## **Original Research Article**

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# Substance abuse pattern among medical college students in Tumkur, Karnataka, India: a cross sectional study

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## **ABSTRACT**

**Background:** Globally, there are 2 billion alcohol users, 1.3 billion smokers and 185 million are drug users. These are accounting for 12.4% of all deaths worldwide. The doctors are vulnerable to substance abuse due to their ready accessibility to the substance of abuse. Medical training is identified as full of stress and it is also observed that students undergo tremendous stress during various years of medical training. Repeated use of drugs can damage essential decision making and effect judgment of actions. This could be disastrous if substance abusers are medical professionals who have direct dealing with human lives.

**Methods:** A cross sectional study was conducted at a medical college in Tumkur district of Karnataka. A semi structured questionnaire was used to interview 379 medical students who were willing to participate.

**Results:** Prevalence of substance abuse among the students was found to be 25.9%. Substance abuse was highest among VII term students (III<sup>rd</sup> year) which was 25.3%. Alcohol was the single most preferred substance of abuse which was used by 36.40% of students. Curiosity for experience (42.4%) was major reason for initiation of substance abuse. Majority of students (45.5%) attained the harmful substances through friends. 76.6% of hostellers used harmful substances.

**Conclusions:** Prevalence of substance abuse among medical college students was high. Students preferred alcohol products and tobacco most. Hosteller students are more likely to be exposed to substance abuse.

Keywords: Medical students, Prevalence, Substance abuse

## INTRODUCTION

Globally, there are 2 billion alcohol users, 1.3 billion smokers and 185 million are drug users. These are accounting for 12.4% of all deaths worldwide. The doctors are vulnerable to substance abuse due to their ready accessibility to the substance of abuse. Medical training is identified as full of stress and it is also observed that students undergo tremendous stress during various years of medical training. According to World Health Organization (WHO), substance abuse is defined as, "Persistent or sporadic use of a drug inconsistent with or unrelated to acceptable medical practice. Substance abuse refers to the harmful or hazardous use of

psychoactive substance including alcohol and illicit drugs.<sup>5</sup> Adolescence is the critical period when the first initiation of substance abuse takes place. Among the adolescents, students are particularly vulnerable due to various reasons like academic pressure, temptation by peer groups, the lure of popularity and identification and easy availability of many such substances like tobacco (cigarettes) and other psychoactive drugs.<sup>6</sup> Substance abuse assumes a special significance among the medical students as they are the future medical practitioners and have a potential roll in treating and counselling the patients of substance abuse disorder.<sup>7</sup> Substance abuse disorders are among the world's leading public health problems in modern day world as they cause enormous

human sufferings, in terms of morbidity, mortality, economic loss and threaten the very social fabric of almost all communities around the world.8 Medical training is identified as full of stress and it is also observed that students undergo tremendous stress during various years of medical training. Stress among students results in impaired judgments, absenteeism, selfmedication, and addiction to substances such as khat chewing, cigarette smoking, and alcohol drinking.9 Substance use pattern is of interest due to potential impact of drug related functional impairments on medical students i.e. accidents, decline in academic and professional performance etc. In addition, substance use is shown in some studies to be a proxy of psychiatric morbidity as well, which can further impair medical education. Along- side the negative effects of substance use on medical student physical and mental health, it may also threaten their ability to provide adequate patient care and be a role model for healthy lifestyle. 10 Substance abuse is leading to clinically significant impairment and distress. Impairment in social and occupational functioning is often associated with substance use, which includes the inability to control use of or to discontinue use of the substance. 11 Medical fraternity (UG as well as PG) is no different from the general population when it comes to substance use; however, they may be at a higher risk of substance use problems due to higher stress levels. 12 In recent year there has been a growing concern in India regarding the problem of drug abuse as witnessed by numerous reports among student population, particularly disturbing fact is that the age of initiation of abuse is progressively falling.<sup>13</sup> To plan effective interventions, it is essential to have information on the extent and type of substance abuse among medical schools and their attitude towards its control. 14 Despite serious medico legal, ethical and political ramifications, there is little research on the subject. <sup>15</sup> In India, there is scarcity of data on drug abuse as it continues to send data for 2001, World Drug Report, released on June 23<sup>rd</sup> 2016, once again shows "no data available" for India.  $^{16}$ Hence this study was undertaken to find the prevalence of substance abuse and the reasons for initiation of substance abuse. 15

## **METHODS**

Tumkur is a fast developing city in Karnataka state and is about 70 kms from state capital, a metropolitan city Bangalore. It is an educational city with two medical colleges, many engineering and arts colleges. A Cross sectional study was conducted in a medical college. All the under graduate students who were present in campus were included in the study which were 379 students after getting a written consent from them. Various variables like type of substance abuse, reason for initiation, source from which substance is bought etc. were studied. A semi structured questionnaire was used to collect information. The collected data was entered in excel sheet and analysed using Epi Info version 3.5.3.

#### RESULTS

Majority of students belonged to Hindu religion (72.8%). Students which belonged to nuclear families constituted the majority (77.8%). Male students who participated in the study were 49.6% while females were 50.4%. Majority of the students interviewed were in the age group of 21-24 years at 53.8%. Majority of the students in the study were living in hostels (76.5%) (Table 1).

Table 1: Socio-demographic Characteristics of the Study Participants.

Variable	Frequency	Percentage	
Religion			
Hindu	276	72.8	
Muslim	35	9.2	
Christian	68	17.9	
Type of family			
Nuclear family	294	77.8	
Joint family	76	20.1	
Extended	5	1.3	
Broken	3	0.8	
Gender			
Male	188	49.6	
Female	191	50.4	
Age group (years)			
17-20	167	44.0	
21-24	204	53.8	
25-28	8	2.0	
Residence			
Hosteller	289	76.5	
Non Hosteller	89	23.5	

Various substances of abuse were used by 25.9% of the students who participated in the study (Figure 1). Out of the students who used various harmful substances, majority belonged to VII term (25.3%) (Figure 2). However, respondents' from VII term showed the prevalence of 35.7%. Also Majority of Students who took substances were male (73.7%). Majority of students who had substance abuse lived in hostel (62.6%). Among those who used substances, majority were occasional users (56.6%) while 33.3% were active users. About 91% of students preferred alcohol as substance of abuse (Figure 3). Majority of students initiated substance use due to curiosity for drugs (42.4%) followed by peer pressure (38.4%) Table 2).

Majority of students who used substances of abuse, got the substances from friends (45.5%) (Figure 4)Students initiated substance abuse mostly in between the age of 20-23 years (54.4%) (Figure 5). 54.5% of students took substances with multiple partners. Students who consumed two or more substances included 58.5% of substance abusers.

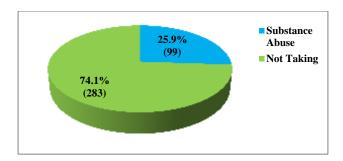


Figure 1: Prevalence of substance abuse among Medical college students.

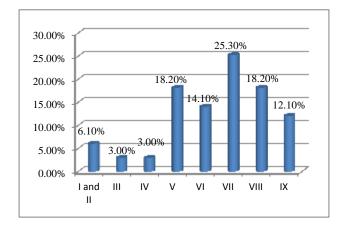


Figure 2: Pattern of substance abuse among students of various terms.

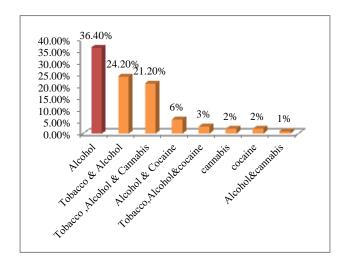


Figure 3: Prefferential pattern substance abuse among the students who used the substances.

Table 2: Reason for initiation of substance abuse among medical students.

Cause of initiation	Frequency	Percentage
Curiosity of experience	42.4	42
Peer pressure	38.4	38
Personal Tragedy	8.1	8
Failure in Love	6.1	6
Failure in academics	5.0	5

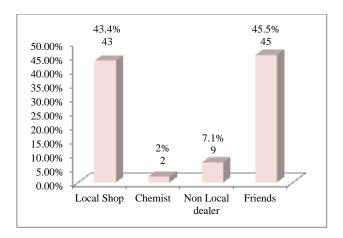


Figure 4: Source of substance abuse.

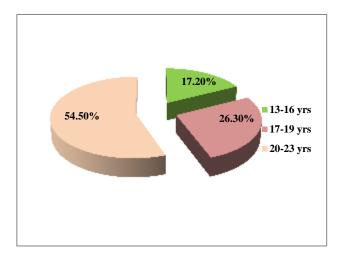


Figure 5: Age groups at which substance abuse initiated.

## **DISCUSSION**

Substance abuse (tobacco, alcohol, and various other drugs) have been recognized as an area of concern among medical students. Our study contributes to the evidence by providing some data on the prevalence and pattern of substance abuse among medical students in a medical college. 10 Substance abuse has deeply penetrated in almost every society and in the process has not only destroyed the social fabric of the community but also has led to huge economical loses. It has assumed epidemic proportion in the society involving adolescents, adults and people in all other age groups. The prevalence of substance abuse has shown a continuous upward trend. New and non-conventional substances are being used by younger generations replacing the older ones. These newer and non-conventional substances are much more harmful and lead to greater morbidity and mortality in people abusing these drugs and especially younger generations.<sup>8</sup> In our Research study, the substance abuse had prevalence of 25.9% among medical students who participated in the study. It is higher than a study by Imran et al where it was found to be 17%. However it was less when compared among schools children of

northern India in a study by Qadri ss et al where overall prevalence of substance abuse was 60.0% for ever users (14). Prevalence of substance abuse among medical college students in a study by Datta A et al was 57 % which was much higher than our study.2 Majority of the respondents in our study who had substance use were males 73.7% which was similar to the study by Dinesh et all where it was 74.59%. 13 Students who lived in hostels had higher prevalence of Substance abuse (62.6%). This can explained by the reason where majority of them got access to substances through friends which they meet in hostels. This was also the case in a study by Baba T et all where majority of substance abusers lived in hostels (37%). Majority of Students in our study initiated substance use due to curiosity for drugs (42.4%) followed by peer pressure (38.4%). In a study by Baba TA et al, 26.3% of students initiated due to peer group pressure while in a study by Datta A et al, 39.21% of substance abusers initiated due to curiosity for drugs which is almost similar to our study. In a study by chatterjje et al, Majority of medical students initiated tobacco use due to curiosity for it (43.7%) followed by followed by peer pressure (2946%). 17 Friends were the major source from whom they got substances for consumption (45.5%) in our study .A similar study in Kolkata showed friends as the major source from where substances were obtained for consumption(42.02%). Another study by Jagnany V K et al showed friends as main suppliers of substances of abuse to the students.7 Current study showed age group between 20-23 years as age of initiation of substance abuse .A study by Qadri ss showed Substance abuse was more in age group of 17-19 years among school children .A study in Kashmir showed that student substance abusers were in adult age group than in adolescent group (36.2%). This study showed that III year students constituted the highest percentage among substance abusers (39.4%) and final year students had prevalence of substance abuse (30.3%).A similar study by Datta et al showed 49.74% of prevalence among final year students. Alcohol was single preferred substance of use in our study (36.4%). A study in Kolkata showed 27% of medical students used alcohol.<sup>2</sup> A similar study in Pakistan showed 26.6 % of medical students using alcohol. However limited availability of alcohol may have been reason for relatively lesser prevalence. 10 Multiple companions of substance abuse was present among 54.5% of substance abusers .It was found to be 35.5% in another study.8 Since most common source of receiving substances were from friends and peer pressure being important reason for initiation, multiple companions can be expected.

## CONCLUSION

There is a perception that medical college students are immune to the menace of substance abuse. The roots of this problem runs deep into our society and may contribute to other factors like depression, communicable diseases and social evils. Our study showed the 25.9% of prevalence of substance abuse which even though is

lower than the general population, is unacceptable. Majority of the students (54.4%) initiated the substance abuse between 20-23 years. Alcohol, Tobacco, cannabis and cocaine were the substances used in order of preference which is alarming sign and has shown the introduction of more harmful substances among students. The problem of substance abuse among the young medical students should be taken more seriously as their own attitudes towards substances may have impact on their professional judgement. This may ruin their lives and along with it many other lives they deal with.

#### Recommendations

- Talks on substance abuse should be delivered to new students as that is the age they get exposed or are already exposed earlier.
- Persistent monitoring by the mentors concerned be carried out regularly as peer pressure is one of the most important factors.
- Security system should be strengthened so that such substances are not sold or bought in the vicinity of the campus as friends were most common source.
- Counselling and treatment facility should be provided with proper privacy regulations as students are most hesitant to approach their own teachers.

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Institutional Ethics Committee

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