

Substance use disorder in medical graduates in tertiary medical college

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ABSTRACT

Introduction: Medical training has always been regarded as highly rigorous stressful and arduous. Although, only the academically-minded youth in the society tend to be selected for medical education, the stressful and extended academic environment can exert a negative effect on the mental psyche and physical well-being of medical students. **Methods:** Cross-sectional institutional study conducted among undergraduate medical college students of Navodaya medical college and research centre, Raichur, India. Information collected with the semi structured oral questionnaire after obtaining informed verbal consent. Demographic details like (sex, residence, academic year, type of family, influence and role of family members) with details of substance abuse (type, age of initiation, frequency) and attitude towards substance abuse. Data was analyzed using Spss software 25 version. **Results:** Out of total 578 students only 513 students (88.75%) responded. Out of total 578 students only 88 medical students were substances users. Male constituted 94.0%, whereas females were 6.0%. 28.3% substance abusers in interns. 88% were hostellers, 38.9% come from joint families, 29.9% having history of substance abuse in their siblings. Most common substances used were cigarettes (80.6%). 31.3% initiated substance used in school. 34.3% were Habitual user. In 58.2% perceived reason for substance use were celebrate some occasion. 74.6% did not feel any unwanted effects. 39 had made some attempts to quitting the substances, 61.5% knew ill effects on health. 41.1% had quitted by gradually decrease. 31 were failure to quit. 64.5% attributed their failures to lack of will power. **Conclusions:** Continuing use of these substances in spite of knowledge of hazards associated with them reflected lack of health consciousness and need of proper health education. Key words: Medical students, Substance abuse, Pattern, India.

Keywords: Size Adolescents, Socioeconomic Status, Factorial Design, Self-concept

Substance use disorder as per DSM-V includes a set of eleven criteria with mild, moderate and severe grading in which all patterns of substance use like abuse, harmful use and dependence are included. Substance use disorder core feature is choice dysregulation (inability by a person to control the choice in a healthy and reasonable manner). In recent years substance use has increased greatly throughout the world. A

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particularly alarming fact is that the age of initiation into substance use is progressively reducing [1]

Medical training has always been regarded as highly stressful. Although, only academically-minded youth in the society tend to be selected for medical education, the stressful academic environment can exert a negative effect on the psychological and physical well-being of medical students. [2] Student have poor coping skills to cope up with the ever-increasing demands of medical training and research. Hence many students tend to find temporary relief from these stressors of life in Alcohol and other illicit drug. The abuse of these substances is increasing amongst the young.

Research shows that the prevalence of substance abuse and experimentation with illicit drugs is increasingly among adolescents and college students. In this regard medical students do not differ markedly from many other student groups, despite their greater knowledge of the potential hazards of alcohol and illicit drugs. [3] Substance abuse is also a growing problem in India. [4] Substance abuse assumes a special significance among the medical students as they are the future medical practitioners and have a potential role in treating and counseling the patients of substance abuse disorder. [5] Substance dependence is also showing rising trend all over world and these disorders rapidly recognized throughout in India. [6] Health professionals including medical students are said to be at higher risk of substance abuse because of relatively easy access to psychoactive substances, high levels of work-related stress, frequent contact with illness and death, relative isolation of medical school and disrupted sleep and social life. [7] Medical students, as tomorrow's doctors, hold a unique place in society and have privileges and responsibilities different from those of other students. Different standards of professional behavior are hence expected out of them. It is believed that substance use among physicians starts early in their careers and the importance of studying the lifestyles of medical students to detect substance abuse is well recognized. [8] The prevalence of substance abuse in medical students may be different with the general population. [9] Till date very few studies have been done to highlight the scenario of substance abuse among undergraduate medical student in this medical college. Therefore, the researchers aimed, to gather information on the frequency and type of substance abuse, to study the pattern of substances abuse contributory factors and the attitude towards substance abuse among undergraduate medical students of Navodaya Medical College.

MATERIALS & METHODS

The present cross-sectional study was conducted among undergraduate medical college students of Navodaya medical college and research centre during 2019-20. A semi structured questionnaire was prepared including general information of the student (sex, residence, academic year, type of family, influence and role of family members) details of substance abuse (type, age of initiation, frequency) and attitude towards substance abuse (Reasons for using, perceived ill effects, attempts to quit, reasons for attempt to quitting, method use for quitting and reasons for failure to quit). The study was conducted in compliance with Ethical principles for medical research involving human subjects. Invasive procedure and active interventions were not done in the study and informed verbal consent was taken. Participants anonymity and confidentiality maintained. The questionnaire was distributed and then collected by the data collection team. All the students of Navodaya Medical College in five years of MBBS attending the classes on days of data collection were invited to participate in the study. The questionnaire was administrated to all the 578 students come to the class including 350 boys and 228 girls. Out of 578 only 513 students (88.75%) answered (293 Boys and 220 Girls). Data was analyzed by using Statistical

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Package for Social Sciences 10.0(SPSS 10.0). Descriptive statistics of sociodemographic information and frequency and pattern of substance use were determined. Chi square test was used to examine associations between substance use and various variables. For all purposes, a p value of <.05 was considered as a criterion of significance.

Results Out of total 578 students only 513 students (88.75%) responded. Out of total 513 students only 88 medical students used various types of substances. Male constituted 79(90.9%) whereas females were 9(9.1%) out of total substance abusers' students. It is observed that the risk of substance abuse increased with an increase in seniority and 7(7.95%) substance abusers in final-I MBBS students, 14(15.9%) in final-II MBBS and 31(35.23%) substance abusers in interns. Risk of Substance abuse was more among students who were staying in hostels (82.95%) than those who stay at home (17%). The risk was also found to be greater in students come from joint families (51.13%) and 9%students having history of substance abuse in their siblings. (Table-1)

Table 1-General information of substance abusers medical students (n=513)

A. Gender	N (513)	substance use
Male	350	79(90.9%)
female	228	9(9.1%)
B. Academic year		
B. Academic year	N (513)	substance use no (%)
1st MBBS	107	7(7.95%)
2nd MBBS	103	14(15.9%)
3rd MBBS	98	15(17.04%)
4th MBBS	117	21(23.86%)
Internship	88	31(35.23%)
C. RESIDENC E		
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Hostel	398	73(;82.95%)
Day Scholar	115	15(17%)
D. Type of family		
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Nuclear		24(27.27%)
joint family		45(51.13%)
Three generations		19(21.6%)
E. H/o Substance abuse		
E. H/o Substance abuse		
In parents		Y-18(20.45%): N-72
in siblings		Y-8(9%): N-80

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Table 2. Type of substance abuse among medical students (n=88)

substance	no	%
alcohol	54	61.36
nicotine-smoking	43	49
nicotine-smokeless/chewing	3	3.4
cannabis	19	21.6
nasal stuff	0	0
others	0	0

Most common age of initiation for substance abuse were 21-30 year (58.2%). Majority of the students-initiated substance abuse when they were in college while few abusers (4.54%) had already started in the school. Among the 88 students who had experimented with these substances, majority had used occasionally (52.3%), followed by Habitual users (34.3%) and then those who used just to experiments (13.4%). The students perceived a variety of reasons for using these substances. The most common ones for celebrate some occasion (58. %), for relieve tension (20.45%), for curiosity (31.8%) and To be sociable (6.8%), Escape boredom (22.7%), Seeking pleasure (14.9%), Depression (11.9%). Some other perceived reasons were show off (10.4%), Company sake (7.5%), to improve performance (7.5%) and Problem in family (7.5%). Majority of the students (76%) did not feel that the use of these substances would have any ill effects. 10% Students felt problems in physical or mental health. Only less than 10% students faced problems in social relationships, problems in academic performance and problems in family relationships. (Table-3)

Age of initiation (In years)	no	%
0-10	0	0
11-20	18	35.8%
21-30	70	58.2
When initiated		
school	4	4.54
n puc college	30	34.1
in medical college	54	61.36
Perceived reasons for substance abuse*		
Curiosity	28	31.8
Celebrate occasion	51	58
Company sake(Peer pressure)	26	29.54
Relieve tension	18	20.45
Escape boredom	20	22.7
To be sociable	6	6.8
Show off	5	5.6
Problem in family	7	7.5
Seeking pleasure	13	14.9
depression	15	17
Ill effects perceived of substance abuse		
No Ill effects	67	76

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Age of initiation (In years)	no	%
Problems in physical/mental health	10	11.36
Problems in academic	5	5
Problems in social relationships	8	9.5
Problems in family relationships	19	22

Out of 88 students 40(52.3%) used substances occasionally, 23 (34.3%) had Habitual users and grouped as users. Out of 63 substance users majority 51(75%) had made some attempts to quitting the use of these substances. They wanted to quit as majority of them knew ill effects on health (75%), did not enjoy (22.7%) and some were due to family pressure (27.2%) and cost (37.8%) of these substances. Majority of them (53%) had tried to quit the use by gradually decrease, 13.6% of them had just stopped, 34.4%% of them had settled a date. Out of 51, majority (37) were failure to quit. Most of them attributed their failures to 'lack of will power' (72.7%)than not sure how to quit .

Table 4-Attempts at quitting the use of substances (n=63).

Attempts to quit	No	%
yes	51	75
No	12	25
Reasons for attempts to quitting (n=51)		
Do not enjoy	12	22.7
Know the I'll effects on health	38	75
Cost	19	37.8
Family pressure/ peer pressure	14	27.2
Methods used for quitting (n=51)		
Cold turkey method	7	13.6
Gradual tapering	27	53
Quit date or resolution	17	34.4
Reasons for failure to quit		
Lack of will power	37	72.7
Not sure how to quit	9	18
Withdrawal symptoms	5	9.3%

DISCUSSION

In this study male constituted 90.9% whereas females were 9.1% out of total substance abusers students. Study done by V.K. Jagnany et al. (2008) [5] reported that males have higher substance use rates than females. In present study revealed that the risk of substance abuse increased with an increase in seniority and was 7.95% substance abusers in final-I MBBS students, 23.86% in final-II MBBS and 35.23% substance abusers in interns. V.K. Jagnany et al. (2008) [5] also reported that the risk of substance abuse increased with an increase in seniority.

In this study Risk of Substance abuse was more among students who were staying in hostels (88.0%) than those who stay at home (12.0%). The risk was also found to be greater in students coming from joint families (38.9%) and in students having history of substance

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abuse in their siblings. Study done by Gour kumari Padhy et al (2014) [10] also reported that risk of substance abuse was more among hostellers and those coming from joint families. According to

V.K. Jagnany et al (2008) [5] risk was also found to be greater in students having history of substance abuse in their siblings. In our study most common substances used by students was alcohol followed by nicotine and least being prescription drugs. The order of preference differs from earlier studies where cigarette was the main substance abused. The most likely explanation for this change may be the awareness programmes like world tobacco day. Nazish Imran et al (2011) [7] revealed that most common substance used by students were cigarettes (78.9%), alcohol (26.2%) and least canab is smoking (0.4%) difference from study done by EO Babalola et al (2014) [11] found that Alcohol was the most commonly used substance (63.4%)

It may be explained on the basis of a perception among medical students of cigarette being helpful to remain awake and active and to improve the attention and concentration especially during exams and lack of awareness of its potential side effects. Majority students (58.2%) had started to use substances between 21-30 year and 35.8% between 11-20 year. Study done by Nazish Imran et al (2011) [7] found that More than a quarter of respondents also had started experimenting with these substances before the age of 15 years with almost 40% between the ages of 15 – 20 years while EO Babalola et al (2014) [11] revealed that most of the drugs were first used between ages 15 and 18 years. Initial drug use was relatively uncommon below age 11 year; however, majority of respondents had tried alcohol, tobacco and cannabis before their 15th birthday. In our study 4.54% of medical students had started substance abuse when they were in school but 61.1% have started when they come in medical college. This showed that medical college environment favoured for substance abuse. Gour Kumari Padhy et al (2014) [10] reported that 68% of substance abusers began their practice in college while 22% abusers had already started in the school. In this study 52.3% medical students occasionally use the substance and 34.3% Habitual user. The wide variation in frequency of substance abuse among medical students observed in study done by V.K. Jagnany et al. (2008) [5] and frequency observed in the present study may be attributed to differences in population characteristics, socio-cultural background and differences in study methodology. In this study the most common perceived reason to celebrate an event in (58%) substance abuser, 29.8% for relieving tension and 23.9% were curious about the substance abuse but According to study done by Gour kumari Padhy et al (2014) [10] found that Curiosity about the substance was the cause of initiation for about 46% substance abusers.

Academic stress, peer pressure, failure in love matters also accounted for initiation among majority of abusers. Multiple studies have found significantly high-stress levels in medical students and the high stress has been reported from multiple countries, spanning different continents. Majority of the students (74.6%) did not feel that the use of these substances would have any ill effects. Only less than 11.9% of the students thought that it can have ill effect on their physical/mental health and in less than 10% on family and social relationships. Similar result found the study done by V.K. Jagnany et al. (2008). [5] Out of 58 substance user's majority 67.2% had made some attempts at quitting the use of these substances. They wanted to quit as majority of them knew ill effects on health (61.5%), did not enjoy (30.8%) and some were due to family pressure (20.5%) and cost (10.2%) of these substances. Majority of them (41.1%) had tried to quit the use by gradually decrease, 25.6% of them had just stopped, 20.5% of them had settled a date and 12.5% quitted along with friends. Out of 39, majority (31) were failure to quit.

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Most of them (64.5%) attributed their failures to 'lack of will power' than not sure how to quit (35.5%). V.K. Jagnany et al. (2008) [5] found that 45.7 % students do not enjoy, 41.3 % due to ill effects on health, 26.1 % due to cost and 8.7% students due to family pressure attempts to quitting. Majority of them had tried to quit the use by suddenly stopping it without any guidance or medical help. They said the reason for failures to lack of willpower.

CONCLUSIONS

Continuing use of these substances in spite of knowledge of hazards associated with them reflected lack of health consciousness and need of proper health education. So, proper counselling with well-planned policies should be implemented to root out the evil of substance abuse among the future doctors which will help in providing better health care services to the people. Intensive search for abusers should be carried out regularly to trace all students abusing one or more substances. Efforts need to be directed to increase awareness about the dangers of drug abuse and to make students realize that experimental use of drugs may lead to abuse and dependence. Limitations: The study was done in one Institution so results may not be generalizable to all medical Institutes. We also cannot rule out differences in students' actual perceptions and how they have answered the questionnaire considering the sensitivity of the issue under study.

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Conflict of Interest

The author declared no conflict of interest.

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