1
Country liquor	1

4 children were using 2 types of alcoholic beverages, while 3 children were using 1 type of alcoholic beverage.

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Table 6: Alcoholic Beverages: Age & Gender Distribution

Age group (Years)	Beer		Whisky		Rum		Country Liquor		Total
	M	F	M	F	M	F	M	F	
10-16	-	-	-	-	-	-	-	-	-
16 yrs & Above	7	-	2	-	1	-	1	-	11
Total	7	0	2	0	1	0	1	0	11

- Only males above 16 yrs of age used alcoholic beverages
- All alcohol users were 'Harmful Users'

Table 7: Tobacco Use: Age & Gender Distribution

	Children with Tobacco Dependence (N=23)			Children with non-dependent use of Tobacco (N=15)		
Age Groups (years)	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
10-12	1	0	1	2	0	2
12-14	0	0	0	2	4	6
14-16	2	0	2	0	2	2
16-18	5	4	9	0	2	2
18-19	8	3	11	1	0	1
Total	16	7	23	7	8	15

For statistical analysis children below 16 years of age compared with children above 16 years of age (P value less than 0.05)

Discussion

It has been seen that the problems of Substance use disorders (SUD) usually begin during preadolescent or adolescent period. Hence much of the efforts are now directed at identification of preventable or treatable risk factors for SUD in children and adolescents. In the same evolving process we studied child related risk factors, namely associated psychopathology, temperamental difficulties, school related difficulties, and correlated them with substance use behaviour.

Our study was carried out in an under privileged community. Community by its definition is a group of individuals who share common interests, characteristics, social values and family ties. The same cultural norms and beliefs flow across the people in the community. Hence studying the risk factors for substance use disorder in community sample will help in generating the preventive as well as treatment based health programs applicable to similar community populations.

There were a total of 141 children between the age groups of 10-19 years, distributed in 74 families, out of the total 150 families who were screened. Among the 141 children 76 were males and 67 were females. **(Table 1)**

We found 38 children who were using one or the other psychoactive substance. These children formed our study group. From the remaining 103 children who were not using any psychoactive substance, we took 38 children who formed our control group. The children in the control group were selected randomly. The prevalence of substance use was found to be around 27% **(Table 2).** Terhi et al found prevalence to be 26.8% while Reinberz et al, in a community sample of adolescents, found it to be around 32%.[13,14] In contrast to this Deykin et al, mentioned prevalence of substance use disorders in the range of 8.2% to 9.4%. They studied 424 students in the age group of 16 - 19 years who were attending college and evaluated alcohol and illicit drugs other than tobacco.[15] In our study the most commonly used substance was tobacco (27%). **(Table 4, Table 2)**

Table 3 shows the various socio demographic variables in both study group and control group. The mean age of the both groups was comparable and males predominated (60.5%) in both group. These findings were similar to Timothy Wilens et al. [(16)]. There was no much difference between the two groups with respect to religion, family distribution and socio-economic status of the families. In both groups, educational level was similar but there was higher number of children who were currently attending school in the control group. Majority of school drop-outs were seen from the study group. (57.9% as compared to 28.9% in the control group). This was statistically significant. (TABLE 3 D).

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In our study tobacco and alcohol were the substances used, tobacco being the commonest and used by all 38 children in one or the other form. Alcohol was used by 7 children all of whom were found to have non-dependent harmful use. We did not find any other illicit drug in our sample **(Table 4).**

Psychoactive substances were used in various forms. **(Table 5)** Mishri' was found to be the most prevalent and traditional method for using tobacco being commonly used for cleaning the teeth. Though seemingly harmless as perceived by the users, mishri users fulfilled criteria for tobacco dependence. Mishri appeared to be turning into an addiction, and reports have already been mentioned.[17] Chewing tobacco, cigarette and gutkha were various other tobacco containing products used by these children. These methods also appeared to be culturally influenced. Chewing tobacco was used by 9 children (6.4%) while cigarette and gutkha were used by 10 (7.1%) and 7 (5%) children respectively. Nitcher and Nitcher et al studied 1606 college students in Karnataka. The mean age of their sample was 20 years. They found 18% had experimented with gutkha.[18] In our study children who used gutkha were above the age of 16 years. It appears that with increasing age gutkha may be more frequently used. Further, mishri was more commonly used by females, while cigarette and gutkha were more commonly used by males. This pointed at cultural sanction for using these products by the females and males respectively.

Among the various Alcoholic beverages, we found Beer used by all 7 children, while 4 of these 7 children also used whisky, rum or country liquor **(Table 5)**. The one child who took country liquor had dropped out from school and started working in a country liquor shop where he started consuming alcohol.

Only the males were found to use alcoholic beverages and all these boys were above the age of 16 yrs. **(Table 6)** Further they also fulfilled criteria for tobacco dependence. The relation exists between increasing age and severity of substance use both in quantity and quality this has been previously documented in the literature.[7,19]

Since tobacco-containing products had been used by all children we graded the severity of tobacco intake as per ICD 10 DCR definitions. We found 23 (60.5%) children fulfilled criteria for tobacco dependence while remaining 15 children were non-harmful non-dependent users of tobacco **(Table 7)**. Of the 23 tobacco dependent children 20 were above the age of 16 years. This finding was statistically significant. ($P < 0.05$, **Table 7**)

Patton George et al and Michael Boyle et al had shown that as age advances the frequency of using tobacco products also increases.[7,19] Further we noted the male preponderance towards use of tobacco products. Lirio Covey et al had also observed similar findings.[20]

Conclusion:

Study findings can be used to generate awareness in the community regarding antecedents of substance abuse and the problems arising from it. Community based-longitudinal studies are needed to understand multiple factors influencing alcohol use and recommend targeted preventive measures.

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