

A Cross Sectional Study to Assess Prevalence, Pattern, Trend and Impact of Substance Abuse among Medical Students

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Abstract

Background: Substance abuse remains a covert yet well known phenomenon among medicos and medical practitioners globally, and Substance abuse assumes special significance among the medical students as they are the future medical practitioners and have a potential role in treating and counselling^[4] the patients of substance abuse disorder. Medical education has always been regarded as highly stressful^[5]. Although, only the academic 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. The doctors are vulnerable to Substance abuse due to their ready accessibility to the substance .

Methods: A cross sectional study was conducted among 232 medical students of Karnataka Institute Of Medical Sciences and various other medical colleges of Karnataka with the help of a structural questionnaire .

Conclusion: It is observed that majority of the participants have adequate knowledge and practices regarding substance abuse. But some fraction of them indulged in substance abuse despite knowing their ill effects. They use various substances such as alcohol, marijuana, cigarettes in various forms such as powders, inhalants, injections, liquid forms etc. However trend towards increasing proportion of substance abuse was observed among students of medical field. The findings suggest that substance abuse in medical students frequently precipitates severe lapses in professionalism and too often endangers the life of not only the students who are using it but also the life of peers and others they may care for/treat in the future.

Keywords: Substance abuse, Medical students, Prevalence, Pattern, trends.

Introduction

Substance abuse and its associated problems are of global concerns. In recent years substance use has increased greatly throughout the world. Adolescence is the critical period when the first initiation of substance abuse takes place^[6]. Among the adolescents, students are particularly vulnerable due to various reasons like academic pressure, temptation by peer groups^[7] and easy availability of many such substances like **tobacco (cigarettes), alcohol, tranquilizers and other**

psychoactive drugs^[1]. A recent WHO estimate shows a burden of world-wide psychoactive substance use of around **2 billion alcohol users, 1.3 billion smokers and 185 million drug users**^[2].

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**"^[1]. Substance abuse leads to clinically significant impairment or distress. Impairment in social and occupational functioning is

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often associated with substance use, which includes the inability to control use of or to discontinue use of the substance.^[2]

Substance abuse remains a covert yet well-known phenomenon among medical students globally^[3], and assumes a special significance among the medical students as they are the future medical practitioners and have a potential role in treating and counselling the patients of substance abuse disorder. Although, only the 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]. 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.^[3]

This study was conducted to estimate **the prevalence of substance abuse, to assess the knowledge and attitudes towards the issue, and to explore possible risk factors associated with substance use among medical students in India.**

Aims and Objectives of Study

- To estimate the **prevalence** of substance abuse among medical students
- To study the **pattern** and **trend** of substance abuse among medical students
- To assess the **impact** of substance abuse on medical students

Review of Literature

A cross sectional study conducted by A Arora et al, revealed that the prevalence of substance abuse was 20.43 per cent (47/230) among medical students. An increase in substance abuse was observed in the latter years of medical education. A total of 43 of 47 (91.7%) students using these substances were aware of the ill effects. The most common reasons for substance use were relief from psychological stress (34/47, 72.4%) and occasional celebration (34/47, 72.4%). Of the 47 substance users, 28 (59.6%) made past attempts to quit the substance abuse.

Another cross sectional study conducted by Kumar P et al, It is found that Stress (situational, personal and professional), medical student abuse and family

history of alcoholism are the major risk factors. Despite paucity of studies in Indian population, substance use is reported between 32.5% to as high as 81.2% among medical students, interns and house physicians.

A Cross sectional study conducted by Kokiwar PR et al, Malla reddy institute of medical sciences, Hyderabad TELANGANA 2019, Stated that, Undergraduate (UG), as well as postgraduate (PG), medical students are exposed to daily stresses, which can lead to substance use and abuse.

Materials and Methodology

Study Design: Cross Sectional study

Source of Data: Medical Students of Karnataka Institute of Medical

Sciences, Hubli and various medical colleges of Karnataka.

Duration of The Study: 8th June 2020 to 7th July 2020 (1month)

Sample Size: The sample size was calculated from the study of Substance abuse among the medical graduates in a developing country done by Arora.A., Kannan.S., Gowri, S.Choudhary, Sudarshan, P.P. Khosla & which was conducted between April and July 2014 at Subharthi Medical College, Meerut, India^[8] where prevalence was 20.43%.

Hence considering - $p = 20.43\% = 0.2043$

Applying the formula: $N = (z^2) \times p \times (1-p) / d^2$

where N=sampling size, z=confidence level at 95%, p=estimated

prevalence, d=range of C.I. (precision), We get the sample size; N=250

Inclusion Criteria: Medical students from various medical colleges of

Karnataka, consenting to participate.

Exclusion Criteria: Students not consenting to participate.

Method of Data Collection

The study was conducted among Medical students studying in various medical colleges of Karnataka. A structured questionnaire, and was provided to obtain information. The web-link was sent through whatsapp among MBBS students from first year to

post graduates. The questionnaire was accessed only after the participants were briefed about the purpose of the study and informed written consent was taken and data was collected. Confidentiality was maintained and the entered data was subsequently recorded and only those having access to the particular Google account can view it i.e. those involved in the survey. Data collection had been done for a duration of 1 week.

The Questionnaire consists of

Section A: Questions regarding knowledge about substance abuse.

Section B: Questions assessing attitude and practises regarding substance abuse.

Section C: Questions about physical and psychological impact of substance abuse.

Section D: Questions regarding abstinence from substance abuse.

Statistical Analysis: The data was collected and entered in Microsoft Excel Worksheet and analysed using appropriate tools, results were presented in the form of proportions and percentages were applied when necessary.

Result

Out of 232 students, 46.6% (n=108) were males and 53.4% (n=124) were females. Majority of the participants belong to the age group 20-25 years. A trend towards increased proportion of substance abuse was observed in the later years of medical education. Various substances available to the study participants included cigarette, alcohol, powder, tablet etc. [as in table 1]

Most of them used one substance at a time of which, 1.3% (n=3) used habitually (as in figure 1). Most of the participants initiated the use of substance use at age of 11-20 years (as in table 2). This test assessed the psychosocial attribute of those with substance abuse and those without and reported teenagers curiosity (51.3%, n=118) as the main reason (as in figure 2).

About 8.8% (n=20) people found it fairly difficult getting the substance during the lockdown period and 16.3% (n=37) participants family members were aware of the substance abuse and 5.5% (n=12) were guilty after using the substance. It was also interesting to note that students having history of substance

abuse in siblings were at a higher risk of using these substances⁽⁵⁾.

Among the participants 5.7% (n=13) (as in figure 3) made attempts to quit the use of concerned substance and out of these 2.2% (n=5) experienced withdrawal effects and thus had been unable to maintain abstinence. Also about 0.9% (n=2) of participants had experienced ill effects of substance abuse by being hospitalized (as in figure 4), but 1.3% (n=3) did not make any significant attempts. Among participants, when under the influence of substance experienced the following effects like physical fight, damage to property etc. (as in table 3)

About 1.8% (n=4) were involved in treatment program for drug abuse out of which 26.2% (n=60) found it helpful.

Table 1: indicates the various forms in which the substance abuse was consumed

Variables	Frequency(N=232)	Percent
Cigarette	42	18.1
Tablet	25	10.8
Patch	15	6.5
Powder	31	13.4
Drinking liquid	22	9.5
Transparent crystal	13	5.6
Injection	28	12.1
Inhalable vapour	16	6.9
Not applicable	30	12.9

Table 2: indicates the age in years when substance abuse was initiated by the study population

Variables	Frequency(N=232)	Percent
0-10 years	7	3
11-20 years	15	6.5
21-30 years	6	2.6
Never used	204	87.9

Table 3: indicates various circumstances experienced by the study population under intoxication

Variables	Frequency(N=232)	Percent
Physical fight	6	2.6
Injury	5	2.2
Damage to property	1	0.4
Hospitalized	2	0.9
Trouble with police	4	1.7

Variables	Frequency(N=232)	Percent
Disturbed social relationships	4	1.7
Harm to their academic performances	8	3.5
Never had been under the influence of drug.	216	93.9

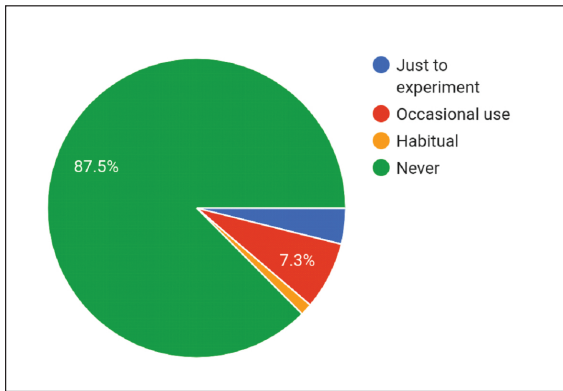


Figure 1: indicates the frequency of substance abuse

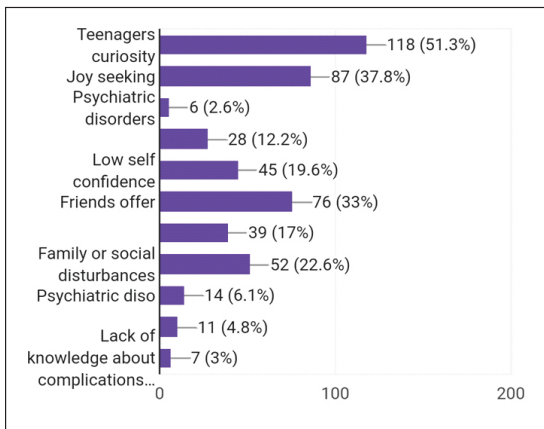


Figure 2: indicates the reason for initiating in substance abuse

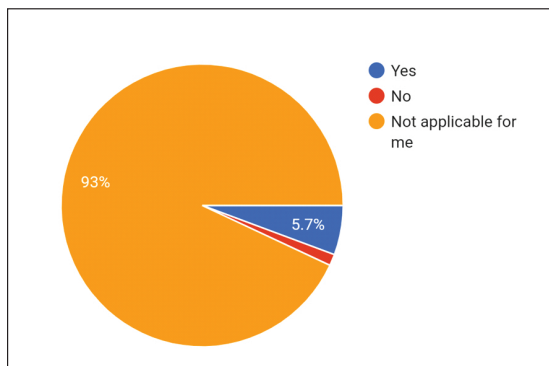


Figure 3: indicates the no. of study population who tried to quit their habits

Conclusion

It is observed that majority of the participants have adequate knowledge and practices regarding substance abuse. But some fraction of them indulged in substance abuse despite knowing their ill effects. They use various substances such as alcohol, marijuana, cigarettes in various forms such as powders, inhalants, injections, liquid forms etc. However trend towards increasing proportion of substance abuse was observed among students of medical field. The findings suggest that substance abuse in medical students frequently precipitates severe lapses in professionalism and too often endangers the life of not only the students who are using it but also the life of peers and others they may care for/treat in the future.

Conflict of Interest - Nil

Ethical Clearance - Not Taken

Source of Fund - Self

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