

## Prevalence of Psychoactive Drug Use Among Medical Students in Lahore

Nazish Imran,<sup>1</sup> Imran Ijaz Haider,<sup>2</sup> Muhammad Riaz Bhatti,<sup>3</sup> Atif Sohail,<sup>4</sup> Mohsan Zafar<sup>5</sup>

### Abstract

**Introduction:** Health professionals including medical students are at higher risk of substance abuse, which can adversely affect their physical and mental health. It may also threaten their ability to provide adequate patient care and be a role model for healthy lifestyle.

**Objective:** The study aim was to estimate the prevalence and pattern of psychoactive substance use among Medical Undergraduates of two Medical institutions in Lahore (Pakistan).

**Study Design:** Cross sectional study.

**Place of study:** King Edward Medical University and Fatima Memorial Medical College in Lahore.

**Method:** All consenting medical students of a public and a private Medical University in Lahore were requested to complete a self – report questionnaire. Socio-demographic information, perceptions and attitudes of medical students (being reported in a separate paper) as well as information about their behavior regarding six common substances of abuse (cigarettes, alcohol, heroin, cannabis, benzodiazepines, and amphetamines) were sought.

**Results:** Total number of students were 1299 (response rate (87%). Two hundred and twenty two (17%) students in the study admitted to the use of psychoactive substances in the past with forty six (3.6%) actively using one or more of these substances at the time of study. Substances used by students in order of preference were cigarettes 175 (78.9%), alcohol 58 (26.2%), cannabis 56 (25.5%), amphetamines 32 (14.6%), Benzodiazepines 6 (3.6%) and glue sniffing 8 (0.4%). Students belonging to the private medical college were more likely to have experimented with cigarettes, alcohol and cannabis in the past or are currently using them (P values .001, .000 and .004 respectively).

---

Imran N.<sup>1</sup>  
Assistant Professor  
Child and Family Psychiatry Department  
King Edward Medical University, Lahore – Pakistan

Haider I.J.<sup>2</sup>  
Associate Professor  
Department of Psychiatry and Behavioural Sciences  
Fatima Memorial College of Medicine and Dentistry  
Lahore – Pakistan

Bhatti M.R.<sup>3</sup>  
Professor  
Department of Psychiatry and Behavioral Sciences  
King Edward Medical University, Lahore

Sohail A.<sup>4</sup>  
House Officer.  
Child and Family Psychiatry Department  
King Edward Medical University, Lahore – Pakistan

Zafar M.<sup>5</sup>  
Resident Medical Officer  
Department of Psychiatry and Behavioural Sciences  
Fatima Memorial College of Medicine and Dentistry  
Lahore – Pakistan

Overall boys had experimented more with these substances than girls (P value .000).

**Conclusion:** We conclude that the prevalence of cigarettes, alcohol and illicit substance use among medical students in Lahore is of concern and unacceptably high. Efforts need to be directed to increase awareness about the hazards of psychoactive substance abuse among medical students and integration of addiction medicine in the undergraduate curriculum may be one of the ways of doing it.

**Key Words:** Medical students, Pakistan, Psychoactive substance abuse.

## Introduction

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.<sup>1,2</sup> 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. In addition, substance use is shown in some studies to be a proxy of psychiatric morbidity as well which can further impair medical education.<sup>3</sup> Alongside the negative effects of substance use on medical student physical and mental health, it may also threaten their ability to provide adequate patient care and be a role model for healthy lifestyle.

Many studies have estimated prevalence of substance misuse among Medical students. A study conducted among undergraduate Medical students in Calcutta indicated that the point prevalence values of total and current drug abusers were 48.9% and 27.9% respectively among the respondent student population.<sup>4</sup> According to another study, there is a higher occurrence of alcohol, tranquillizers and psychedelics use among medical students and dependence rates are 5% for medical students and 3% for doctors.<sup>5</sup> We are not aware of any studies done in Pakistan on this topic.

Examining the lifestyle of today's Pakistani Medical students is of interest because as tomorrow's doctors, they will be involved in future healthcare. The present study intended to detect the magnitude and

pattern of psychoactive substance use in order to make recommendations for intervention for medical students in Lahore, Pakistan.

## Method

This was a cross sectional study conducted among the undergraduate students of a public and a private Medical University in Lahore. The study was conducted in compliance with "Ethical principals for medical research involving human subjects" of Helsinki Declaration. Informed consent was obtained from the participants. A structured questionnaire based on literature review in this area was constructed by the research team in English Language. It was discussed among the team as well as piloted on 20 students doing the psychiatry ward rotation in the hospital at the time of the study. The questionnaire was then modified in view of their opinions to address the identified deficiencies.

The first part of the questionnaire sought information related to demographics of the participants. The second part comprised of perceptions of medical students regarding six common substances of abuse (cigarettes, alcohol, heroin, cannabis, benzodiazepines, and amphetamines). The results of that section are being reported separately. In the third section, respondents were asked about their own cigarettes, drugs and alcohol practices. All possible measures were taken to ensure the confidentiality of all participants.

The questionnaire was distributed and then collected by the data collection team. All the students in both Medical colleges in five years of MBBS attending the classes on days of data collection were invited to participate in the study.

Data was analyzed by using Statistical Package for Social Sciences 10.0 (SPSS 10.0). Descriptive statistics of socio-demographic 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 criteria of significance.

## Results

Out of 1500 questionnaires distributed, 1299 filled questionnaires were received. (Response rate 86.6%). 1024 (78.8%) students belonged to public medical university and 275 (21.2%) were from a Private Medical College. There were 457 males and 842 females.

Almost half of the respondents were in the age group 18 – 20. Majority 96% (1253) were single and about half of the respondents were hostellites.

In response to students ever experimenting with cigarettes, alcohol and drugs, 83% responded in negative while 17% (222) admitted to their use in the past with 4.4% experimenting in the last year and 3.6% admitting to current use of either one or more of these substances at the time of the study. Among the 222 students who had experimented with these substances, majority had used it just once (102, 46%), followed by daily users (47, 21.2%) and then those who used on social gatherings 37 (16.7%). Most of students started using them between ages of 15 – 20 (42.6%), with almost equal proportion starting use earlier between 10 – 15 years old or later in life after 20+ years. (27.8 and 28.7% respectively).

Substances used by students in order of preference were cigarettes 175 (78.9%), alcohol 58 (26.2%), cannabis 56 (25.5%), amphetamines 32 (14.6%), Benzodiazepines 6 (3.6%) and glue sniffing 8 (0.4%).

Comparison of responses of students of both institutions revealed that students belonging to private medical college were more likely to have experimented with cigarettes, alcohol and cannabis in past or are currently using them. (P values .001, .000 and .004 respectively). Overall boys had experimented more with these substances than girls (P value .000).

## Discussion

Substance abuse (tobacco, alcohol, prescribed and illicit drugs) has been recognized as an area of concern among medical students. Our study contributes to the evidence by providing some data on the prevalence and pattern of substance abuse among medical students in Lahore. Overall, seventeen percent of respondents in our study reported having experimented with cigarettes, alcohol or illicit drugs. This figure is considerably lower than that reported from the western world but still unacceptably high. This figure is also higher in comparison to other studies done in predominantly Muslim countries like Turkey where point prevalence figures of only 4% for the use of illicit substances (cannabis, ecstasy, and cocaine) was reported among medical students. However around half of the students among those 4% had consumed alcohol with risky alcohol use in 7.4%.<sup>6</sup> Another study conducted amongst undergraduate medical students in neighbor-

ing India indicated the prevalence of total and current drug abusers as 48.9% and 27.9% respectively. The prevalence among boys was much higher than among girls. Thirteen percent had used tobacco only and four percent alcohol only.<sup>4</sup>

Respondents in our study had experimented predominantly with cigarettes and alcohol to be followed by stimulants. These results are in line with cigarettes smoking in youth as being more socially acceptable in Pakistani society but contrary to the belief of alcohol not being a major problem in our medical students. Findings are also consistent with previous findings of alcohol and tobacco consumption being reported very high among physicians and medical students.<sup>7,9</sup> The frequency of cigarettes use was very high compared to the studies done in western world in which only 2% – 15.8% of the medical students were reported to be the current smokers.<sup>10,11</sup> Overall these results are a cause of worry for medical community in Pakistan, because these medical students as future physicians will be treating patients with smoking, alcohol and drug related problems and their attitudes will influence their professional behaviour. 2046 senior students in 23 medical schools in Britain were surveyed regarding substance use in last 30 days and reported incidence of marijuana (10%), cocaine (2.8%), tranquillizers (2.3%), heroin / opiate (1.1%), psychedelics (0.7%), amphetamine (0.3%) and barbiturates (0.2%) was of concern.<sup>12</sup> We did find comparatively higher use of amphetamines in our sample. It may be explained on the basis of a perception among medical students of amphetamine 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.

Most of the studies suggest that students who reports use of illicit drugs started this practice before medical schools.<sup>12,13</sup> More than a quarter of our respondents also had started experimenting with these substances before the age of 15 years with almost 40% between the ages of 15 – 20 years. These findings highlight the need to establish awareness programmes regarding tobacco, alcohol and substance use in the high schools and colleges.

There is a perception in Pakistan about drugs and alcohol abuse being more common and acceptable in Upper social class. We found that medical students belonging to private medical college (which has a higher tuition fee) who are likely to belong to more affluent and financially sound families had experi-

mented more with cigarettes, alcohol or cannabis. (P values .001, .000, and .004 respectively) There is still a possibility of underreporting of substance abuse in our study as drugs and alcohol are considered a taboo subject in Pakistani society.

Our study strengths include large sample size and good response rate. However various limitations need to be considered. The study was done in two Institutions 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.

We conclude that the prevalence of cigarettes, alcohol and illicit substance abuse among medical students in Lahore is of concern and unacceptably high. 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. Integration of addiction medicine in undergraduate curriculum may be one way of tackling this problem and so is the availability of healthier ways of recreation.

## References

1. Strang J, Wilks M, Wells B and Marshall J. Missed problems and missed opportunities for addicted doctors. *BMJ* 1998; 316: 405-6.
2. Bennett J and O'Donovan D. Substance misuse by doctors, nurses and other healthcare workers. *Curr opin psychiatry* 2001; 14: 195-199.
3. Christie KA, Burke JD Jr, Regier DA, Rae DS, Boyd JH and Locke BZ. Epidemiologic evidence for early onset of mental disorders and higher risk of drug abuse in young adults. *Am J Psychiat* 1988; 145: 971-975.
4. Naskar NN and Bhattacharya SK. A study on drug abuse among the undergraduate medical students in Calcutta. *J Indian Med Assoc* 1999; 97: 20-21.
5. Kumar P and Basu D. Substance abuse by medical students and doctors. *J Indian Med Assoc* 2000; 98: 447-52.
6. Akvadar Y, Demiral Y, Ergor G, Ergor A, Bilici M and Ozer OA. Substance use in a sample of Turkish Medical Students. *Drug Alcohol Depend* 2003; 72: 117-21.
7. Smart R and Ogborne A. Drinking and heavy drinking by students in 18 countries. *Drug Alcohol Depend* 2000; 60 (3): 315-318.
8. Dekker HM, Looman CW, Adriaanse HP, Van der Maas PJ. Prevalence of smoking in physicians and medical students and the generation effects in the Netherlands. *Soc Sci Med* 1993; 36 (6): 817-22.
9. Akvardar Y, Aslan B, Ekici B, Qgun E and Simsek T. Prevalence of cigarettes smoking, alcohol, and drug use in second year medical students in Dokuz Eylul University. *J Dependence* 2001; 2: 49-52.
10. Magnus RS, Hawkins CE and Miller MJ. Tobacco and alcohol use among 1996 medical school graduates. *JAMA* 1998; 280: 1192-93.
11. Webb E, Ashton CH, Kelly P, Kamali F. 1998. An update on British Medical students lifestyles. *Med Educ* 1998; 32: 325-31.
12. Baldwin DC Jr, Hughes PH, Conard SE, Storr CL and Sheehan DV. Substance use among senior medical students: a survey of 23 medical schools. *JAMA*. 1991; 265: 2074-78.
13. Schwartz R, Lewis D, Hoffman N and Kyriazi N. Cocaine and Marijuana use by medical students before and during medical school. *Arch Intern Med* 1990; 150: 883-86.