Original Research Article

A Cross Sectional Study on Prevalence and Determinants of Substance Abuse among College Students

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How to cite this article: N. Abhijit, M. Pradeep Kumar. A Cross Sectional Study on Prevalence and Determinants of Substance Abuse among College Students. Indian Journal of Public Health Research and Development/ Volume 15 No. 3, July-September 2024.

Abstract

Background: Substance abuse in India continues to be a major problem for both individuals and society. Substance abuse refers to hazardous use of psychoactive substances, including smoking, alcohol and illicit drugs. Substance abuse can lead to dependence syndrome-a cluster of behavioral, cognitive and physiological phenomena that develop after repeated use of substances like alcohol and tobacco.

Objectives: To find out the prevalence and determinants of substance abuse among college students and assess the awareness regarding treatment of substance abuse among them.

Methodology: A cross sectional study was conducted among 200 college students randomly selected from different colleges in Ongole from April to May 2022. Data was collected by using pre-tested semi structured questionnaires after taking informed consent from study participants. p- value of less than 0.05 was considered statistically significant.

Results: Prevalence of substance abuse was 34%, and the common substances abused were alcohol, smoking, ganja and gutka. Major determinants were experimentation followed by peer pressure and family influence. Hostel stay, socio economic status and professional courses are found to be statistically significant for substance abuse .

Conclusions: Substance abuse is a rampant problem globally. Proper awareness has to be provided regarding substance abuse to children by family and teachers right from a young age to prevent increased incidence of substance abuse.

Keywords: Substance abuse, College students, Cross sectional study

Introduction

Substance abuse is a raging epidemic globally. Substance abuse refers to the harmful and hazardous use of psychoactive substances, including alcohol and illicit drugs. Psychoactive substance use can lead to dependence syndrome- a cluster of behavioural,

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Submission date: October 28, 2023 **Revision date:** November 7, 2023 **Published date:July 4, 2024**

cognitive and physiological phenomenon. A recent WHO estimate shows a burden of 2 billion alcoholics, 1.3 billion smokers and 284 million drug users [1, 2]. A recent report of NFHS-5 shows an alcohol consumption of 16.5% in males and 0.6% in females and tobacco usage of 28.5% in males and 5.4% in females [3].

Substance abuse is a global problem that is influenced by social, economic, political and psychosocial factors. The problem is not merely that of an individual or a community, and a drug, but involves interaction between the triad [4]. Adolescence is the critical period when the first initiation of substance abuse takes place [5]. As more youth are opting for colleges, more and more youth are leaving their homes and going to colleges, they experience independence and freedom from supervision by family which along with self-decision making and intense academic pressure and new social groups, motivate the youth to indulge in substance abuse. [6]

Studies conducted worldwide including India have estimated a prevalence rate of substance abuse to be around 20 to 40 percent among students from various streams [7]. Along with the increased use of psychoactive substances, the age of initiation is also falling. Nearly one in 10 adolescents in the age group of 13-15 years have used tobacco [8]. According to Global Adult Tobacco Survey, India (GATS, India) report 2016-17, more than half of the smokers initiate smoking in their adolescence [9] and a person who initiated substance abuse in their adolescence has a very low quit rate and are often unsuccessful in quitting the habit.

Efforts to prevent substance abuse focuses on building their individual resistance to social influence by building a strong family and social support and by providing proper education regarding harmful effects of substance abuse. As there are no studies available in this part of India regarding the prevalence and determinants of substance abuse and awareness regarding harmful effects, this study focuses on providing an insight into the substance abuse problem in this part of India.

Methods

A cross sectional study was conducted in the field practice area of Government Medical College, Ongole during April 2022 to May 2022

STUDY DESIGN: It is a Cross sectional study

STUDY SETTING: Field practice area of GMC, Ongole.

STUDY PERIOD: 2 months (April 2022 to May 2022).

STUDY POPULATION: College students (Intermediate, Degree and Professional courses excluding post graduate and above) in the study area.

SAMPLING METHOD: Stratified random sampling method.

The students were divided based on the course and college and students were randomly selected from the selected colleges by allotting the participants numbers from the random number table. Permission was taken from the college authorities and the students' details were kept anonymous to protect their identities.

INCLUSION CRITERIA:

1. Male college students those who are willing to participate in the study

EXCLUSION CRITERIA:

1. Students who are unwilling to participate
2. Students who are absent on the day of the study.
3. Students who are diagnosed with any mental illness.
4. Female students

Permission was obtained from the Institutional Ethics Committee, Government Medical College, Ongole.

SAMPLE SIZE: Sample size is calculated based on a study where prevalence Is 31.4% (Lucy Raphael et al.) and L(allowable error) as 20% of p by using the formula , $n= z^2. P.q/ l^2$, where p is the prevalence and q=(1-p) the sample size was around 200.

The questionnaire consists of the following sections:

- Socio-demographic details
- Subset for abusers
- Subset for non abusers

- Awareness about de addiction centers and treatment
- Willingness to stop substance abuse
- Academic performance

STATISTICAL ANALYSIS:

- Data is tabulated in Microsoft excel sheet and analyzed using the statistical package for social sciences (SPSS) Version 17. Descriptive statistics "like frequency and percentages are found out. Determinants are expressed by graphical representation. Chi- square test is applied to find out the association demographic variables and substance abuse and exposure and the likelihood of substance abuse and expressed in tabular form . A p-value of <0.05 will be considered to be the criteria for statistical significance.

Results

Out of the 200 participants, the overall prevalence of substance abuse is 34% (68). Out of 200, 46 students consumed alcohol (23%), 40 (20%) consumed cigarettes. 39 people (19.5%) abuse more than one substance. The various substances and the frequency is given in the below table-1.

TABLE-1: TYPE OF SUBSTANCES ABUSED AND THE FREQUENCY OF ABUSE

S.NO	SUBSTANCE	FREQUENT	OCCASIONAL	RARE
1	CIGARETTE	27(13.5%)	5(2.5%)	7(3.5%)
2	ALCOHOL	17(8.5%)	20(10%)	9(4.5%)
3	CANNABIS	5(2.5%)	8(4%)	1(0.5%)
4	GUTKA	6(3%)	2(1%)	1(0.5%)
5	OTHERS	6(3%)	4(2%)	2(1%)

Mean age of initiation is 17.6765± 0.836 years.

Socio-demographic details: all the participants are male students. The mean age of participants is 20.26 years ± 1.91 years. There is a significant association between hostel stay and substance abuse (p<0.05), course of the student (science stream students have a stronger association) with substance abuse (p<0.05) and socioeconomic status is associated with substance abuse (p=0.045). The association between various socio-demographic variables and substance abuse is given below (table-2)

TABLE-2: ASSOCIATION BETWEEN SOCIO-DEMOGRAPHIC VARIABLES AND SUBSTANCE ABUSE

S.NO	DEMOGRAPHIC VARIABLES	ABUSERS	NON-ABUSERS	CHI-SQUARE VALUE	P-VALUE
1	RESIDENTIAL STATUS				
	A) House	12	50	15.5248	<0.001*
	B) Hostel	45	71		
	C) Paying guest	11	11		
2	COURSE				
	A) Engineering	25	23		
	B) Diploma	7	20	21.8965	<0.001*
	C) Medical	22	25		
	D) Intermediate	2	25		
	E) Degree	12	38		

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3	TYPE OF FAMILY A) Nuclear B) Joint C) Single parent D) Single	 43 20 2 3	 80 31 5 7	0.6004	0.89
4	ADDRESS A) City B) Town C) Village	 14 24 30	 17 48 67	2.1432	0.342
5	SOCIO-ECONOMIC STATUS A) Upper class B) Upper middle C) Middle class D) Lower middle E) Lower class	 24 15 8 2 19	 51 25 17 5 7	15.0547	0.045*
6	FATHER OCCUPATION A) Professional B) Clerical/business C) Skilled D) Semiskilled/unskilled	 29 20 0 19	 51 40 11 30	4.2862	0.23

The major determinants for initiation of substance abuse are experimentation 21%(42), peer pressure 19% (38),family influence 10%(20). 21% (42) students have more than 1 type of reason. The information is depicted in the fig below.(figure-1).

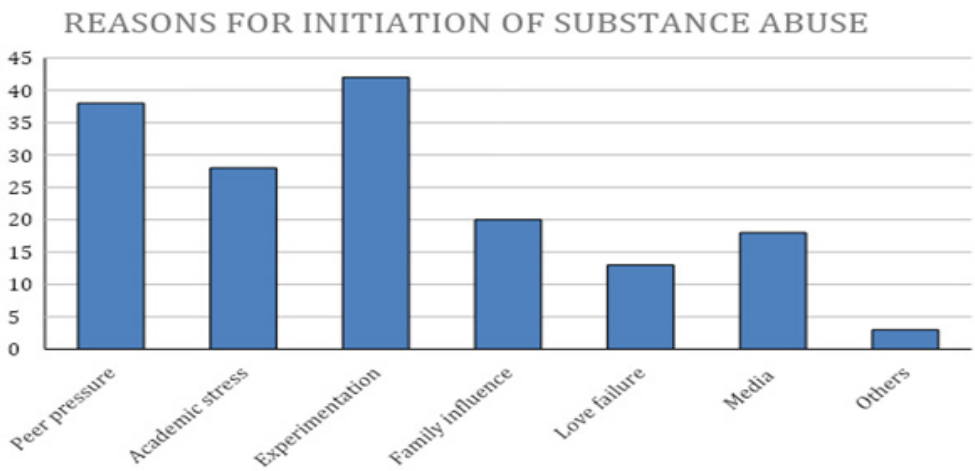

FIGURE-1: REASONS FOR INITIATION OF SUBSTANCE ABUSE

Fig-1: represents various factors for initiation of substance abuse. X- axis shows the causes and the y-axis shows the frequency of the cause.

137 participants have reported that there is at least 1 member in their family/relatives and close friends that are substance abusers. There is a very strong association (P-value= 0.0008) between exposure and the person becoming an abuser themselves. Table-3 depicts the association between abusers in a close circle and becoming an abuser themselves.

TABLE-3: ASSOCIATION BETWEEN EXPOSURE AND SUBSTANCE ABUSE

EXPOSURE TO SUBSTANCE ABUSE	ABUSERS	NON-ABUSERS	CHI-SQUARE VALUE	P-VALUE
EXPOSURE	57	80	11.212	<0.001*
NO EXPOSURE	11	52		

22.5% (45) of the participants are willing to quit substance abuse. The most common reasons to quit are family pressure (16%) followed by physical health problems (10%) and depression (9%)

42(21%) participants have contemplated and tried to quit substance abuse. 14% (28) of the participants have seeked help either from family members, friends or medical professionals but are unsuccessful in quitting the habit of substance abuse. The major reasons for the unsuccessful attempts to quit substance abuse are depression, family problems and relationship troubles. 12.5% (25) reported a decrease/lack of focus, 11.5% (23) reported loneliness and anxiety followed by restlessness, depression and 5% (10) of the participants reported a sense of relief after initiation of substance abuse. 20.5% (41) of the participants experienced more than one of the following problems. (figure-2)

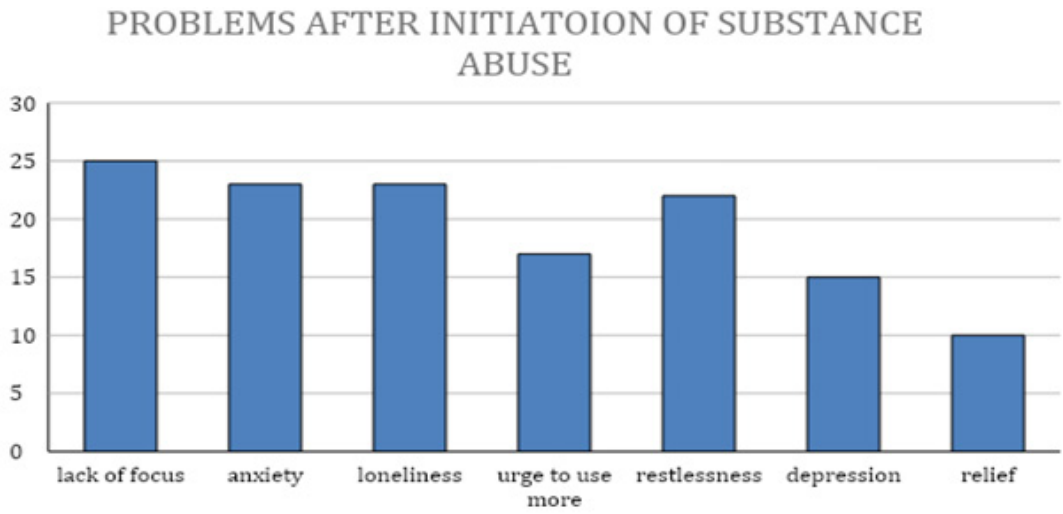

FIGURE-2: PROBLEMS FACED BY PEOPLE AFTER INITIATION OF SUBSTANCE ABUSE

Fig-2: represents problems faced after initiation of substance abuse. X-axis represents problems and y-axis represents frequency.

7% (14) of the participants reported no change in substance abuse, 13.5% (27) reported a decrease in the frequency and 13.5% (27) of the participants reported an increase in the frequency of substance abuse after COVID-19. 17.5% of the participants (35), i.e., more than half of the abusers reported a decrease in academic performance after initiation of substance abuse. Although many of the participants are aware that substance abuse causes health hazards, an overwhelming majority of them are unaware about the severity and the extent of the problem that substance abuse possesses to the overall well being of both individual and community. Around 50% of the participants are aware that there is treatment for

substance abuse disorders, almost all of them are unaware about the nature of treatment and the places where such treatment is provided. The data regarding some of the other questions in the questionnaire are given below (Table-4).

TABLE-4: AWARENESS REGARDING HARMFUL EFFECTS AND TREATMENT OF SUBSTANCE ABUSE

S.NO	QUESTION	ABUSERS(n=68)	NON-ABUSERS(n=132)
1	ARE YOU AWARE OF HARMFUL EFFECTS OF SUBSTANCE ABUSE?	YES (58) NO (10)	YES (105) NO (27)
2	ARE YOU AWARE THAT THERE ARE TREATMENT OPTIONS AVAILABLE FOR SUBSTANCE ABUSE?	YES (48) NO (20)	YES (89) NO (52)
3	DO YOU KNOW ABOUT ANY DE ADDICTION CENTERS FOR SUBSTANCE ABUSE?	YES (30) NO (38)	YES (36) NO (86)
4	HAVE YOU TRIED TO STOP ANYONE FROM SUBSTANCE ABUSE?	YES (20) NO (48)	YES (19) NO (113)

DISCUSSION

The present study shows a substance abuse of 34% which is similar to the prevalence found in Raphael L et al.(31.1%) [10], slightly higher (30% in males) than ARORA et al.[7], but higher than the study conducted by S.Mohanty et al.(23.1%)[11] and significantly lower than 43% of the Meerut study[12]Our study shows an association between hostel stay and substance abuse which is similar to various other studies conducted nationally and internationally[10- 13], positive association between upper class and substance abuse which is similar to other studies[11],[13] and there was no association between type of family and substance abuse which is similar to the study conducted in Meerut by Ayra et al.[13]The mean age of abuse in the present study is 17.6 years which is similar to the 17.1 years of Meerut study [13]and Raphael L et al (18 years)[10]

The present study shows an alcohol prevalence of 23% which is slightly lower than 27.4% of Raphael L et al but higher than [7](19.13%). The present study shows a cannabis prevalence of 7% which is more than Arora et al [7] and almost double of Kerala study [10] and more than half of the abusers abused more than one substance, similar to Arora et al. [7]. The present study shows the major reasons for initiation as curiosity/experimentation (21%) which is slightly higher than the Kerala study (19.6%) [10] In the present study, 59.3% of the abusers reported peer pressure as a cause of substance abuse which is similar to the Odisha study (59%)[11] but significantly lower as compared to Nigerian study conducted by Duru et al.[6].In the present study, 68.5% of the participants have reported substance abuse in at least 1 acquaintance of them compared to which is significantly lower than the Kerala study (98.3%) [7]. The current study shows a positive association between abusive tendency and use by family and friends ($p<0.001$) which is similar to that of Odisha study ($p<0.001$)[11]. In the present study,65% of the abusers are willing to quit the habit of substance abuse which is higher than [13] but significantly lower than Nigeria study[6] but only 45% of the abusers have made attempts to quit the habit which is lower than 59.6% in the study conducted by ARORA et al. [7].

In the present study, the major problems faced after initiation of substance abuse are gastritis (7%) which is slightly lower than Odisha study (8.4%) [11], 11.5% experienced anxiety which is similar to odisha study (10.8%) and 7.5% of the participants experienced feeling depressed which is slightly lower than the Odisha study [11].In the present study, 20.5% of the participants showed an increased frequency of abuse which is slightly lower than the multi-centric study by Arya et al [13], 39.7% of the participants in the present study have reported no change in the frequency which is similar to Arya, et al (36.6%)[13].

In this study, substance abuse showed a negative impact on the academic performance of the abusers which is similar to a Nigerian study conducted by Mathiya r et al.[14] In the present study, the awareness regarding the consequences of substance abuse is 69% which is significantly lower than that of Kerala study (96.1%) [10], 91.7% [7] and Odisha study (89%)[11] but only 57.5% of the participants have reported that they are aware about treatment of substance abuse which is significantly lower than 75% in Chandigarh study conducted by Nebhinani et al.[15]

Conclusions and Recommendations:

The key takeaways are that almost one-third of the students are substance abusers and many of them are starting as early as 17.6 years and are more associated with hostels. More than half of the abusers are willing to quit but have failed due to lack of proper support and awareness regarding treatment and de addiction centres. Some of the recommendations are:

- Creating awareness about role of family in prevention of substance abuse
- Provide proper counselling and guidance to students in schools and colleges and increase awareness about de addiction centres and help lines
- Increase accessibility and ease of getting treatment for substance abuse disorders.

CONFLICT OF INTEREST: NONE

SOURCE OF FUNDING: SELF FUNDING

ETHICAL CLEARANCE: ethical clearance obtained from institutional ethics committee of government medical college,ongole. Ref no ECR/1351/Inst/AP/2020.

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