ORIGINAL ARTICLE

Comparison of non -Prescribed use of Tranquilizer with Stimulants Drugs among Medical Students

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ABSTRACT

Objective: The goal of this study to look at the patterns of drug use among medical students.

Methodology: All medical students enrolled in the Bakhtawer Amin Medical & Dental College Multan, from first to fifth year were included in this study. The sample size was calculated using a single population proportion formula. The sample consisted of 200 students drawn from various batches and chosen using a stratified random selection procedure

Results: The total study participants were 200 medical students of different years in which 139(70%) were males and 61(30%) were females. The participants having age range 18-25 years and maximum number of students were fall in age group 21-25 [117(58.5%)]. The results of the study showed that 76% used tranquilizer and 68% of the students used Stimulants without prescription as p-value 0.004 showing statistical significant difference in the use of both types of drugs. Student used tranquilizer and stimulants once a month as 32% vs 37% with significant p-value 0.034.

Conclusion: The fourth-year students had the highest rate of drug usage. During the evaluation, the majority of students were drug users; there was no sign of physical dependency. The topic of non-prescribed drug usage among medical students is examined in this study. More research is needed to investigate national trends of drug addiction among medical students, as well as to find and reinforce protective variables. Supporting children with a non-prescription usage necessitates the development of strategies.

Keywords: Nonmedical prescription drug use; Nonmedical prescription stimulant use; Nonmedical prescription tranquilizer use; Trends.

INTRODUCTION

The start of medical school is accompanied by a significant change in lifestyle1. During the course of their academic instruction, the student is exposed to high levels of stress, which has negative social and psychological consequences[1-2]. One of them is substance abuse, which some students use as an escape and solace from the problems they face during the program[3]. Students seeking a sense of well-being use these substances because they engage the reward and pleasure brain circuitry, allowing for enhanced stress regulation. Nonmedical use of prescription medicines (NUPM) is defined as the use of prescription medications, whether obtained by prescription or not, other than in the manner, for the reasons, or for the time period specified, or by a person for whom the substance was not prescribed [4].The United Nations Office on Drugs and Crime reports that, "the misuse of prescription drugs, including opioids, benzodiazepines and synthetic prescription stimulants, is a growing health problem in a number of developed and developing countries." While the "painkiller overdose pandemic" has gotten a lot of attention, deadly overdoses from benzodiazepines have surged fold in only a few years, and prescriptions for amphetamines have increased. [5-6]Nonmedical use of prescription drug is most common among teenagers, and medical students are no exception; they are at a higher risk for both licit and illegal drug misuse. [7-9]Medical institution is said to be one of the most difficult academic systems in the world, severely impacting students' mental health. [10]The study of drug abuse by medical students is significant because physicians' own experiences with substance misuse may impact their perception and identification of patients with substance abuse problems.[11]

Furthermore, it is vital to know the hazards involved with the abuse of prescription drugs in order to completely understand the causes for such misuse. A previousstudy investigated the frequency and motivations of NUPM among medical students[12].

Furthermore, it is important to understand the risks associated with these drugs medication addiction in order to fully comprehend the causes of such usage. The incidence and reasons of NUPM among medical students were explored in a previous cross-sectional research.

Medical students' motivation for NUPM is rarely investigated. The most common reason for taking prescription drugs was self-treatment, which accounted for 70.1 % of sleeping pills and 95.6 % of opioid medicines, significant number of medical students also used tranquilizers (25.6%) and sleeping medications (29.9%). The misuse of tranquillizers was much higher in the last three years of medical investigations, as measured by lifetime and past-year prevalence.The academic year and sex were shown to be highly linked with drug use among medical students in research. During the latter years of research, increased rates of substance abuse were discovered, with women misusing hypnotic medications at a considerably higher rate (benzodiazepines and barbiturates). Study evaluated the incidence of illegal substances, cigarette, and alcohol use in a secondary study of the same sample (n=591) of medical students. [10]Recreational usage was the most common reason for illegal drug use, accounting for 87 %. In terms of alcohol and tobacco usage, the majority of medical students (80.4%) were nonsmokers, 22.7 % reported alcohol abuse, and 6.4 % scored positive on the CAGE instrument for probable alcohol abuse and dependence. Smoking and excessive drinking were revealed to be risk factors for illegal drug use but gender, age, study year, and CAGE had no effect.

MATERIAL AND METHODS

All medical students enrolled in the Bakhtawer Amin Medical & Dental College Multan, from first to fifth year were included in this study. The sample size was calculated using a single population proportion formula. The sample consisted of 200 students drawn from various batches and chosen using a stratified random selection procedure.

Inclusion Criteria:The study comprised all 1[st]to 5[th]year medical students at the Bakhtawer Amin Medical & Dental College Multan. Exclusion Criteria: People with severe mental illnesses were excluded from research to avoid excessive burden and danger, and get accurate data. Subjects who refused to provide their permission were also ruled out of the research. Ethical Considerations: All subjects gave their informed permission. All study participants were informed of the study's goal, and verbal agreement was acquired prior to data collection. Each respondent's information was kept secret. Sedative medication

usage among medical students was the dependent variable, whereas age, gender, academic year, and average monthly family income were the independent factors.

Operational Definition Sedative: Definition of Operations Sedative: Calms irritation and agitation, relieves pain, and reduces functional activity. Antihistamines are medications that can reduce or eliminate numerous of histamine's pharmacological effects. Benzodiazepine: Any member of the benzodiazepine family of mild tranquillizers that cause drowsiness and relaxation in response to anxiety and convulsions. Barbiturates are less commonly prescribed than benzodiazepines, although they are nevertheless utilized in hospitals. Acute anxiety, stress, and sleep disturbances may also be treated with them.

Data Collection Tools:The authors designed the questionnaire, and data was collected using that questionnaire. Data was collected and analyzed by SPSS version 25. Descriptive statistics were described using the terms mean and standard deviation. To test the relationship between two variables, frequency and percentages were determined for categorical variables (sex, age, monthly income, usage of sedative and tranquillizer). The Chi-square test was used. P values of 0.05 were used to determine statistical significance.

RESULTS

The total study participants were 200 medical students of different years in which 139(70%) were males and 61(30%) were females. The participants having age range 18-25 years and maximum number of students were fall in age group 21-25 [117(58.5%)]. Maximum number of student participated in this study were from 4th years of MBBS i.e 103(51.5%). Fifty percent 101(50.5%0 of the students belong to the families having monthly income between Rs. 101,000-2,00,000 (Table-1)

Table 1 Socio-Demographic Characteristics of Medical Students

Variables		Numbers (%)
Sex	Male	139(70%)
	Female	61(30%)
Age	18–20	38(19%)
	21–25	117(58.5%)
	Above 25	45(22.5%)
Academic year	1st	9(4.5%)
	2nd	18(9%)
	3rd	14 (7%)
	4th	103(51.5%)
	5th	56 (28%)
Family monthly income	<100,000	23(11.5%)
	101,000-2,00,000	101(50.5%)
	>2,00,000	76 (38.0%)

Table 2   Types of Drugs Abused

Variables	Type of Drug No		P- Value
	Tranquilizers/ Sedative Drugs	Stimulants/ Analgesic Drugs	
Medical Use	8 (8.0%)	5(5.0%)	
No Medical Use	76 (76.0%)	68 (68.0%)	0.004
No Use	16 (16.0%)	27 (27%)	
Study Level			
1st Year	3(3.0%)	4(4.0%)	
2nd Year	7(7.0%)	6(6.0%)	
3rd Year	10(10.0%)	22(22.0%)	0.031
4th Year	36(36.0%)	20(20.0%)	
5th Year	28(28.0%)	21(21.0%)	
No Use	16(16.0%)	27(27.0%)	
Time of Use of Drugs			
During Exams	76(76.0%)	68(68.0%)	
At any time	8(8.0%)	11(11.0%)	0.421
No use	16(16.0%)	27(27.0%)	

The results showed that 76% used tranquilizer and 68% of the students used Stimulants without prescription as p-value 0.004 showing statistical significant difference in the use of both types of drugs. 36% of the students of 4th year used Tranquilizer and 22.0% of 3rd year used Stimulants frequently. During examination period most of the students used tranquilizer and Stimulants. (Table-2) Student used tranquilizer and stimulants once a month as 32% vs 37% with significant p-value 0.034. (Table-3)

Table 3. Frequency of Use of Drugs Most Commonly Abused

Drugs Abused	Tranquilizers	Stimulants	p-value
Once per Month (%)	32(32.0%)	37(37.0%)	
Two to Three per Month (%)	24(24.0%)	17(17.0%)	0.034
Once to Twice per week	17(17.0%)	9(9.0%)	
Almost Daily	11(11.0%)	10(10.0%)	
No use	16(16.0%)	27(27.0%)	

DISCUSSION

Any epidemiological research of drug misuse in the region would be hampered by widespread ignorance of the potential negative consequences of various substances, as well as legal prohibitions against their illicit use. As a result, abuser's apprehension to participate in such research for fear of being prosecuted or stigmatized is natural, albeit wrong. If relevant and successful preventative interventions are to be considered, it is vital to have an understanding of the nature and scope of the problem.

For both the medical profession and society as a whole, drug usage by medical students is a sensitive and essential problem. Health professionals are entrusted with the administration of prescription medicines, and there is concern when they misuse sedative substances, which can have a negative impact on their health and performance, as well as lead to addiction or dependency. Sedative medication usage among medical students can impair concentration and cause excessive sleep, sluggishness, giddiness, and poor physical coordination.

Drug addiction affects people of all ages, professions, educational levels, and socioeconomic backgrounds, and it is one of the most common mental diseases in the world. The goal of this study was to find out how common non-prescribed tranquillizer and stimulant drug usage is among medical students, as well as the negative consequences it has on their health. The current study included 200 medical students from various years, with 139 (70%) being males and 61 (30%) beingfemales. The participants ranged in age from 18 to 25, with the majority of students falling into the age group 21 to 25 [117(58.5%)]. A total of 103 students from the fourth year of MBBS participated in this study (51.5%). Fifty percent of the students (50.5%) belong to the families with a monthly income of Rs. 101,000-2,00,000.

According to the findings of the current study, 76 % of students used tranquillizers without a prescription and 68 % of students used stimulants without a prescription, with a p-value of 0.004 indicating a statistically significant difference in the usage of both types of medicines. Tranquilizer was used by 36 % of fourth-year students and 22.0 % of third-year students on a regular basis. During the test time, the majority of students used tranquillizers and stimulants. With a significant p-value of 0.034, students used tranquillizers and stimulants once a month in 32 %vs 37 %.

Al-Sayed et al. (2014) investigated the usage of sedative drugs by medical students. They registered 729 people, with 371 men (51%) and 358 (49%) women with an average age of 21.1 ± 1.4 years. Among them, 124 (17.0%)participants were classified as sedative drug users (63 males, 61 females). The majority of the students in this study were in their first and second preclinical years accounting for 308 (42.2%), 73 (10.5%) students used them on a physician's prescription and the remaining 656 (89.5%) students used medications without a prescription. [13]

Perlmutter et al. (2019) discovered that prescription drug usage (tranquillizers vs stimulants) has severe public health risks, raising concerns about a future US-style drug pandemic with high mortality and economic costs if prevalence rises. [14]Miech et al., 2018 discovered that the prevalence of nonmedical prescription tranquillizer usage among teenagers in various nations is greater

than in many other Latin American countries (range: 1.1- 9.3 %); the average in the United States of America is about 3 percent. [15] In a study conducted by Javed et al. (2019), they enrolled 400 individuals, of which 197 (49%) were male and 203 (51%) were female. Their participants' average age was 21.02 ± 1.54) years. The majority of the participants (84%) said they studied for 1-3 hours each day on average, and 149 (37%) said their test scores ranged from 70 to 80 %.[16]

CONCLUSION

As tomorrow's physicians, medical students have a special position in society, with privileges and duties that are distinct from those of other students. The goal of this study was to look at the patterns of drug use among a group of medical students from a local medical school. The fourth-year students had the highest rate of drug usage. During the evaluation, the majority of students were drug users; there was no sign of physical dependency. The topic of non-prescribed drug usage among medical students is examined in this study. More research is needed to investigate national trends of drug addiction among medical students, as well as to find and reinforce protective variables. Supporting children with a non-prescription usage necessitates the development of strategies.

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