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Prevalence and Pattern of Substance Abuse among Senior Secondary Schools Students in South Delhi

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ABSTRACT

Introduction: Substances abuse, a major public health problem affects our society on different levels. Substance abuse directly effects adolescents particularly students this will increase physical health problems, dysfunctional social relationships, suicidal tendencies, mental illness and even lower life expectancy in adolescence and the another fact is the age of initiation which is progressively declining In the most serious cases, harmful use of drugs can lead to a cycle in which damaged socioeconomic standing and ability to develop relationships feed substance use. Study was carried out to assess the prevalence and pattern of substance abuse among senior secondary school students in South Delhi.

Objectives: To determines the prevalence of substance abuse among senior secondary school students. To assess the pattern of substance abuse among senior secondary school students. To find out the association between substances use and socio demographic variables of the students.

Methodology: A descriptive cross sectional study was conducted among 396 students (13 years-18 years) from 9th and 11th class in South Delhi, chosen by stratified random sampling techniques, using the self-administered questionnaire.

Results: The finding of the study reported that the overall prevalence of substance abuse is 42%. Alcohol 59.9% is the most common substance abused by the students followed by tobacco 22.8% inhalants 14.4% and pharmaceutical 3.0%. The causes of initiation of substance abuse; each of the 27.0% respondents showed Peer pressure and Curiosity as the main reason of initiation of substance abuse then enjoyment 22.9%, failure in love 7.6%, casual 3.2%, adulthood 3.2%, family problem 2.5%, easy availability 1.3%,the maximum age group of initiation of substance abuse was between 13 years-15 years of age. Monthly family income of their parents was shown to have a statistical significant relationship with substance abuse of the respondents ($\chi 2=14.716$, df=5, $p<0.001$).

Keywords: Substance abuse; Prevalence; Pattern; School students

INTRODUCTION

According to WHO, substance abuse refers to the harmful or hazardous abuse of psychotropic substances, including alcohol and illicit drugs. Psychotropic substance use can cause dependence syndrome or psychological dependence, a cluster of behavioral, cognitive and physiological phenomena that develop after repeated substance use and that typically include a strong hanker for drug intake, difficulties in controlling its use, shows determination in its use despite harmful consequences, a higher priority given to drug use than to other activities and commitments, expanded resistance and now and again a physical withdrawal state.

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Substance use is increasing with age of the students. The reason could be due to the fact that as children move from early to late adolescence and young adulthood, they encounter dramatic lifestyle changes i.e., physical and emotional. Developmental progressions, such as puberty and increasing independence, have been associated with substance abuse. There is an increase in the risk taking behavior, experimentation and curiosity of the students.

Drug use surveys among the general population show that the extent of drug use in young people higher than that older people, although there are some exceptions associated with the traditional use of drugs such Khat or Catha. Most of the research studies suggested that the early (12 years old-14 years old) to late (15 years old-17 years old) adolescence is a critical risk period for the initiation of substance use and that substance use increasing among young people aged 18 years-25 years. The path from initiation to harmful use of substances among young people is influenced by factors that are often out of their control. Factors at the personal level (including behavior change and mental illness, neurological defects and gene variations resulting from social influences), the micro level (parental and family functioning and peer influences) and the macro level (socioeconomic and physical environment) can render adolescents vulnerable to substance use [1]. These factors vary between individuals and not all young people are equally vulnerable to substance use.

Overall, it is the critical combination of the risk factors that are present and the protective factors that are absent at a particular stage in a young person's life that makes the difference in their susceptibility to drug use. Early mental and behavioral health problems, poverty, lack of opportunities, isolation, lack of parental involvement and social support, negative peer influences and poorly equipped schools are more common among those who develop problems with substance use than among those who do not.

Harmful use of substances has multiple direct effects on adolescents. The probability of unemployment, physical health problems, dysfunctional social relationships, suicidal tendencies, mental illness and even lower life expectancy is increased by substance use in adolescence.

Substance use was considered as a social problem associated mainly with street children but is now increasingly being seen across various sub- populations of children (i.e., school-going students and out-of-school children living at home). Substance use among the younger population, across all socioeconomic groups from cities to small towns and rural areas, with multiple substance use also being declared. Several cultural and regional factors play a part, e.g., tobacco is used as a tooth cleanser in many parts of India. In India, no country wide or large survey has focused on prevalence of substance use in children and adolescents. Studies have small-to-medium samples, mostly conducted at a single setting or at a local or regional level.

The commonest drugs for abuse were alcohol, tobacco, pharmaceutical opioids and inhalants. While tobacco and alcohol use are already acknowledged as a social problem, it is of significance that inhalants were commonly reported as a substance of use among children recruited from almost all states/ union territories in India.

Tobacco is a nervous system catalyst that can cause complex biochemical and neurotransmitter disruptions. It raises heart rate and blood pressure, constricts blood vessels, irritates lung tissue and diminishes your ability to taste and smell. The alcohol (ethanol) is prepared by fermentation, in this mechanism the yeast fungus feeds on the sugars and/or starches in certain plants-such as barley or grapes, it excretes alcohol along with carbon dioxide (CO_2). Beer, wine or after dinner liqueur, all alcohol is made with the same fermentation process. The different colors, tastes, strength and flavors come from the different fruits or vegetables and they used as a preservative and diluting substances for the fermentation process. Excessive use of these two substances causes health hazards and this behavior may increase the risk of cancer due mostly to different culture in India, tobacco rapidly becomes a part of socio culture milieu in various communities, basically in eastern, north eastern and southern part of the country [2]. In India tobacco control measures are complex because of the population of India is high, easy availability of inexpensive tobacco products and disproportionate implementation of tobacco control laws particularly in the rural areas.

Inhalant refers to the vapours come from toxic substances which are inhaled. These chemicals are rapidly absorbed through lungs into the bloodstream and reach into the brain and other organs. Shoe polish, glue, lighter fluid, cleaning fluid, gasoline etc., these are common products that can be used as inhalants.

Drug abuse is not just a social hazard but a brain disease which is not replaced. It should be treated as mental illness. India has a largest population of children and adolescents in the world but substance abuse by children are under researched [3].

National Status

Alcohol consumption, at present, is ubiquitous and has been consistently increasing throughout the world. Universally, unsafe utilization of liquor causes roughly 3.3 million passing's consistently (5.9% all things considered) and 5.1% of the worldwide weight of infection is inferable from liquor utilization. It causes in excess of 60 unique issues and is the third most significant hazard factor for the worldwide weight of infection. Albeit created nations have prevailing in hardly diminishing liquor utilization, yet their normal utilization is as yet higher than those of creating nations. Southeast Asia and the Western Pacific regions are as yet demonstrating expanding liquor utilization pattern. In Southeast Asia region, per capita unadulterated liquor utilization has expanded by over half somewhere in the range of 1980 and 2000. Similarly, in India also, per capita alcohol consumption has increased alarmingly by 106.7% between 1970-1972 and 1994-1996 [4].

Alcohol is the most common hallucinogenic substance used by Indians. Nationally, about 14.6% of the population (between 10 yrs and 75 yrs of age) using alcohol in day to day life. In terms of absolute numbers, there are about 17 crore persons who consume alcohol in the country. Use of alcohol is considerably higher among men (27.3%) as compared to women (1.6%). For every one woman who consumes alcohol, there are 17 alcohol using men [5]. The survey indicates that a sizeable number of individuals use Sedatives and Inhalants. About 1.08% of 10-multi year old Indians (roughly 1.18 crore individuals) are current users of sedatives (non-medicinal, non-prescription

use). States with the most noteworthy commonness of current sedative use are Sikkim, Nagaland, Manipur and Mizoram. In any case, Uttar Pradesh, Maharashtra, Punjab, Andhra Pradesh and Gujarat are the best five states which house the biggest populaces of individuals utilizing sedatives. Inhalants (overall prevalence 0.7%) are the only category of substances for which the prevalence of current use among children and adolescents is higher (1.17%) than adults (0.58%). Other categories of drugs such as, Cocaine (0.10%) amphetamine type stimulants (0.18%) and hallucinogens (0.12%) are used by a small proportion of country's population.

Delhi and Mumbai ranked among the world's top 10 cities with the highest rates of cannabis (marijuana or weed) consumption per year **(Table 1)** [5].

Table 1: Current use and dependence of inhalants and alcohol: National and by states, 10-75 year old population.

State code	State/UT	Inhalants ever user (%)	Inhalants dependence (%)	Alcohol current user (%)	Alcohol dependence (%)
1	Jammu and Kashmir	1.22	0.13	3.5	0.3
2	Himachal Pradesh	3.38	0.38	8.9	0.7
3	Punjab	1.01	0.11	28.5	6
4	Chandigarh	0.17	0.02	17.5	1.1
5	Uttrakhand	1	0.11	18.8	1.6
6	Haryana	2.63	0.29	21.6	2.7
7	Delhi	4.48	0.5	21.3	2.4
8	Rajasthan	0.13	0.01	2.1	0.7
9	Uttarpradesh	0.69	0.07	23.8	4.4
10	Bihar	0.08	0.01	0.9	0.15
11	Sikkim	4.58	0.51	15.7	3.6
12	Arunachal Pradesh	5.33	0.56	28	7.2
13	Nagaland	0.84	0.09	8.1	1.7
14	Manipur	2.11	0.23	22.4	3.8
15	Mizoram	2.74	0.3	7.8	1.1
16	Tripura	--	--	34.7	13.7
17	Meghalaya	0.08	0.01	3.4	0.9
18	Assam	1.24	0.13	8.8	1.3
19	West Bengal	0.36	0.04	16.7	0.9
20	Jharkhand	1.61	0.17	6.5	0.4
21	Odisha	0.03	--	16.4	2.1
22	Chhattisgarh	0.58	0.06	35.6	6.2
23	Madhya Pradesh	1.15	0.12	17.7	2
24	Gujrat	0.1	0.01	3.9	1.2
25	Daman and DIU	-	-	18.3	3.3
26	Dadra and Nagar Haveli	1.99	0.22	11.6	0.5
27	Maharashtra	0.76	0.09	5.7	2.5
28	Andhra Pradesh	0.78	0.09	13.7	5.9
29	Karnataka	0.43	0.05	6.4	2.6
30	Goa	2.56	0.29	26.4	3.4
31	Lakshadweep	1.05	0.12	0.2	0
32	Kerala	0.53	0.06	12.4	0.6
33	Tamilnadu	0.2	0.02	14.2	4
34	Pondicherry	1.71	0.19	9.5	4.6
35	Andaman and Nikobar islands	1.66	0.19	25.4	7.1
36	Telangana	0.74	0.08	16.8	1.8
37	India	0.7	0.08	14.6	2.7

International Status

In 2015 and 2016, for the first time in half a century, life expectancy in the United States of America declined for two consecutive years. A key factor was the increase in unintentional injuries, which includes overdose deaths.

In 2016, 63,632 people died from a drug overdose in the United States, the highest number on record and a 21 per cent increase from the previous year [6]. This was largely due to a rise in deaths associated with pharmaceutical opioids, including fentanyl and fentanyl analogues. This group of opioids, excluding methadone, was implicated in 19,413 deaths in the country, more than double the number in 2015. Evidence suggests that Canada is also affected, with a large number of overdose deaths involving fentanyl and its analogues in 2016 [7].

MATERIALS AND METHODS

Study Design

Cross-sectional design was adopted to carry out the study.

Operational Definition

• **Substance use:** Consumption of alcohol and drug.

• **Substance:** The substance refers in the study were tobacco, alcohol, solvents and Pharmaceutical opiates.

• **Substance abuser:** In this study any participant who has accepted having used one or more mentioned substances during past 1 year and has been taken it at least once in a week or several times in the previous month was considered to be substance abuser. Senior Secondary School Students-It refers to the students who studying in 9th and 11th class [8].

Data Collection

Data was collected by self- administered structured questionnaire tool from the student in the class, after short introduction and explaining about my Study. The reliability of the questionnaire was ascertained and validated by subject experts. The tool consisted of following sections:

• **Section A:** Socio-demographic Profile of the students.

• **Section B:** Prevalence and pattern of substance abuse by their family members, friends and about themselves which include age of initiation, question about the use of tobacco other than for religious purposes (cigarettes, chewing tobacco, including beedis, hooka, khaini, gutka, pan masala). questions about alcohol use by alcohol, we mean beer, wine, grain alcohol, or hard liquor, knowledge and practice questionnaire about drug abuse [9].

Sampling design: A multi-stage, random sample design was adopted in study. Two strata were formed on the basis of type of classes (9th and 11th) and a sample of respondents of an optimum size with a proportional allocation, were interviewed.

Period of study: January-June 2019.

Sample size and procedure: 396 male and female school going students from different schools were interviewed by using an interview schedule (Sample size was further subdivided into different subcategories, based on the stream or sections by the total number of the students in the school [11]. These details could not be given in the methodology, to be precise).

The finite population formula was used as the population was less than 50000.

n=NZ2p (1-p)

d2 (N-1)+z2 p (1-p)

Where N=Total population=19170

n=Required size of sample

z=Standard normal variant statistics at 95% level of confidence=1.96

p=Expected prevalence=0.5

d=Degree of accuracy=5%=0.05

n=19170(1.96)2(1-0.5)

(0.05)2(19170-1)+(1.96)2(0.5)(1-0.5)

Sample size=377

Non-responsive rate=5%

Total sample size=19+377=396

Inclusion Criteria

• Both male and female students who were present at the time of data collection from govt. co-educational schools of South Delhi [12].

• Students who gave consent after being informed about the study.

Exclusion Criteria

• Students who were refused to participate.

• Students who were absent in the class at the time of data collection.

• Students who participated in pilot study will not be included.

Ethical consideration: Approval was taken from centre for public health and healthcare administration, Akal college of health and allied sciences and ethical committee of the Eternal University, Baru Sahib [14]. Permission was taken from DOE (Director of Education). Informed consent was obtained from the participants. Confidentiality of the subject was maintained. The data was used only for the research purpose [15].

Statistical Analysis

All data were coded, entered and then analyzed using Statistical Package for Social Sciences (SPSS) version 23 [16]. Descriptive statistics were expressed as frequencies, percentages for various variables, odds ratio and as means and SD and inferential one chi square test to significant differences or associations between variables as per the objectives of the study [17].

RESULTS

The present study was conducted among 396 male and female school students of south Delhi with the broad objective of studying substance abuse pattern and prevalence among them [18].

Socio Demographic Profile

In present study 55.3% respondents were male and 44.7% were female **(Table 2)**.

Table 2: Distribution of frequency and percentage of socio-demographic data.

S.No.	Variable	Frequency	Percentage
	Age		
1	13-15 years	214	54
	16-18	182	46
2	**Gender**		
	Male	219	55.3
	Female	177	44.7
3	**Class**		
	9th	217	54.8
	11th	179	45.2
4	**Family type**		
	Nuclear	93	23.5
	Joint	245	61.9
	Extended	58	14.6
5	**Religion**		
	Hindu	264	66.7
	Muslim	63	15.9
	Sikh	46	11.6
	christen	23	5.8
6	**Education of father**		
	Primary	9	2.3
	Middle	58	14.6
	High school	207	52.3
	Graduate and above	122	30.8
7	**Education of mother**		
	Illiterate	78	19.7
	Primary	142	35.9
	Middle	117	29.5
	High school	58	14.6
	Graduate and above	1	0.3
8	**Occupation of father**		
	Govt.	131	33.1
	Private job	155	39.1
	Business	91	23
	Agriculture	19	4.8
9	**Occupation of mother**		
	Govt.	16	4
	Private job	55	13.9
	Business	3	0.8
	Agriculture	8	2
	House wife	314	79.3
10	**Monthly income (in Rs.)**		
	2092-6013	2	0.5
	6014-10,356	33	8.3
	10,357-15,535	115	29
	15,536-20714	116	29.3
	20,715-41,429	117	29.5
	>41430	13	3.3

The **Table 2** shows the socio-demographic profile of the students the minimum age of the student in the study was 13 years and maximum age 18 years, 54% students are in the age group of 13 yrs-15 yrs and 46% students are in the age group of 16 yrs-18 yrs. 55.3% male respondents and 45.7 female students was selected. 23.5 belongs to nuclear family type, 61.9% belongs to joint family and 14.6% had extended family type [19]. This Figure indicates that 42% of the students abuse drug whereas 58% did not abuse **(Figure 1)**.

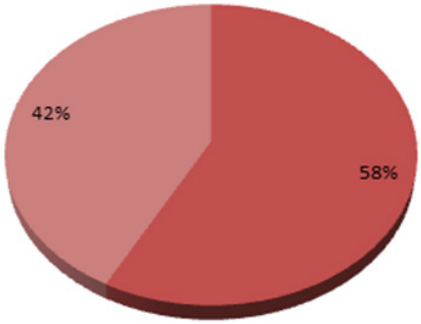

Figure 1: Prevalence of substance abuse among respondents. Note: (▬) No-58%, (▬) Yes-42%

The figure indicates that the prevalence of substance abuse among males (50.30%) was higher than females (49.70%) **(Figure 2)**.

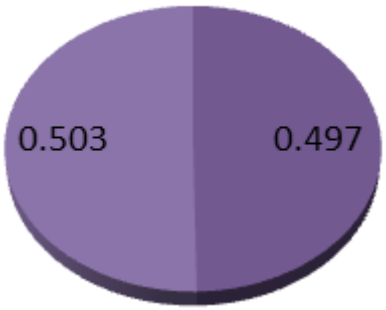

Figure 2: Distribution of substance abuse according to the gender of the respondents. Note: (▬) Female-0.497, (▬) Male-0.503

This figure indicates that 61% family members of the respondent's abuse substances and 39% do not abuse any substance **(Figure 3)** [20].

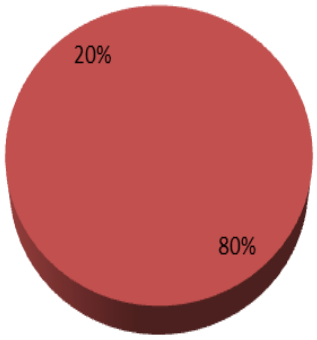

Figure 3: Substance abuse in the family of the respondents.

This figure indicates the type of substances abused by the family members of the respondents [21]. 52.5% family members of respondents abused alcohol and 50.3% abused tobacco **(Figure 4)**.

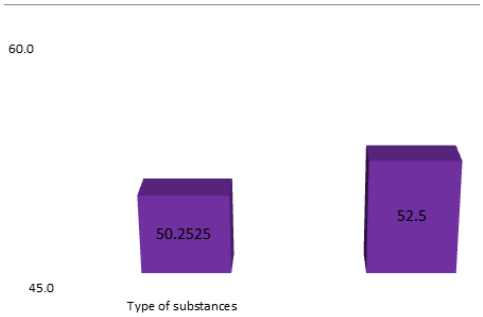

Figure 4: Distribution of substance abuse by family members of the respondents.

Pattern of Substance Abuse

The table indicates that 65.3% respondents had first started taking alcohol, followed by Tobacco 24.6%, inhalants 7.7%, and pharmaceutical opiods 2.4% **(Table 3)** [22].

Table 3: Pattern of substance abuse by the respondents (N=396).

Substances	Frequency	Valid Percentage of users
Alcohol	100	0.599
Tobacco	38	0.228
Inhalants	24	0.144
Pharmaceutical opioids	5	0.03

The table shows the causes of initiation of substance abuse; each of the 27.0% respondents showed peer pressure and curiosity as the main reason of initiation of substance abuse then enjoyment 22.9%, failure in love 7.6%, casual 3.2%, adulthood 3.2%, family problem 2.5%, easy availability 1.3% [23] **(Table 4 and Figure 5)**.

Table 4: Causes of initiation for substance abuse reported by respondents (Multiple response) (N=396).

	Frequency	Percentage
Peer pressure	85	0.27
Curiosity	85	0.27
Enjoyment	72	0.229
Failure in love	24	0.076
Presence of an addicted person in residential/ educational phase	17	0.054
Casual	10	0.032
Adulthood feeling	10	0.032
Family problem	8	0.025
Easy availability	4	0.013

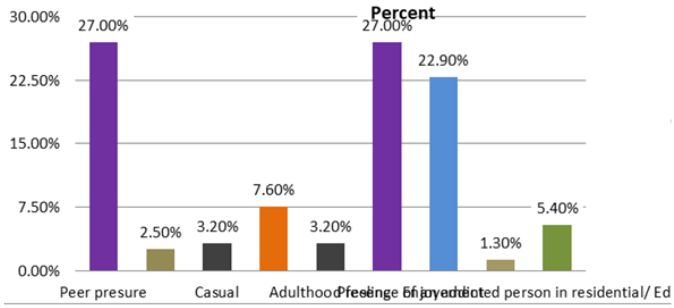

Figure 5: Causes of initiation. Note: (▬) Peer pressure and curocity-27.00%, (▬) Easy availability-2.50%, (▬) Failure in love-7.60%, (▬) Casual-3.20%, (▬) Family problem-1.30%, (▬) Presence of an addicted person in residential

This table indicates that 54.1% initiate alcohol use at 13 yrs-15 yrs of age, 45.5% at the age of 16 yrs-18 yrs. About their frequency of drinking 45% of respondents use alcohol in last month for 1 or 2 days, 42% respondents use alcohol in last month for 3 days or 5 days and 13% for 20 days to 31 days in the last month. 5% of respondents was drink alcohol <1 time, 17% of respondents take 1 drink , 65% of respondents take 2 drinks and 13% take 3 drinks [24] **(Table 5)**.

Table 5: Pattern of alcohol use among respondents.

Parameters	Frequency (n-100)	Percentage (%)
Age in years		
13-15	55	0.541
16-18	45	0.455
Frequency of drinking		
less than a drink	5	5
1 drink	17	17
2 drinks	65	65
3 drinks	13	13
	Total-100	
Duration		
1 or 2 days in the last month	45	45
3 to 5 days in the last month	42	42
6 to 9 days in the last month	13	13
	Total-100	

This table indicates the pattern of smoking. Overall tobacco users, (28%) of smoked cigarette in last month for 1 or 2 days and (71%) smoked cigarette in last month for 3 or 5 days [25]. (9.5%) of smoked <1 cigarettes and (90.5%) of smoked 1 or 2 cigarettes **(Table 6)**.

Table 6: Pattern of cigarette smoking among respondents.

Variable	Frequency (n-41)	Percentage
Duration of smoking		
1 or 2 days in the last month	6	28
3 to 5 days in the last month	15	71.4
Frequency of cigarette used		
less than 1 cigarettes	2	9.5
1 or 2 cigarettes	19	90.5
Total-41		

This table indicates the pattern of Tobacco Chewing. Overall tobacco users, 88.2% of used smokeless tobacco in last month for 1 days or 2 days, 5.9% used smokeless tobacco in last month for 3 days or 5 days and 5.9% for 20 to 31 days in the last month [26]. 17.6% of respondents was chewing tobacco <1 times, 76.5% of respondents was chewing tobacco 1 or 2 times and 5.9% of respondents was chewing tobacco 3 or 7 times [27] **(Table 7)**.

Table 7: Pattern of tobacco chewing among respondents.

Variable	Frequency (n-41)	Percentage
Frequency of tobacco chewing		
1 or 2 days in the last month	15	88.2
3 to 5 days in the last month	1	5.9
20 to 31 days in the last month	1	5.9
Duration of tobacco intake		
less than ones	3	17.6
1 or 2 times	13	76.5
3 to 7 times	1	5.9
Total- 41		

This table shows that 61.6% of respondents had started abusing illicit drugs at the age of 13 yrs-15 yrs, 38.5% at the age of 16 yrs-18 yrs [28]. Drug use or tried are Solvents or inhalants about the frequency of drug taken in past 12 months **(Table 8)** [29].

Table 8: Pattern of illicit substance use among respondents (N-396).

Variable	Frequency	Percentage
Solvents or Inhalants		
Age in years		
13-15 years	16	0.616
16-18 years	8	0.385
Frequency of drug taken in last 12 months (N-396).		
No. of occasions	**Frequency (n-24)**	**Percentage**
1-2 occasions	4	16.7
3-5 occasions	1	4.2
6-9 occasions	6	25
10-19 occasions	10	41.7
20-39 occasions	3	12.5
Other opiates		
Age in years		
13-15 years	3	0.75
16-18 years	2	0.25
3-5 occasions	3	0.6
10-19 occasions	2	0.4

Association between substance use and socio demographic variables of the respondent set. The table indicates that the monthly family income of their parents was shown to have a statistical significant relationship with Substance Abuse of the Respondents ($\chi 2=14.716$, df=5, p<0.001) **(Table 9)**.

Table 9: Association between substance abuse and monthly family income of the respondents.

Family monthly income	Have you ever abused substances		Total	X^2	df	p-value
	Yes	No				
2092-6013	2	0	2			
6014-10,356	25	8	33			
10,357-15,535	71	44	115	14.716	5	0.012
15,536-20714	70	46	116			
20,715-41,429	57	60	117			
>41430	4	9	13			

Note: *Statically significant at p<0.05 **Highly significant statically at p<0.01

Substance abuse by father was found to have a statistical significance with the substance abuse of the Student ($\chi 2=37.392$, df=1, p<0.000**) [30] **(Table 10)**.

Table 10: Association between parent's substance abuse and student's substance abuse.

Substances abused by family member	No	Yes	X^2	df	p-value
Father	110	131	37.392	1	0.00**

Note: *Statically significant at p<0.05 **Highly significant statically at p<0.01

The table reveals that the alcohol is found to have a significant association with socio-demographic variable class (0.001), education of father (0.001), education of mother (0.001), occupation father (0.001), monthly income (0.222) followed by tobacco abuse was significantly associated with education of father (0.001), inhalants use associated with family type (0.46) and education of mother, pharmaceutical opiates misuse associate with class of the respondents (0.048) **(Table 11)** [31].

Table 11: Association between substance use and socio demographic variables of the respondents.

Dependent variable	Alcohol		X^2	df	P- value	V-value
Independent variable	Yes	No				
Gender of the respondents	100	296	10.714	1	0.001**	0.164
			Pharmaceutical opiates			
Class	5	391	4.177	1	0.048*	0.103
			Inhalants			
Family type	25	372	6.15	2	0.046*	0.125
			Tobacco			
	38	358	17.629	3	0.001**	0.211
			Alcohol			
Education of father	100	296	17.713	3	0.001**	0.212
			Inhalants			
	25	372	14.186	3	0.003*	0.189
			Alcohol			
	100	296	28.984	4	0.001**	0.271
Education of mother			**Inhalants**			
	25	372	18.859	4	0.001**	0.218
			Alcohol			
Occupation of father	100	296	22.464	3	0.001**	0.238
			Alcohol			
Monthly income	100	296	19.501	5	0.002*	0.222

Note: *Statically significant at p<0.05 **Highly significant statically at p<0.01

DISCUSSION

Prevalence of Substance Abuse

The incidence of drug abuse among children and adolescents has been reported higher than the general population. This is notably because of their experimentation and identity forming stage, besides others factors. In developed nations, tranquilize maltreatment among youth is by and large connected with specific youth subcultures and ways of life [32]. This study was conducted on prevalence and pattern of substance abuse among 396 school students of South Delhi, using, self- administered questionnaire between January to June 2019. Collected data was statically analysed in SPSS 23 [33]. The study found that the prevalence of substance abuse was 42% which is lower than the study done by in Delhi with prevalence 55.38% this difference could be due to the area of the study Population sample constitution and year of study. However lower rates of prevalence have been reported in Himachal (27.4%), in Kanpur (15.02%), and in Gujarat (18.86%) [34,35].

If Gender wise prevalence of substance abuse was higher than other study in both male 50.3% than female 49.7% students as compared to with other study with male students prevalence of 37.73% and female students 13.20% in Ambala higher prevalence in male may be due to more outdoor behaviours exposing them to more risks regarding drug indulgence, whereas females are more restricted to family and social interactions ouftsfide fthe home and exposure fto rfisk [36].

Pattern of Substance Abuse

This study reveals that the alcohol 59.9% was the most common substances abused by students in Delhi. According to excise department in Delhi. The legal age for consumption of alcohol under section 23 of the “Delhi excise Act 2010” and Delhi liquor licence rule, 1976, the legal age for alcohol consumption is 25 years. This indicates deficiency of law enforcement agencies and the government. Other studies also reported that the alcohol as the most common substance of abuse [37]. In this study the prevalence of alcohol consumption in Delhi (42%) is higher than then Himachal Pradesh (18.1%), Kerala (16.2%), Kanpur (27.4%), Dehradun (8.7%). Children emulate what their parents do and on the other hand peer pressure and curiosity place the most important role in initiation and continuation.

Most of the students start drinking just for enjoyment not realising the risk factor of alcohol consumption. This study indicates the most common cause of initiation of substance abuse; (27.0%) respondents showed as peer pressure and curiosity (27%) as the main reason of initiation of substance abuse then enjoyment (22.9%), failure in love (7.6%), casual (3.2%), adulthood (3.2%), family problem (2.5%), easy availability (1.3%).

In this study majority (54.1%) student had started taking Alcohol within 13 yrs-15 yrs of age group. A similar study reported by in Kerala where the common age of initiation was between 14 yrs-15 yrs of age group, in Delhi the study reported that the age of initiation before 13 years, which is similar in the finding of Present study [38].

About their pattern of drinking maximum (45%) of respondents had reported the alcohol usage in last month for 1 or 2 days, (42%) respondents drink alcohol in last month for 3 days or 5 days and (13%) for 20 days to 31 days in the last month. 5% of respondents had drink alcohol <1 time, (17%) of respondents had taken 1 drink, 65% of respondents had taken 2 drinks and (13%) had taken 3 drinks. This is the serious concern which indicates a matter of concern to need upon. Various research studies reported that regular use of alcohol in early adolescents is associated with the highest rate of alcohol consumption in adult life as compare to later onset of drinking.

Tobacco is cheapest and most easily available substance commonly shared with friends so thereby used as a stimulant .Tobacco smoking 24.6 % was found to be second most common substance of abuse. About 28% reported used tobacco in smoked form in last month for 1 or 2 days and 71% smoked cigarette in last month for 3 or 5 days. 9.5% of smoked in less than 1 cigarettes and 90.5% of smoked 1 or 2 cigarettes. Based on various research studies, it was indicated that the factors for regular tobacco use were found to be stress, family relations and curiosity. In this study, 88.2% students used smokeless tobacco in last month for 1 or 2 days, 5.9% used smokeless tobacco in last month for 3 days or 5 days and 5.9% for 20 days to 31 days in the last month. 17.6% of respondents was chewing tobacco in less than 1 times, around three fourth 76.5% of respondents was chewing tobacco 1 or 2 times and 5.9% of respondents were chewing tobacco 3 or 7 times.

In this study, it was found that the consumption of tobacco in any form was increased. Reported that the overall prevalence of ever tobacco user was (9.4%). Most of the students abuse substances for enjoyment not realizing the outcome such as health hazards and its consequences at younger age.

Inhalants is the form of dendrite and correction fluid are easily available substances mostly used by high school students as reported by other studies and as the age progresses they quit the habit and shifted to other substances abuse. In this study Inhalant was found to have prevalence of 14.4%. The finding was higher than the study done by in Delhi (26.23%), in Manipur (6.88%). Prevalence of misuse of pharmaceutical opiates by students was 3.0% [39].

This study revealed the causes of initiation, which were peer-pressure in 27.0% respondents and curiosity 27.0% respondents likewise for is enjoyment 22.9%, failure in love 7.6%, presence of an addicted person in residential/educational phase (5.4%), followed by adulthood feeling 3.2%, easy availability 1.3%.

Substance abuse among any parents especially father was found to have statically significant with substance abuse of their children (p value=0.001). Same study was reported in Manipur and Nigeria. This proves that substance abuse by parents is a risk factor for children. Children easily pick up the habits from their parents, availability of substance at home and negligence of parents could be added among the reasons. A study conducted and reported that early initiators often obtained substances from friends but more frequently from parents or guardians. Among the family members of substances abuser, the most highly abused substances were alcohol and tobacco, this was similar to the patterns of substance abuse among students too [40].

CONCLUSION

Family income was also found to have significant association with substance abuse of the respondents (p value=0.012). Students who belong to high income family are more exposed to substance abuse. Association of family income and substance abuse of children was reported in other studies as well. The amount more pocket money they received could be the reason for easy access to substances.

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