

## Breaking the Silence – A Comprehensive Look at Substance Use among Medical Students

### ABSTRACT

The study aims to amplify the voices of medical students and gain a better understanding of their perceptions regarding the issue as substance use disorder is a well-known, yet under-represented issue in the medical community. A cross-sectional study of medical students was done using an anonymous online questionnaire to assess demographics, the rationale for continual use, and the students' perception regarding the issue. The association of various factors leading to substance use was analyzed. Statistical associations between the different variables were determined using the Chi-square test, Fisher's Exact Test, and Wilcoxon-Mann-Whitney U-Test.  $P < 0.05$  was considered a criterion of significance. A total of 541 individuals responded to the questionnaire. The primary reason for continual use was form of escapism (49%) and a way to deal with the stress of medical school (40.1%). About 52.1% said that they would not seek help because they do not want to ruin their public image, while 48.4% of the individuals fear judgment and isolation by their peers and family. Societal perceptions and judgment by their peers should not hinder students from seeking appropriate attention regarding substance use disorder. Anonymous access to professional psychological support and counseling for all medical students is advocated. Peer support and awareness programs can help substance users overcome isolation and their fear of judgment and prevent their spiral into dependence.

**Key words:** Addiction, Medical students, Substance use disorder

### INTRODUCTION

Medical students are the future of healthcare. The prevalence of substance use disorder shows a continual upward trend, which is concerning.<sup>[1]</sup> The medical profession is exceptionally demanding and taxing. Students, in particular, are susceptible to substance use disorder due to various reasons such as the absence of parental supervision, peer and academic pressure, high levels of stress, idle curiosity, and also ease of access, to name a few.<sup>[1]</sup> Furthermore, studies show that substance use disorder in physicians has its origins during their career as medical students.<sup>[2]</sup>

Medical students and doctors are put on a pedestal and are expected to adhere to a stringent code of morals and ethics.<sup>[3]</sup> They are often perceived to be beyond the clutches of substance use disorder. Due to being viewed like this by society, medical students and doctors alike are unlikely to report a problem and seek help. It can be catastrophic if hands that heal are under the influence whilst doing so – since substance use disorder causes an impairment of judgment, analogical reasoning, and cognitive inhibition.<sup>[4]</sup> Our study seeks to address this issue and strives to highlight the magnitude of the problem by coming to a consensus about the same.

It is a known phenomenon that repeated substance use disorder leads to tolerance which can potentially progress to addiction or dependence.<sup>[5]</sup> Societal expectations and pressures as well as feelings of guilt and shame lead to living in denial and turning a blind eye to the problem.<sup>[6]</sup> This often leads to

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exacerbation of the issue and a vicious cycle of substance use disorder and feelings of guilt/shame set in.<sup>[7]</sup> This can have a long-lasting physical and psychosocial impact on the physicians, including but not limited to, depression, anxiety, suicidal tendencies, and many others.<sup>[8]</sup>

Our study addresses the standpoint of medical students about the taboo surrounding substance use disorder and their beliefs about the same. Discerning the reasons for the persistent use of substances, and the perceptions of medical students and residents about the silence of the medical community about this, can help assist primary preventive strategies to counter this perilous affliction. Furthermore, by raising awareness regarding the issue, this study shall help those who feel isolated and encourage them to seek help, preventing a spiral into addiction.

A cross-sectional study was conducted through online questionnaires to assess the point prevalence of substance use disorder and its relationship with modifiable and non-modifiable risk factors. This was done using questionnaires circulated using Google Forms. The data collected were imputed in Microsoft Excel and analyzed using SPSS v.23 (Statistical Package for the Social Sciences) software.

## SUBJECTS AND METHODS

A cross-sectional analytical study was carried out among medical students (1<sup>st</sup>–4<sup>th</sup>-year MBBS), interns, and residents enrolled in Shri Bhausaheb Hire Government Medical College, Dhule from August 18<sup>th</sup>, 2022, to October 27<sup>th</sup>, 2022, after due approval of the Institutional Ethics Committee (IEC). The data were collected from the participants through a questionnaire based on Google Forms that were distributed to the students through their class representative. Students who did not give their digital consent were not included in the study. Participation was entirely voluntary, and no identifying information was collected to ensure absolute anonymity.

The questionnaire collected information about the sociodemographic details of the students, lifetime substance use disorder, frequency and reason for initiation, and the rationale for continual use. It also enquired about the source of the substances and the presence of post-use effects. The matter of medical professionals being under the influence while administering healthcare and the students' perception of why people do not speak up about the problem was also questioned.

The data were collected, entered in Microsoft Excel, and analyzed using the Statistical Package for the Social Sciences v.23 (SPSS) under the supervision of a statistical data analyst. Associations between the different variables were determined using the Chi-square test, Fisher's Exact Test, and Wilcoxon-Mann-Whitney U-Test. For all purposes,  $P < 0.05$  was considered a criterion of significance.

## RESULTS

Out of a total of 541 individuals, substance use disorder had a lifetime prevalence of 198 (36.6%), and 178 (32.9%) individuals used a substance in the past 12 months. The sociodemographics of the same are shown in [Table 1].

The most commonly used substances include alcohol 178 (32.9%), cigarettes 92 (17.0%), marijuana 72 (13.3%), cough syrups (5.4%), and edibles (4.8%) [Figure 1].

The primary for the initiation of substance use disorder among the individuals was curiosity 195 (36.0%), followed by peer pressure 72 (13.3%) and stress 61 (11.3%) [Table 2].

Majority of the students, 265 (49%), felt that students used substances as a form of escapism, while 217 (40.1%) opined that substance use disorder helps with dealing with the stress in medical school [Table 3].

**Table 1:** Demographics of the participants

Sociodemographic Details	Frequency (%)
Age	
18–19	133 (24.6)
20–21	212 (39.2)
22–23	115 (21.3)
24–25	45 (8.3)
26–27	19 (3.5)
28–29	9 (1.7)
≥30	8 (1.5)
Gender	
Male	296 (54.7)
Female	245 (45.3)
Marital status	
Married	10 (1.8)
Unmarried	531 (98.2)
Family	
Nuclear	352 (65.1)
Joint	159 (29.4)
Single parent	19 (3.5)
Extended	7 (1.3)
Sibling household	4 (0.7)
Year of study	
1 <sup>st</sup> Year MBBS	139 (25.7)
2 <sup>nd</sup> Year MBBS	106 (19.6)
3 <sup>rd</sup> (I) Year MBBS	80 (14.8)
3 <sup>rd</sup> (II) Year MBBS	74 (13.7)
Internship	91 (16.8)
Residency	51 (9.4)
Residence	
Hostel	330 (61.0)
PG outside college	181 (33.5)
Localite living in Dhule	30 (5.5)
Hometown	
City	362 (66.9)
Town/Village	179 (33.1)
Religion	
Hindu	445 (82.3)
Muslim	50 (9.2)
Buddhism	22 (4.1)
Christian	15 (2.8)
Jain	7 (1.3)
Sikh	2 (0.4)

Majority of the students, 282 (52.1%), believe that substance use disorders do not seek help because they do not want their public image to be ruined, while 262 (48.4%) of the individuals believe the fear of judgment and isolation by their peers and family is what drives substance use disorders away from seeking help. Two hundred (37%) participants feel that substance use disorders do not seek help because doing so might affect future career prospects. Out of 178 individuals who used substances in the past year, 13 (6.6%) of the individuals admitted to being under the influence while administering healthcare, while 148 (27.4%) of the individuals admitted knowing at least one student/intern/resident doctor who was under the influence while administering healthcare.

Using the Chi-squared test to explore, the association between “Substance use disorder” and “Gender” revealed a significant difference between the various groups in terms of distribution of gender ( $\chi^2=15.291$ ,  $P \leq 0.001$ ). Male gender is associated with increased risk for substance use disorder odds ratio (95% CI) – 2.05 (1.43–2.95) and relative risk (95% CI)=1.59 (1.26–2.04).

Association between hometown and substance use disorder revealed a significant difference between the various groups in terms of the distribution of substance use disorder ( $\chi^2=14.239$ ,  $P \leq 0.001$ ). People who have experienced urban life in major cities are more likely to have used substances odds ratio (95% CI) –2.13 (1.43–3.17) and relative risk (95% CI)=1.26 (1.12–1.41).

Data stratification based on the year of study revealed that substance use disorder showed an increasing trend over the years and peaked during internship, the last year of medical school. There was a significant difference between

the various groups in terms of distribution of year of study ( $\chi^2=75.976$ ,  $P \leq 0.001$ ). The strength of association between the two variables using Cramer’s V revealed an association of moderate strength [Figure 2].

## DISCUSSION

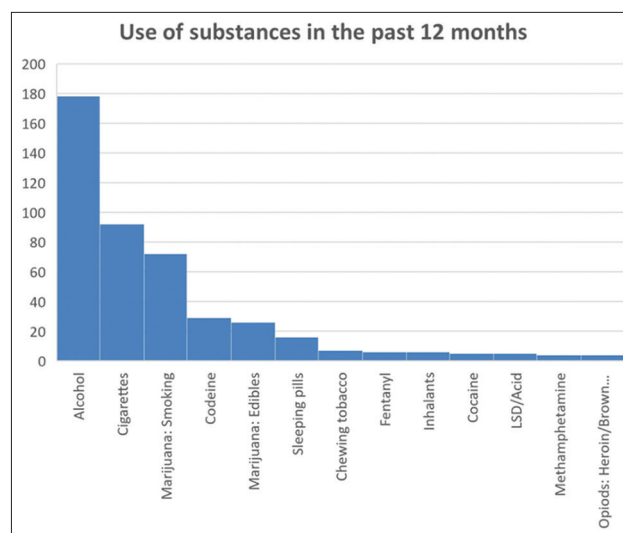
The article aims to understand the nature of substance use in medical students and their perspective regarding the issue to assist in the development of more effective primary preventive strategies in the near future. Our study revealed a lifetime substance use disorder prevalence of 36.6% and a 12-month prevalence of 32.9%, being significantly higher than a study by Mir *et al.* conducted in Karnataka, India, but lower than the studies conducted in the U.S. by Everett *et al.*<sup>[1,9]</sup> These differences could be contributed to the sociocultural variations in the regions. Our study revealed a significant association between the year of study of the individuals and substance use.

**Table 2:** Reason of substance use initiation

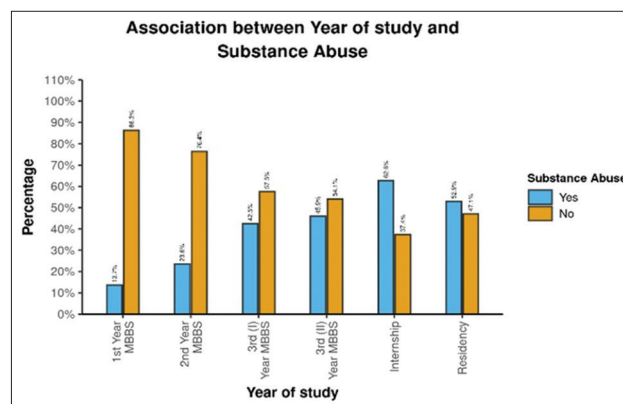
Reason for initiation of use	Frequency (%)
Curiosity	195 (36.0)
Peer pressure	72 (13.3)
Stress	61 (11.3)
Anxiety/depression	61 (11.3)
Academic failure	30 (5.5)
Personal tragedy	30 (5.5)
To cope with family/personal issues	28 (5.2)
Influence of the media	23 (4.3)

**Table 3:** Reason for continual substance use

Reasons for continual use	Frequency (%)
It helps you escape from reality	265 (49)
Makes it easier to deal with stress	217 (40.10)
Allows people to have more fun	197 (36.40)
Makes you feel better	164 (30.30)
Facilitates a connection with peers	153 (28.30)
Gives people something to talk about	124 (22.90)



**Figure 1:** Commonly used substances in the past 12 months



**Figure 2:** Association of substance use and year of study shows a steady increasing graph

Substance use in medical schools shows a steady upward trend throughout the years, peaking in internship and residency. This could be attributed to the increased stress of managing internship and academics simultaneously along with the ease of availability of the substances from the hospital supply.

The primary cause of initiation of substance use was due to curiosity (36%), followed by peer pressure (13%) and stress (11.3%). However, on enquiring about the reason for the continual use of substances reveals that 49% of the individuals use substance use disorder as a form of escapism, while 40.1% continue to use substances to deal with increasing stress. A study by Mannapur *et al.* reported that nearly 50% of undergraduate students experiencing stress are predisposed to substance use.<sup>[10]</sup> It is essential to recognize that medical students, like anyone else, can be vulnerable to the allure of substances as a coping mechanism or a means to escape from stress. The continual use of substances by students to deal with stress or escape from reality suggests the inadequacies of confidential counseling services and peer support systems. The taboo surrounding substance abuse in medical students becomes apparent when we acknowledge how societal perception and peer judgment serve as significant factors that deter students from seeking appropriate care.

Medical students, especially interns, and residents are in an ideal position to first-hand witness the effects of substance use. Abusing substances while administering healthcare is a dangerous path that health-care professionals should never take. Our study revealed that 13 (6.6%) individuals abusing substances admitted to being under the influence while administering healthcare. Moreover, 27.4% of the individuals admitted being aware of at least one student/intern/resident who was under the influence while administering healthcare. This suggests that substance use in medical students, though clearly a problem, is turned a blind eye to and normalized. There exists a line that a doctor should never cross, and the consequences of that line blurring can be devastating.

Substance use in medical students is a concerning issue and demands appropriate intervention. The fostering a working environment by educational institutions, where students and residents feel comfortable seeking help, can go a long way in curbing the issue. The provision of confidential counseling services and peer support systems can also help prevent the descent into dependence. Initiating an open dialogue about substance use can significantly help reduce the stigma around the topic and encourage individuals to speak up and prevent them from feeling isolated. By taking a comprehensive approach that combines prevention, education, and support, medical institutions can help protect the well-being of their students and foster a future generation of health-care professionals who prioritize their health and the well-being of their patients.

#### Limitations of the study

Being a cross-sectional study, conducted through questionnaires, there is potential for response bias, which is

bias in how participants interpret and respond to questionnaire items. Furthermore, due to the online nature of the questionnaires, there exists an inability to probe for further clarification which can potentially add to the issue.

## CONCLUSION

Medical students, as future physicians, have duties and responsibilities that differ significantly from other students and are, hence, subjected to a more stringent code of morals and ethics. However, medical students are human beings and, naturally, are prone to make mistakes. Societal perceptions and judgment by their peers should not hinder students from soliciting appropriate attention regarding substance use disorder problems.

With a prevalence of 32.9%, our study concludes that substance use disorder was associated with increasing age, male gender, and urban lifestyle, with increased prevalence in interns and residents. Alcohol, cigarettes, and marijuana were the predominant substances used, in that order. Most students continually use substances as a form of escapism and to deal with stress. About 6.6% of the substance users admitting to being under the influence while administering healthcare highlights the severity of the issue. Substance use disorder in medical students can undoubtedly impact their judgment and significantly alter patient outcomes.

We recommend a need for the integration of educational content pertaining to substance use disorder in medical students in their curriculum and the importance of early intervention. In addition, safe and anonymous access to professional psychological support and counseling for all medical students is advocated. Peer support and awareness programs conducted in medical schools can also assist in curtailing substance use disorder.<sup>[11]</sup> The measures mentioned above can protect medical students from continual use and prevent an emergence of dependence.

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