

# PSYCHOACTIVE SUBSTANCE USE AMONG MEDICAL STUDENTS

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*Using a standard epidemiological survey instrument for psychoactive drug use, 215 medical students in three classes were studied. One third of all students reported non-medical drug use. The substances ever used were: betel nut 13%, smokeless tobacco 3%, cigarettes 12%, alcohol 12.5%, cannabis 0.9% and benzodiazepines 3.7%. Last month use was reported for four substances and daily use was reported for cigarettes only (3.2%). Cigarette and benzodiazepine use mostly began after entry to medical college. Men and final year students had a higher prevalence of drug use.*

**Key words:** Psychoactive substance, use, medical students, depression.

## INTRODUCTION

Psychoactive substance related impairments may have a detrimental and life threatening impact not only on individual physicians but also on patients dependent on them. Nonmedical drug use among medical students has been surveyed in India (Agarwal et al, 1975; Sethi & Manchanda, 1987; Singh, 1979; Ponnudurai et al, 1984; Vankar (personal communication, 1984) and abroad (Maddux et al, 1986; McAuliffe et al, 1986; Baldwin et al, 1991). As these studies were conducted with different questionnaires and with different procedures, at different places and times and with varying response rates, the results cannot be generalized.

This study differs in two aspects from earlier studies. Firstly, in addition to information about extent and nature of substances used, it also sought information regarding impairment because of psychoactive substance use. Secondly, it measured depression which has been reported to coexist with the use of alcohol and other substances. This study aimed at finding out the prevalence and pattern of psychoactive substance use among medical students, sociodemographic correlates of such use and association of depression with such use, if any.

## MATERIAL AND METHODS

A self-administered questionnaire adapted from the questionnaire used by Johnston et al (1982) was used for the survey. The questionnaire elicited information on sociodemographic characteristics, psychoactive substance use and impairment due to such use. Depression was measured by the twenty item Zung self-rating Depression Scale (Zung, 1972). The questionnaire was distributed to first, second and final MBBS students by one of the investigators (Z.A.R.V.) in their respective classes

after thorough explanation of purpose of study. All students responded to the questionnaire.

Psychoactive substance users and nonusers were compared on several sociodemographic characteristics as well as for presence of depression. Chi-square and 't' test were used to find out statistical significance.

## RESULTS

Out of 234 medical students in the three classes, 19 provided inadequate information, leaving 215 responses for analysis.

**Table 1**  
Prevalence of psychoactive substance use (%)

Substance	Life Time		Last Month	
	Male	Female	Total	Total
Alcohol	26.4	3.3	16.7	3.2
Betel Nut	17.6	6.6	13.0	2.3
Cigarettes	19.2	1.1	12.0	5.5
Benzodiazepines	8.0	0.0	4.6	0.5
Smokeless				
Tobacco	2.4	0.0	1.4	0.0
Cannabis	1.6	0.0	0.9	0.0

Table 1 shows the prevalence of psychoactive substance use. Seventy (32.5%) students had used at least one psychoactive substance during their lifetime. Betel nut, alcohol and cigarettes were the three most frequently used substances. Less commonly used were benzodiazepines, smokeless tobacco and cannabis. Last month substance use was limited to four substances: cigarettes, alcohol, betel nut and benzodiazepines, in that order. Daily use (for twenty or more days during the last one month) was reported by 3.2% and was limited to cigarettes only.

More than 90% of alcohol users also had used another substance. Cannabis use was uncommon, reported by only two students. Impairment in physical, social or academic spheres were reported by only 2.3% of all and 7.1% of drug user students. For different substances, mean age of starting substance use ranged from 15 to 17.5 years. The lowest mean age for the onset of use of any substance was for betel nut (15 years), and the highest mean age was for benzodiazepines (17.5 years).

**Table 2**  
**Chronology of psychoactive substance use**

Substance	Student Use (n = 215)					
	Before medical college		During medical college		Never	
	n	(%)	n	(%)	n	(%)
Alcohol	22	(10.0)	14	(7.0)	179	(83)
Betel nut	21	(9.8)	7	(3.0)	187	(87)
Cigarettes	11	(5.0)	14	(7.0)	190	(88)
Benzodiazepines	2	(1.0)	8	(3.7)	205	(95)
Smokeless Tobacco	2	(1.0)	1	(0.5)	212	(99)
Cannabis	1	(0.5)	1	(0.5)	213	(99)

**Table 3**  
**Reasons cited for substance use**

Substance	Most cited	Second most cited	Third most cited
	(Per cent users per substance)		
Alcohol	Experiment (36.1)	Good time (30.5)	Feel good (11.1)
Betel Nut	Experiment (57.1)	Good taste (17.8)	Good time (14.3)
Cigarettes	Experiment (60.1)	Relax (12.0)	Good time (4.0) Avoid problems (4.0)
Benzodiazepines	Sleep (100)	-	-
Smokeless Tobacco	Experiment (66)	Relax (33)	-
Cannabis	Feel good (50)	-	-
	Anger (50)	-	-

**Table 4**  
**Sociodemographic characteristics**

		Users n = 70 (%)	Nonusers n = 145 (%)
Gender*	Men	89	43
	Women	11	57
Age (yrs)	Range	17 to 25	17 to 23
	Mean(SD)	19.7(2.0)	19.5 (1.4)
Class*	I MBBS	30	47
	II MBBS	24	37
	III MBBS	46	16
Domicile	Urban	63	77
	Rural	37	23
Residence	Hostel	61	63
	Day scholar	39	37
Religion	Hindu	93	92
	Other	7	8
Marital Status	Single	94	99
	Married	6	1
Annual Income(Rs)	<60,000	57	68
	>60,000	43	32
Health status	Good	81	77
	fair/poor	19	23
Academic status*	Upper	37	43
	Middle	53	41
	Lower	10	16

\* Data of 49 users and 47 nonusers  
† p < 0.001

As shown in Table 2, use of alcohol, betel nut and smokeless tobacco started more often prior to entering medical college. After admission to medical college, the use of two substances: cigarettes and benzodiazepines became more frequent. Cannabis use did not show any difference before or after medical college entry. The reasons cited for experimenting with drugs are mentioned in Table 3.

Table 4 compares sociodemographic characteristics of psychoactive substance users and non-users. Life time use was more often by men as compared to women (89% vs 11%); use was most frequent among final MBBS students. The users and nonusers did not differ as regards age, domicile, residential arrangement, religion, marital status, parental income, perceived health and academic status.

On Zung self-rating Depression Scale (Zung, 1972) more non-users compared to users had depression (25.5% vs 20%). However, the difference was not statistically significant.

## DISCUSSION

Almost one third of medical students reported a lifetime use of psychoactive substances. The lower prevalence may be related to inclusion of younger students belonging to the first and second years. Use of opioids, stimulants, hallucinogens or cocaine was nonexistent. Impairment due to drug use were also uncommon. Use of two substances: cigarettes and benzodiazepines started more often after medical college entry. Easy access to benzodiazepines for medical students may be a factor leading to its use. Drug use was not associated with more depression. Clark and Zeldo (1987) observed that medical students with depression did not report alcohol or other substance use more frequently; in fact severely dysphoric students reported less consumption of alcohol. Drug use might have improved the mood state of users. Psychoactive drug use started in most instances at younger age. Emphasis in medical curriculum on psychoactive substance use cannot be overemphasized.

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