

Substance Abuse Among Medical Students – A Survey in a Medical College in Nepal

Roy RK¹, Roy DK², Goit R K³

ABSTRACT

Introduction

Substance use among medical students could impact on the conduct, safety and efficiency of future doctors. Despite serious medico legal, ethical and political ramifications, there is paucity of published article on the subject, especially from Nepal.

Objective : We aimed to explore the patterns of substance abuse among a sample of Medical students from Nepalgunj Medical College.

Materials and Methods : A cross-sectional survey of medical students from Nepalgunj Medical College was done using a brief questionnaire schedule to identify current and lifetime use of tobacco, alcohol, cannabis and abuse of other drugs. An operational definition of substance abuse was made, 28 % of students fell within that criterion.

Results : Male substance abusers 81% exceeded female abusers 19%. Substances most commonly abused were alcohol 60%, minor tranquilizers 48%, and tobacco 35%, and only 11% abused cannabis. While most students were multidrug users, there was a low frequency of daily drug use. A general lifetime (occasional use) prevalence of substance use of 56% was found. Drugs consumed on a daily basis were alcohol 2% and tobacco 6%. The prevalence of drug use was highest among the fourth and final year students.

Conclusion : The majority of students were occasional abusers; there was no evidence of physical dependence. This study provides a snapshot of the problem of substance use among medical students of Nepal. Further research is needed to study nationwide patterns of substance use among medical students, and to identify important determinants and reinforce preventive measures. Strategies need to be developed for supporting students with a substance use problem.

Key Words : Medical students, drug abuse, tobacco use, cannabis, substance abuse

INTRODUCTION

Medical students, as future doctors, hold a unique place in society and earn privileges and responsibilities different from those of other students. Different standards of professional behavior are hence expected from them¹. Substance use by medical students poses risks and can also have serious consequences on their effectiveness and fitness to practice as tomorrow's doctors². It is believed that substance use among physician starts early in their careers and the importance of studying the lifestyles of medical students to detect substance abuse is well recognized³. There is a paucity of systematic data from the Indian subcontinent related to substance use among medical students. Rates of substance use reported by different studies vary globally⁴⁻⁷. We aimed to revisit this issue using a

survey to explore the patterns of substance use among a sample of medical students and generate ideas for further research in this area. Man has long used substances that alter consciousness for the production of pleasure and euphoria, or for the reduction of pain, anxiety, and distress⁶.

Since, ancient time Nepalese culture has adopted drinking to a point of oblivion and ecstasy in ceremonies. The probable adverse effects of these psychoactive substances have caused international concern over many years and international legislations have been enacted at various times to control their circulation and use. Various studies have reported an increasing trend in the prevalence of substance abuse, particularly among the youth, and its seriousness as a public health hazard⁷⁻¹⁰. A greater cause for concern is the finding of a similarity between urban and rural trends in drug use¹¹. In a recent study, 22% of clinical medical students in Nepalgunj Medical College either did not disapprove or only disapproved slightly of the nonmedical use of listed psychoactive drugs. Abuse of drugs among physicians has been estimated to be about 30 to 100 times the rate in the general population. In spite of this, no study has been done in Nepal to assess the true position with regard to physicians, or to estimate the time in their career when they are likely to have acquired the habit.

1. Mr Roshan Kumar Roy
2. Dr. Deepak Kumar Roy
3. Mr Rajesh Kumar Goit

Address for Correspondence:

Mr Roshan Kumar Roy
Department of Community Medicine
Nepalgunj Medical College Teaching
Hospital Chisapani, Banke, Nepal
link2roy@gmail.com

MATERIALS AND METHODS

Our study was a cross-sectional survey on medical students from Nepalgunj Medical College. Study started from 18 June 2016 and continues till 27 November 2016, overall taking around five months for completion of study. We designed a questionnaire to gather brief demographic data including age, sex, and year of study and pattern of substance use in a multiple-choice format. Substances included were tobacco (smoked and chewable), alcohol, cannabis, heroin, non-prescription benzodiazepines and non-prescription opioids. Respondents were asked to classify each substance used during the past few months, past 12 months, lifetime use or never used. The names of respondents or their medical schools were not noted to maintain anonymity and encourage participation. To keep the questionnaire short, the quantity of substance consumed was not included. Medical students from each year were briefed about the study in groups and given instructions on filling the questionnaire. Those who agreed to participate were then given questionnaires. The participants were asked to complete it on the spot; collection was carried out by a ballot box technique. As participation in the survey was voluntary, consent was implied if a participant returned a completed questionnaire. Only complete entries were included in the final dataset, which was analyzed using SPSS version-18.

Lifetime and past month prevalence rates of the use of substances by individuals were calculated as a percentage of total respondents who admitted ever using the substance or in the past month, respectively. Multivariable logistic regression analysis was performed to determine the factors associated with illicit substance (cannabis or heroin) used in the past 12 months. All matriculated undergraduate medical students of NGMC during academic session of 2016 AD formed the population of this study. There were all together 855 students in 5 classes. Each class of students filled out the questionnaires during a class hour, after explanations and assurances of confidentiality. Items on the questionnaire were a modified version of those used to study drug abuse among American high school students. The first part of the questionnaire sought basic demographic information, while the second part included questions regarding drug use during lifetime, frequency of use of each drug listed, reasons for use, and the subject's chances of future use. Substances included were alcohol, cannabis, stimulants, sedatives (including barbiturate and non-barbiturate hypnotics), minor tranquilizers, opium, synthetic narcotics, cocaine, hallucinogens, inhalants (volatile agents), and tobacco (including cigarettes and snuff). Data obtained were pooled and analyzed. For this study, drug abuse was

defined as “the taking a drug at a frequency of at least once a month without medical prescription”.

RESULTS

Table I: Distribution Of Subjects According To sex

	Male No. %	Female No. %
Abuser (n= 389)	227 (53.4%)	162(59.3%)
Non Abuser (n= 309)	198(28%)	111(16%)

$$X^2 = 2.46; df = 1$$

*Age range, 18 to 28, mean age = 28 years, Sd= 2.26

This was followed by minor tranquilizers 48%, with tobacco in its various forms, but mostly as cigarettes, ranking third 35%. Sedatives and cannabis were abused by nearly an equal number of students. There was no report of abuse of opium, cocaine, hallucinogens, and volatile agents (inhalants) in this study. Only six male and two female reported using stimulants (Table III).

Table II: Prevalence of substance abused, all drugs

Frequency	Number	Percentage
Once in a life time	69	10
Once or twice in a year	125	18
Once or more in a month	195	28
Never abused	309	44

Out of the 855 matriculated students, completed responses were obtained from 698 (89.6%) of students.

Table III: Type of Drug Abused

Type of Drug	Male No. %	Female No. %	All Students No. %
Alcohol	179, 46%	54, 14%	233, 60%
Tobacco	117, 30%	19, 5%	136, 35%
Tranquilizer	117, 30%	69, 18%	186, (48%)
Sedatives	39, 10%	19, 5%	58, (15%)
Cannabis	46, 12%	12, 3%	58, (15%)
Others	--	--	--

Prevalence of Substance

Three hundred and eighty nine students had taken drugs at some time in their lives without a medical prescription (Table I). This gives a prevalence rate for the "occasional user" of 55% for all substances used. Two hundred five 28% Students were recognized as real abusers as they used drugs once or more each month.

Sex Distribution

As shown in Table II, more men 32% than women 23% were

involved in drug abuse; however, sex difference between abusers and non-abusers did not attain statistical significance.

Prevalence by type of Drug Abused

The substance most commonly abused by this sample was alcohol, which was consumed by 60% of students. This was followed by minor tranquilizers 48%, with tobacco in its various forms, but mostly as cigarettes, ranking third 35%. Sedatives and cannabis were abused by nearly an equal number of students. There was no report of abuse of opium, cocaine, hallucinogens, and volatile agents (inhalants) in this study. (Table III).

Frequency of Use of Drugs Most Commonly Abused

There was a paucity of daily use of most of the drugs abused. 68% of abusers of alcohol got involved in drinking it once a month. 23% used it two to three times each month, while 7% drank alcohol once or twice a week. Out of 98 students who abused minor tranquilizers, the majority 80% took them two to three times a month, while about 5% took once or twice a week. Only one female student reported of having cannabis. Frequency of use of the other drugs listed is shown in Table IV.

Table IV: Frequency of use of Drugs most commonly abused

Drug Abused	No. of Students	Once a month	Two or three times a month	Once or twice a week	Almost Daily
Alcohol	233	158, 68%	53, 23%	16, 7%	4, 2%
Tobacco	136	77, 57%	34, 25%	17, 13%	8, 6%
Tranquilizer	186	148, 80%	28, 15%	9, 5%	
Sedatives	58	44, 77%	8, 15%	5, 8%	
Cannabis	58	43, 74%	15, 26%		
Others	-	-			

Prevalence of Single and Polydrug Use by Year of Study

Approximately 28% of all the students were single-drug users while the remaining 82% were polydrug users. Single-drug abuse was highest among first and second year and followed by fourth year students and least among third and final year students. On the other hand, polydrug abuse was highest among the third and final year students. The observed prevalence of drug abuse in third years was very high and followed by final year of study (Table V).

Table V: Prevalence of Single and Polydrug Use by Each Year

Year of Study	Single Drug user	Poly Drug user	Total Drug user
1st Year	32%	64%	18%
2 nd Year	28%	72%	19%
3 rd Year	18%	87%	50%
4th Year	27%	75%	37%
Final Year	10%	91%	41%
All Students	28%	82%	32%

*Percentage of Total Class Population

DISCUSSION

Widespread ignorance of the probable ill effects of certain drugs and legal prohibitions against the illegal use of such drugs constitute an obstacle to any epidemiological study of drug abuse in Nepal. The consequent reluctance on the part of abusers to cooperate in such studies for fear of prosecution or stigmatization appears understandable, though misguided. Nevertheless, it is necessary to have an idea about the nature and size of the problem if meaningful and effective preventive measures are contemplated¹². The lifetime prevalence of substance abuse in this study was 55 percent, with a higher frequency among men than women. The figure in our study was found to be higher than the study conducted in Glasgow University for undergraduate medical students that are 13 and 16 percent were found respectively. Similarly, in another study conducted by Sethi and Manchanda in India, 12 comparable to 49 percent were obtained. Also, 14 considerably lower than 72 percent for another medical school in India¹³.

Differences in methodology, sociocultural characteristics of the various samples studied, and the different numbers of drugs included contributed to the observed differences⁶. An interesting finding is the absence of reported cases of abuse of opium, cocaine, and hallucinogenic and volatile substances. This tendency to avoid the "harder" drugs is probably because of stringent enforcement of legal sanctions, thus making it more difficult for the would-be abuser, particularly within the confines of a university campus, to get at such drugs. The most commonly abused substances were alcohol, minor tranquilizers, tobacco, and sedatives in that order. The rate of abuse of all forms of alcohol is 60 percent and reflects the easy availability of that commodity in this country, where there are no serious restrictive laws against its use (except for underage persons). With the present increase in the number of breweries producing alcoholic beverages, this figure could be higher in the future—a situation that calls for urgent public education and effective preventive as well as remedial measures¹⁴. The prevalence of true drug abuse (according to the operational definition of this study) was 28 percent.

Among the respondent 82 percent of the students were polydrug users. This gives cause for concern, as adverse consequences may arise from one drug potentiating the effect of another. About 50 percent of those abusing alcohol also smoked cigarettes. The higher prevalence rate of polydrug use in the three most senior classes reflects the amount of stress impinging on the student as a result of increasing academic

work and the pressure of clinical postings, which often exclude the student from the usual social interactions with the outside world. It becomes important, therefore, that the student should be made aware of the dangers ahead and be helped to curb the habit before he or she becomes a qualified medical doctor and drugs become more readily available¹³. The majority of students in this study were occasional abusers. The study involved only students who were present at lectures on the daytime when questionnaires were distributed. Considering the anonymity, absentees could not be contacted thereafter. More intensive work needs to be done to assess the real extent to which this substance is abused in society. Cognizant of the importance of drugs in the health care system of any community and the fact that the types of substance used tend to change with time¹⁵⁻¹⁷.

The present study was intended to give an insight into the prevalence and pattern of substance abuse among medical undergraduates at one institution. Although the majority is occasional users, the overall picture is disturbing enough, particularly as it shows an upward trend in prevalence among the senior classes. However, a cause for cheer is the fact that only 8(4%) students gave a hint of their desire to continue taking drugs, and those were in relation to alcohol, tranquilizers, so the picture is not entirely one of unmitigated gloom. The latter years of medical education are perhaps an auspicious moment to introduce any remedial measures necessary to control or modify the students' substance abusing behavior before they graduate as doctors with more money for alcohol and greater access to drugs. The inclusion of alcohol and tobacco has no doubt increased the prevalence of the occasional user category. The socio-medical consequences of abuse of these substances and the fact that alcohol and tobacco are very important agents of social interaction make their inclusion in such a study necessary. While the results of this study appear informative, there is a greater and urgent need to intensify research on the epidemiology of drug abuse in various communities in Nepal, particularly at this time of fluctuating socioeconomic fortunes.

CONCLUSION

Medical students, as tomorrow's doctors, hold a unique place in society and earn privileges and responsibilities different from those of other students. We aimed to explore the patterns of substance use among a sample of medical students from Nepalgunj Medical College. The prevalence of drug use was highest among the fourth and final year students. The majority of students were occasional abusers; there was no evidence of physical dependence. This study provides a snapshot of the

problem of substance use among medical students of Nepal. Further research is needed to study nationwide patterns of substance use among medical students, and to identify important determinants and reinforce protective factors. Strategies need to be developed for supporting students with a substance use problem.

ACKNOWLEDGMENT

Mr. Manmohan Chaudhary, Mr. Pankaj Sein, Mr. Sakti Sah who provided resource material for this study and collected data.

REFERENCES

1. Attah-Johnson FY. Attitudes of Nigerian medical students towards use and abuse of tobacco, alcohol and drugs. *Drug Alcohol Depend* 1985; 15(4): 323-334.
2. Mckay AJ, Hawthorne VM, McCartney HN. Drug taking among medical students at Glasgow University. *Br Med J* 1973; 1:540-543.
3. Cawte JP. Psychoactive substances of the South Seas: betel, kava and pituri. *Aust NZ J Psychiatry* 1985; 19(1):83-87.
4. Pela OA, Ebie JC. Drug abuse in Nigeria. A review of epidemiological studies. *Bull Narc* 1982; 34(3-4):91-99.
5. Awaritefe A, Ebie JC. On the strategy for the prevention of drug abuse. *Afr J Psychiatry* 1975; 2:139-144. Singh G, Singh R. Drug use among medical undergraduates. *Drug Alcohol Depend* 1979; 4:391-398.
6. Fink PJ, Goldman NJ, Lyons I. Morning glory seed psychosis. *Arch Gen Psychiatry* 1966; 15:209-213.
7. Walters PA, Goethals GW, Pope HG. Drug use and life style among 500 College undergraduates. *Arch Gen Psychiatry* 1972; 26:92-96.
8. Kory WP, Crandall LA. Non-medical drug use pattern among medical students. *Int J Addict* 1984; 19(8):871-884.
9. Johnston LD, Bachman J. Monitoring the Future Research Project of the Institute for Social Research. Ann Arbor, Michigan: University of Michigan. 1975.
10. Anthony JC. Young adult marijuana use in relation to antecedent misbehaviours. *NIDA Res Monogr Ser* 1985; 55:238- 244.
11. Belyea MJ, Zingraff, MT. Monitoring rural-urban drug trends: An analysis of drug arrest statistics 1976-1980. *Int J Addict* 1985; 20(3):369-380.
12. Alcohol, Drug abuse cause concern: Disabled colleagues problem for MD's. *Am Med News* (April 28) 1975; 1.
13. Sethi BB, Manchanda R. Drug use among medical students. *Ind J Psychiatry* 1977; 4:31 35.
14. Khan I. The role of the World Health Organization in the control of psychotropic substances. In: Murray R, Ghodse H, Harris C, et al, eds. *The Misuse of Psychotropic Drugs*.

Royal College of Psychiatrists Special Publication, I.
London: Gaskell, 1981; pp 103-106.

15. Akindele MO, Odejide AO. Some aspects of the use of sleep inducing drugs in Ibadan, Nigeria. Presented at Workshop of the Association of Psychiatrists in Africa on Alcohol and Drug Dependence, Nairobi, Sept 18, 1974.
16. Morakinyo O. Aversion therapy of cannabis dependence in Nigeria. *Drug Alcohol Depend* 1983; 12:287-293.
17. Shamie MA. Patterns of Illicit Drug and Alcohol Use Among University Students in Iran. Presented at the CENTO Seminar on the Epidemiology of Nonmedical Drug Use, Ankara, Turkey, 1974.

