

A Qualitative Exploration of Perceived Causes and Solutions for Substance Abuse among Dental Students of Coastal Karnataka

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Abstract

To recognize the perceived causes of substance abuse among the dental students and to look out for practical solutions.

Undergraduate dental students of the second year took part in the study. Qualitative study with the methodology of free listing and pile sorting was implemented to determine, the reasons for the initiation of substance abuse and possible solutions. The acquired data was evaluated using Visual Anthropac software.

Major causes of substance abuse among dental students were found to be peer pressure with salience value of (0.653), followed by depression (0.374) and thirdly, to overcome stress (0.327). Other reasons included academic pressure, break-up, living away from parents. Cognitive mapping grouped the piles under headings like inability to handle psychological imbalance, curiosity to experience varied kind of emotions and current mindset of teens in the present era or external influence. Solutions offered by the students were talking to elders, self-control, choosing the right friends circle. Cognitive mapping grouped reported solutions under piles with headings such as interaction with the right people, help from external factors and self help or measures taken by students by their own will and keeping themselves busy.

Substance abuse among dental students can cause damage to their health and prevent them from optimally receiving quality training and education, thus impeding them from the quality care of their patients in the future. Interacting with the right people, recreational facilities and limiting the availability of drugs can help curb this menace.

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Introduction

Substance abuse indicates the use of hazardous psychoactive substances including alcohol, tobacco and other prohibited drugs.

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Sporadic or persistent use of these substances results in dependence phenomena¹. The WHO estimate displays the dependence of psychoactive substance use of around 2 billion alcohol users, 1.3 billion smokers and 185 million drug users worldwide². Substance abuse has caused intolerable sufferings in terms of mortality and financial crisis causing a menace to social life around the world³. 1 in 3 medical students have used cannabis one or more times during their life reports a study⁴.

Adolescence is a period of vulnerability⁵. The period of adolescence plays a vital role in determining the patterns of the use of various drugs and has higher chances of it continuing into adulthood. Exploring substances that are readily available and easily accessible is a part of adolescent's healthy psychological development. It is essential to intervene at the right moment to prevent the use of drugs⁶.

Health professionals are more prone to abuse substances because of their close proximity to drugs. The use of drugs among them has caused serious growing concerns in the society. The prevalence of substance abuse among health professionals range from 5% to 67% with higher percentages (67%) being reported in developed countries like the United States⁷ and among developing countries like Iran, Ethiopia⁸, Nepal⁹.

Peer influence was a governing factor in the initiation of substance abuse⁷. Family history was strongly associated with students using substances. Another cause reported that was statistically significant is experimentation¹⁰. The curiosity to try new things to experience the thrill has been a significant cause for the use of substances among dental students. The increased amount of stress^{11,12} depression and lack of recreational activities among health care students have proven the use of substance as a stress buster¹³. The use of substances was found to increase from the first year until the internship.

A study conducted in the UK, reveals the correlation between clinical obligation and alcohol consumption. The dental students were found to binge drink during the weekends and restricted drinking during the weeks¹⁴.

A study conducted in UK shows that commonly used drugs were alcohol, tobacco and cannabis. Many dental students claimed to have never used illicit drugs¹⁵.

The current study aims to recognize the perceived causes of substance abuse among the dental students and to look out for practical solutions. This study employed the method of free listing and pile sorting to comprehend complex relationships about a specific community's perceptions and allows the investigator to expand the knowledge¹⁶ about the perceived causes and solutions for the use of substance among the dental students.

Materials and methods

The qualitative study was done among 38 undergraduate second year students from two selected dental colleges in Mangalore, Karnataka, South India. The study commenced only after obtaining clearance/approval from the Institutional Ethics Committee (Reference no: 19050). The participants were admitted after acquiring a written informed consent form. The method of free listing and pile sorting^{16, 17} were implemented to determine the causes and solutions for substance abuse among the dental students.

The qualitative method of free listing commenced by posing two probe questions:

1. What do you consider are the reasons for substance abuse in this field among your age group?
2. Can you list out the possible solutions to curb the use of substance among this age group in your field?

The dental students were asked to list out different perceived root causes and solutions for the use of substances. The assessment of written responses was solely based on the basic measures of central tendency. Evaluation of the given response was done by obtaining the Smith's Saliency Index. Smith's saliency index refers to the "importance, representativeness or prominence of items to individuals or to the group". It is a measure by word frequency across lists and word rank within the lists. The chief idea behind Smith saliency index is that while the responses are being enumerated the students write the items with greater saliency first. Previous to the analysis, the causes and solutions recorded by various participants but using various words were grouped together under the same heading. The obtained results from the software are subjected to analysis using Visual Anthropac. From the results; seventeen responses as causes and fifteen solutions were taken for pile sorting.

Pile sorting

The free listing is followed by pile sorting. The technique of pile sorting is used in cognitive anthropology to scrutinize the participant's way of perceiving the relation between the items. It is done to identify the similarities and differences among the responses given by the participants. The participants were allowed to group the

selected perceived reasons and solutions based on their own reasons. The participants were then asked to elucidate the reason for piling it up in the same category. The obtained results were subjected to analysis using Visual Anthropac. Statistical analysis: The data was analyzed using Anthropac 4.98.1 software. To get the collective picture, multidimensional scaling and hierarchical cluster analysis of pile sort data was done. The cognitive mapping reveals the way participants had grouped the reasons based on similarity of the given items.

Results

Causes	Saliency value
Peer pressure	0.653
Depression	0.374
To overcome stress	0.327
Curiosity	0.283
Academic pressure	0.195
Break-up	0.190
Freedom because away from parents	0.184
To look cool	0.175
Family problems	0.118
Temporary happiness	0.112
Experimentation	0.099
Anxiety	0.088
Adventurous thing	0.083
Movie influence	0.072
Failures in life	0.072
Don't want to be left out from the group	0.065

Table 1. Perceived causes of substance abuse among the dental students.

Table 1 portrays the perceived causes of substance abuse among the dental students. From the table it can be deduced that the most influential factor for the initiation of drugs is peer pressure with a saliency value of 0.653 followed by depression with a value of 0.374. It is evident from Table 1 that factors like stress, academic pressure, family problems, and break-up play a vital role in determining the use of substance among the dental students. Many hostelers stated that living away from parents gives them the freedom to put their desires into action. Another key factor affecting the use of substances is the influence of movies and social media.

The Figure 1 shows the causes in pile 1 such as family problems, break up, depression, to overcome stress, anxiety, low confidence, academic pressure, failures in life were categorized together under the headings like emotional trauma, inability to handle psychological imbalances, failures in life leading to mental stress.

Pile 2 consists of causes like temporary happiness, curiosity, experimentation, freedom because away from parents and adventurous things. The students labelled the above-categorized items as a curiosity to experience varied emotions and different feelings, adrenaline rush and thrill to try out new things. Causes like peer pressure, do not want to be left out from the group, to look cool, movie influence was sorted into another category pile 3 which was captioned as an external influence, current mind-sets of teens in the present era and peer influence.

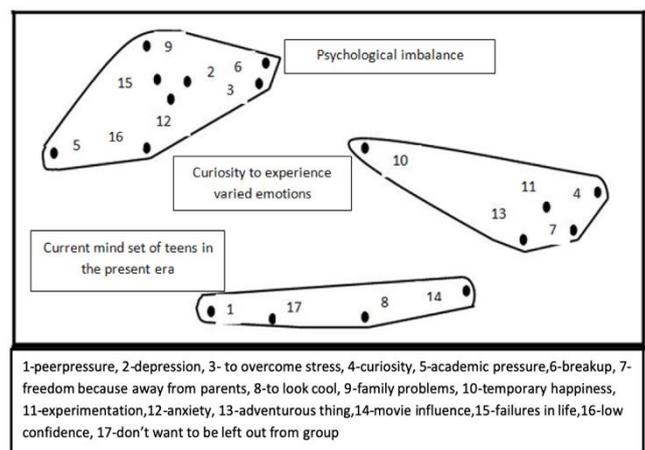


Figure 1. Cognitive map- Causes of substance abuse among dental students.

Solutions	Saliency value
Talk to elders	0.355
Self-control	0.296
Choose the right friends	0.290
Rehabilitation centre	0.196
Try other healthier options	0.161
Indulging in your favorite hobby	0.157
Awareness about the side effects	0.123
Self-confidence	0.115
Socializing and interacting with the right people	0.081
Counseling	0.073
Parents should be understanding and supportive	0.068
Set goals and try hard achieving them without getting distracted	0.054
Face the problems with strength	0.040
Limit the availability of the drugs	0.036
Listen to parents	0.036

Table 2. Solutions given by dental students.

Table 2 depicts the solutions listed by the participants in the order of decreasing salience value. It is markedly apparent that seeking help from the elders plays an imperative role in preventing students from consuming substance. Besides this, solutions such as self-control, choosing the right friends circle were often listed by the dental students. The participants also stated having hobbies and indulging in other healthier options would play a crucial role in the prevention of substance abuse. Limiting the availability of the drugs near college institutions would facilitate curtailing this menace.

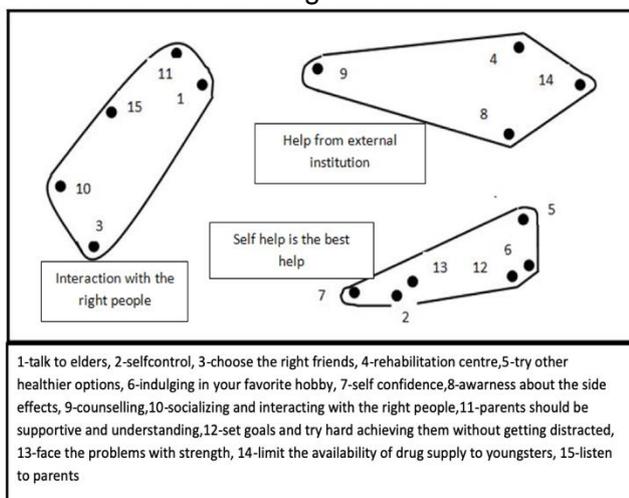


Figure 2. Cognitive map- Solutions for substance abuse suggested by dental students.

Pile 1 solutions include parents should be supportive and understanding, talk to elders, listen to parents, socializing and interacting with right people and choose the right friends. These preventive measures were grouped under the categories such as elderly support, interaction with the right people, parental help and guidance. Counseling, rehabilitation centre, limiting the availability of drug supply to youngsters and awareness about the side-effect were sorted as pile 2 under the headings like help from external factors, steps taken by government or private organization.

Pile 3 consists of solutions like try other healthier options, indulging in your favorite hobby, set goals and work towards without getting distracted, face the problem with strength, self control and self confidence grouped under self help is the best help, measures taken by our own will and keeping yourself busy.

Discussion

Adolescence is an age of vulnerability. However, substance abuse among the dental students poses a great threat to the quality of care they will be able to provide to their patients in future. Qualitative study is done to expand the knowledge on a particular domain. This study was initiated to discover the perceived causes and solutions of substance abuse among the dental students in Mangalore.

The present study reveals that the most important predisposing factor for the initiation of substance abuse is peer pressure with the highest salience value of 0.653. This result was also obtained in the previously conducted study in Nepal by Bimala Panthee et al. among the medical students¹⁸. Study carried out by Meghan Bridgid Moran et al. also supports this reason on how peer crowd is associated with use of substance among the youth¹⁹. Other significant causes listed by the students were depression; academic pressure and stress, which were consistent with other studies conducted by Al-Haqwi in Riyadh²⁰.

Stress as a governing factor was reported in a study conducted in Malaysia among dental students²¹. A cross sectional study among the students of France shows significant increase in the rate of alcohol use with the increase in perceives stress. However, cigarette smoking was related to social interactions and to be a member of a group. This suggests the importance of choosing the right friends circle²².

Dental students also felt that family problems and inadequate parental care is an influential factor determining the students approach towards drug abuse. Freedom because away from parents was a commonly reported cause by the students. A study conducted in Pakistan revealed that 70% of their respondents living in hostels were more prone to misusing the substances. This study also illustrated the commonly cited reasons for substance abuse were peer pressure (96%), academic stress (90%) and curiosity (88%)²³.

The cognitive mapping for the causes exposes the root causes for substance abuse. The major causes were mental stress or psychological imbalance, curiosity or experimentation and current mindset of looking cool among the teens of present era. Psychological imbalance, higher parental

expectations lead to stress forcing the students to use substances²⁴. Consumption patterns of smoking among dental students in King Saud University show the overall smoking prevalence was 17%. Male students reported higher rate of smoking than females^[25]. When asked the students reported reasons such as stress (N = 32, 47.8%), boredom (N = 14, 20.9%), 198 experimentation (N = 10, 14.9%), peer pressure (N = 6, 199 9.0%^[20]. The stated reasons are consistent with other studies as well^{20,19,28}.

The use of substances among dental students elevates the necessity to explore various solutions. The students believed self confidence and boosting one's self esteem can give them the courage to deny the use of substances due to peer influence²⁹. The study conducted in Malaysia by Kyaimon Myint et al. illustrates the prevalence of stress levels among the dental students due to academic pressure and patient management²¹. A study conducted by Al-Haqwi²⁰ reveals how students regard adequate recreational activities to be a great stress buster. The study findings implicate the need to educate the students about the hazardous consequences of using substances.

A majority of the students in a study reported that their schools had no role to play in discouraging the use of substances among the students. This finding reveals how important it is to impart awareness about the effects of substance abuse at the young age²⁸. The detrimental effects of drugs are revealed in recent studies conducted in Indonesia^{30, 31}. Another study shows the knowledge about the consequences of substance abuse among the pharmacy students is better than medical students. The presence of this educational gap may need to be filled in the healthcare student's curriculum²⁶.

The uses of substances among the dental students indicate lack of knowledge about the harmful consequences it would cause to the public well-being. The students feel persistent use of drugs among the health care students should be looked into immediately. Stress coping strategies may have an impact in reducing the use of substance, reveals a study conducted in Saudi Arabia²⁰. More students consider assessing the cause behind the use of drugs and treating them accordingly might help the students more compared to warning or dispelling the student. Cognitive mapping

portrays the solutions being grouped under certain headings like elderly support or interaction with right people, steps taken by the external institutions such as raising awareness about the side effects at an early age and college institutions taking actions. The findings in a study conducted among undergraduate students suggest that it is vital to ensure sufficient monitoring and readily available treatment options for the students who are in need.²⁷

Choosing a friend's circle that use substances may increase the rate of use of drugs by 5 folds shows a study conducted in Saudi Arabia. This study also shows – "A simple relationship between risk awareness and smoking behavior should not be expected"³³. Another pile was grouped as self help is the best help. Students felt trying other healthier options will help the person reduce the inclination towards the use of substances. Reducing the availability of drugs was a commonly reported solution by the dental students. In a study it is shown how students wished to cut down on the use of substances because of academic aspirations and motivation from parents or friends³². Furthermore, was figured out in a study conducted by Eric Y.K. Fung that peer-assisted programs, diversion programs, and multidisciplinary programs could prove effective in the treatment of drug issues among dental students³⁴. It is proven that higher rates of recovery are achieved when treated by a peer group. Long term treatment through professional counseling and rehabilitation also prove to achieve a greater rate of success to stop this nuisance and help in improving the health profile of the abuser³⁵. It is important for dental students to understand the dangerous consequences of substance abuse. It is also significant to deal with stress and other failures in life in a healthy manner rather than choosing drugs as an option. It is of utmost importance to realise health care professionals' sound mind facilitates the welfare of the society.

Conclusions

The qualitative study on substance abuse among the dental students explores different causes and possible solutions for the use of substance abuse. The effective method of free listing and pile sorting gives a broader idea on a particular cultural domain. From the present

study it is clearly evident that the most influential factor for the use of substances is peer pressure. Other prominent reasons include depression, sense of curiosity, stress, living away from parents. Cognitive mapping reveals psychological imbalance such as academic pressure, family problems and breakup as one of the major predisposing factors in abusing substances. Another pile regards the use of substances among the students as the 'current mindset of the students in the present era'. Solutions enumerated by the students are talking to elders, counselling, and rehabilitation centre. Other commonly listed solutions were boosting up self confidence and self esteem, choosing the right friends circle and indulging in favourite hobbies. Other generally listed solution was limiting the availability of drug supply among the students. Understanding the cause behind the use of substances and opting for practical solutions would help our community by creating more responsible and accountable health care workers.

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Declaration of Interest

The authors report no conflict of interest.

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