

Study of Drug Abuse among University Students in Sohag, Egypt

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Abstract

Background: Drug addiction is one of the serious problems that worry the Egyptian government, as it deals with young people within the age of productivity. **Aim of the Work:** To identify the attitudes of drug abuse among Sohag University students, also to identify the most common drug/drugs of abuse among them. **Subjects and Methods:** A cross-sectional study conducted on 500 students in Sohag University during the period from the beginning of November 2014 to the end of May 2015. Data of the students were taken from the questionnaire filled by students and the results of screening urine samples. **Results:** The prevalence of smoking among all studied students was 7.6% and strongly related to gender as in total males 14.1% were current smokers while in total females only 0.4%; while, the prevalence of abusing alcohols was 5% of all studied students and all of them were males. The prevalence of drug abuse was 5% among all studied students. The most abused drug was tetrahydrocannabinol (2.8%) followed by tramadol (1.8%) then benzodiazepines (0.6%), while, opium and barbiturates each one of them (0.4%). Polydrug users were about 16% which were only males and tramadol was the common drug to use in polydrug users.

Keywords: Addiction, Abuse, Students

Introduction

Young adulthood, ages 15-24, is a period of transition in emotional development, educational and vocational activities, living arrangement and marital and economic status.^[1] As university students hold a special position in each society and occurrence of any serious psychological problem among them can expose the society to considerable problems.^[2] Psychoactive substance (PAS) use is becoming commonly known for compromising the health and resulting in the death of millions of individuals every year. PAS include licit, illicit, and prescribed psychoactive medications.^[3] In Egypt, drug dependence is considered one of the serious problems that worry both the people and government; however, epidemiological data on drug dependence are still few.^[4] Miscellaneous studies have reported the incidence of abuse and dependency on substances among university students population.^[2]

Young adults aged 15-24 years constituted about 20% of the Egyptian population in 2000.^[5] Hence, we need specific attention toward the younger age of drug users and the progressive increase of some of drugs of abuse and the changing pattern of poisoning over years.^[6]

Aim of the study

This work aims to identify the attitudes of drug abuse among university students in Sohag city, also to identify the commonest drug/drugs of abuse.

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Subjects and Methods

A cross-sectional study was conducted on 500 university students of both sexes from Sohag city during the period from November 2014 to May 2015.

A total of 500 university students of both sexes were randomly chosen according to the type of education representing technician institute (Health Technician Institute and Nursing Institute), theoretical college (Commerce College and College of Education), and practical college (Medicine, Pharmacy, Science and Nursing College). Ethical consideration was taken from Ethical Committee of Sohag medicine faculty to collect the necessary data.

A questionnaire sheet was developed specifically to collect data related to this study from students to assess the knowledge, attitudes, and prevalence of drug abuse among students. It included sociodemographic data and student's knowledge about the use of drugs without prescription. A pilot study was carried out before starting data collection on 25 students from health technician institute who are excluded from the study sample. It was done to test the contents and validity of the questionnaire sheet and estimate the length of the time needed to fill the sheet. Accordingly, the essential modifications were done, and the final form was developed.

Urine samples were screened by dipstick test named (ABON™ Multi-Drug) which is one step screening test panel used for qualitative detection of drugs of abuse which includes tramadol, opiate, tetrahydrocannabinol, amphetamine, barbiturate, and benzodiazepines (Figures 1 and 2). Only positive cases were confirmed by drug analyzer.

The collected data were statistically analyzed using Statistical Package for the Social Science version 16 program and expressed in Tables 1-7 and Figures 1-4. Descriptive statistics were calculated (e.g., frequency, percentage, mean and standard deviation [SD]). Quantitative continuous analyzed using Student's *t*- or ANOVA-

tests. Qualitative data were compared using Chi-square test. P value was considered significant if it was <0.05.

Results

The age distribution of the studied population was within the range 17-24 years, Figure 3 and the mean age for all studied students in this study was 20.03 ± 1.31 years, and the median age was 20 years. In

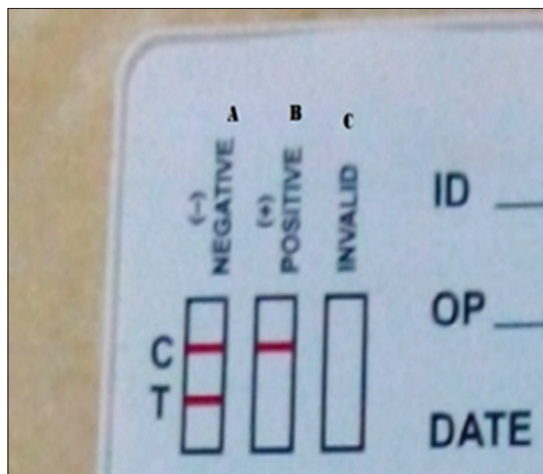


Figure 1: Interpretation of urine screening test; (A) negative, (B) positive, and (C) invalid test



Figure 2: Positive test for tramadol (arrow)

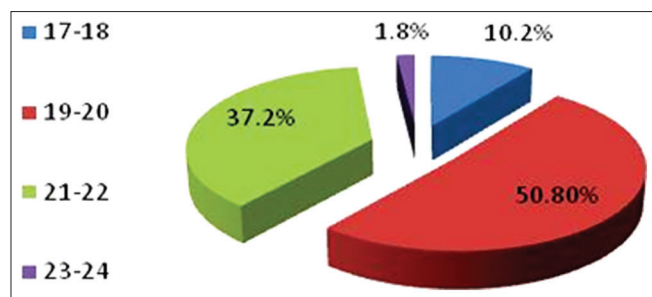


Figure 3: Pie chart showing age distribution percentage of the studied population

this study, males were about 52.4% of all studied population while the other 47.0% were females. Table 1 showed smoking prevalence

Table 1: Percentage and relationship between smoking and gender among 500 students in Sohag University (2014-2015)

Smoking	Males N=262 (%)	Females N=238 (%)	Total N=500 (%)	P value
Yes	14.1	0.4	7.60	<0.0001*
No	85.9	99.6	92.40	

* Significant

Table 2: Percentage of taking analgesics, sedatives, stimulants and using alcohols and its relation to gender among 500 students in Sohag University (2014-2015)

Substance abused	Group	Males N=262 (%)	Females N=238 (%)	Total N=500 (%)	P value
Analgesics	Yes	64.9	73.9	69.2	0.08
	No	26.3	18.5	22.6	
	One time	8.8	7.6	8.2	
Alcohol	Yes	9.5	0	5	<0.0001*
	No	84	97.9	90.6	
	One time	6.5	2.1	4.4	
Sedatives	Yes	4.2	4.2	4.2	0.91
	No	93.1	93.7	93.7	
	One time	2.7	2.1	2.1	
Stimulants	Yes	6.5	1.25	4	0.01*
	No	92	97.5	94.6	
	One time	1.5	1.25	1.4	

* Significant. Duration of using drugs/year. Mean±SD=3.13±2.75. Median (range)=2 (1-17 years). SD: Standard deviation

Table 3: Percentage of taking analgesics, sedatives, stimulants and using alcohols in relation to smoking among 500 students in Sohag University (2014-2015)

Substance abused	Group	Smoker N=38 (%)	Non-smoker N=462 (%)	Total N=500 (%)	P value
Analgesics	Yes	73.68	68.83	69.2	0.74
	No	21.05	22.72	22.6	
	One time	5.26	8.44	8.2	
Alcohols	Yes	34.21	2.6	5	<0.0001*
	No	47.36	94.15	90.6	
	One time	18.42	3.24	4.4	
Sedatives	Yes	15.79	3.25	4.2	<0.0001*
	No	78.95	94.58	93.7	
	One time	5.26	2.16	2.1	
Stimulants	Yes	23.68	2.38	4	<0.0001*
	No	65.79	96.97	94	
	One time	10.53	0.64	1	

* Significant

Table 4: Positive urine screening test results and its relationship to gender among 500 students in Sohag University (2014-2015)

Drug screened	Males N=262 (%)	Females N=238 (%)	Total N=500 (%)	P value
THC	5.34	0	2.8	<0.0001*
Tramadol	3.05	0.42	1.8	0.02
BZDs	0.76	0.42	0.6	0.62
Opium	0.76	0	0.4	0.18
Barbiturates	0.76	0	0.4	0.18
Amphetamine	0	0	0	-
All drugs	8.8	0.84	5	>0.0001*

* Significant. THC: Tetrahydrocannabinol, BZDs: Benzodiazepines

Table 5: Relationship between positive screening test results and smoking among 500 students in Sohag University (2014-2015)

Drug screened	Smoker N=38 (%)	Non-smoker N=62 (%)	Total N=500 (%)	P value
THC	23.68	1.08	2.80	<0.0001*
Tramadol	10.53	1.08	1.80	<0.0001*
BZDs	2.63	0.43	0.60	0.09
Opium	2.63	0.22	0.40	<0.02
Barbiturates	5.26	0.00	0.40	<0.0001*
All drugs	36.84	2.38	5.00	<0.0001*

* Significant. THC: Tetrahydrocannabinol, BZDs: Benzodiazepines

and its relationship to gender. Table 2 showed the prevalence of drug of abuse, its relation to gender and the mean of the duration of using these drugs. Table 3 showed the relationship between drug of abuse and smoking. Table 4 showed positive urine screening results for six drugs and its relationship to gender. Figure 4 showed the percentage of poly-drug users among positive screening results. Table 5 showed relationship between positive screening results and smoking. Table 6 showed relationship between positive screening results and drinking alcohol. Table 7 showed relationship between positive screening results and failure in an exam before.

Discussion

In this study, the mean age of the studied population was nearly similar to McCabe *et al.* (2008), Erhan Deveci *et al.* (2010),^[7] Goreishi and Shajari (2013)^[8] and Biratu *et al.* (2014),^[9] who found that the mean (SD) age of students in their samples was 19.9 (2), 21.36 (2.93), 21.3 (2.34), and 20.7 (1.49) years, respectively.

The prevalence of smoking in this study was different from study conducted by Hamed *et al.* (2002)^[9] who found that the prevalence of smoking among male secondary schools students in Sohag city was 29%. This can be explained that young males in secondary schools try to smoke and may stop before entering University. In study conducted by Refaat *et al.* (2004)^[5] among Suez Canal University students, she found that current smokers were 12.2% as 2.2% in females were current smokers while 26.5%

Table 6: Relationship between positive screening test results and drinking alcohol among 500 students in Sohag University (2014-2015)

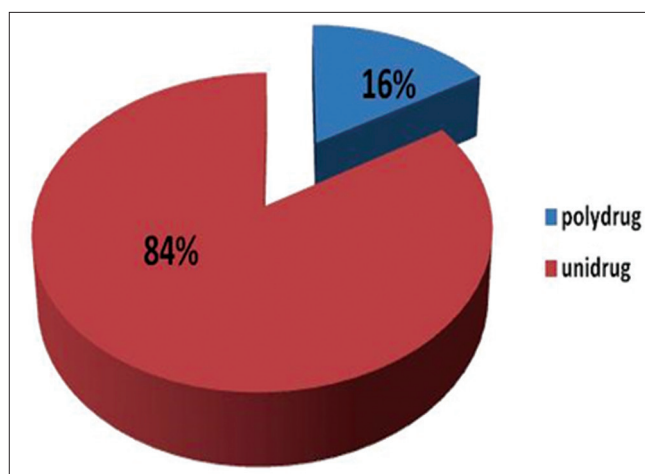
Drug screened	Alcoholic user N=25 (%)	Non-alcoholic N=453 (%)	Once user N=22 (%)	Total N=500 (%)	P value
THC	24	1.55	4.55	2.8	<0.0001*
Tramadol	12	1.1	4.55	1.8	<0.0001*
BZDs	0	0.44	4.55	0.6	0.048
Opium	0	0.44	0.00	0.4	0.90
Barbiturates	4	0.22	0	0.4	0.014
All drugs	28	3.31	13.64	5	<0.0001*

* Significant. THC: Tetrahydrocannabinol, BZDs: Benzodiazepines

Table 7: Relationship between positive screening results and failure in an exam before among 500 students in Sohag University (2014-2015)

Failed in an exam before	THC (%)	Tramadol (%)	Opium (%)	BZDs (%)	Barbiturates (%)	All drugs
Yes N=76	7.89	6.58	1.32	2.63	2.63	14.47
No N=424	1.89	0.94	0.24	0.24	0.00	3.3
Total N=500	2.8	1.8	0.4	0.6	0.40	5
P value	0.003*	0.001*	0.17	0.01*	0.001*	<0.0001*

* Significant. THC: Tetrahydrocannabinol, BZDs: Benzodiazepines

**Figure 4:** Pie chart showing the percentage of poly drug users among the positive studied population

in males were smokers. Tesfaye *et al.* (2014)^[10] found that current smokers in males about 13% and in females about 3.8% with total 10.8%, while, Rezahosseini *et al.* (2014)^[11] found that prevalence of smokers was 12.6%. Finally, Erhan Deveci *et al.* (2010)^[7] found that male smokers were about 33.6% while females 19.2% with totally percentage 29.3%. These percentages are higher than the present study may due to different geographical areas and cultural differences. In general, the rate of smoking was higher among

males than females which was mentioned in above studies and also in Onal *et al.* (2002), Saatci *et al.* (2004), and Thompson *et al.* (2007).^[12,13,14] In Egypt this may be related to cultural differences in the social role of females.

The prevalence of alcohol in this study with an agreement with Goreishi and Shajari (2013)^[8] and Reza Hosseini *et al.* (2014)^[11] in Iran who found that prevalence was 6.5% and 4.7%, respectively. On the other hand, Tesfaye *et al.* (2014)^[10] in Ethiopia 50.2% reported that they drank alcohol at least once in their lifetime from them 53.8% in males and 38.8% in females while 20% were still drinking alcohol from them 23.10% males to 10.2% females. This explained by Biratu *et al.* (2014)^[3] that homemade alcoholic drinks are acceptable for the vast majority of Ethiopian people. Furthermore, Erhan Devenci *et al.* (2010)^[7] in Turkey who found that male alcohol users were about 30.2% while 19.1% in females with total percentage 26.9%. In France regular alcohol prevalence was 20.1% (Tavolacci *et al.*, 2013).^[15] Adlaf *et al.* (2005)^[16] in Canada found that 62.8% of students had history of alcohol drinking five times or more during a year. Furthermore, in general, alcohol use rates are generally higher for male college students than for female college students (O'Malley and O'Connor, 2011).^[17] In addition moral, cultural, societal, and legal constraints on females with regard using alcohols in Sohag this make no females in our study using alcohols more than once as for trial.

In screening for drug of abuse El Ezz and Ez-Elarab (2011)^[18] in Ain Shams University found that 55% of students reported self-treatment and most common drug group used among them was analgesics 87.2% as with 91.5% females and 78.8% males. A similar to this study an Iranian study conducted by Sarahroodi *et al.* (2012)^[19] who found that 76.6% of the respondents reported using analgesics once or more than once with 73.4% male and 79.2% female students. McCabe (2008) in the United States he found that 54.3% of students reported using analgesics.

Hamed *et al.* (2002)^[9] in Sohag city found that the prevalence of sedatives, hypnotics, and stimulants was 10.5%; also, El Ezz and Ez-Elarab (2015) in Ain shams University found that among 55% of students reported self-treatment 12% reported intake sedatives and central nervous system stimulants out of which 93.3% reported taking it for once.

In Zagazig University about 2.70% were abusing sedatives (Mohamed *et al.*, 2007).^[20] Higher than the results of the current study McCabe (2008) found 9.7% of students reported taking sedatives in his study in the United States; also, in Iran, Reza Hosseini *et al.* (2014)^[11] found that the prevalence of sedatives were 7.4% with 12.2% males and 5.9% females. In another Iranian study, 12.4% reported sometimes and 1.7% regularly used sedatives; 56.1% believed that everything is worth trying once (Monirpoor *et al.*, 2014).^[2]

In a study done by Mohamed *et al.* (2007)^[20] in Zagazig University they found that 1.30% of students were abusing stimulants. While, in a study conducted by McCabe (2008) in the United States found that 9.7% of students reported taking stimulants in their lifetime.

Undergraduate college men were two times more than women to report non-medical use of stimulants.^[21,22] Furthermore, several

studies have demonstrated that males were more likely to use substances for experimentation as compared to females which is a route for drug abuse.^[23]

Mwaheb *et al.* (2012)^[24] in Fayom city on male students they found that 75% of them were abusers of drugs. They reported that the common drugs of abuse were 40% cannabis, 37% tramadol, and 23% benzodiazepine. The study found also that 60% college students were more single drug user. These percentages are higher than the current study may be due to that the study was among males only.

In a study about tramadol in Zagazig Bassiony *et al.* (2015)^[25] found that tramadol in 8.8% of the sample and 17% of them used a combination of tramadol, alcohol, and cannabis. Amr *et al.* (2014)^[26] conducted study on patients attending an Emergency Hospital in Eastern Nile delta, it had been found that cannabis was the most common drug abused in 3.6% of patients this had been explained by cannabis family was common in the locality with relatively low price, followed by tramadol then polysubstance in 1.8%, 1.7% of patients, respectively, and there was significant relationship between drug abuse and being male.

In this study, we found that amphetamines were 0% this came in agreement with study conducted by Biratu *et al.* (2014)^[3] in Ethiopia. Iran a study done by Goreishi and Shajari (2013)^[8] found that 6.3% of male and 1.2% of female students were addicted constantly. As 1.5% males and 0.1% females for cannabis, 1.5% males and 0.08% females for opium and 0.4% of all students were tramadol abusers.

Among university students done by Tavolacci *et al.* (2013)^[15] in France where they found that cannabis users were 3.7% of students after tobacco and alcohol consumers this came in agreement with the present study.

Finally, a study done by El Ansari *et al.* (2014)^[27] among university students in Northern Ireland, Wales and England regular illicit drugs use was about 5% with 3.2% females and 9.6% males. Rates of drug abuse and dependence were significantly greater among males than females, a finding consistent with previous epidemiologic surveys (Compton *et al.*, 2007). Hence, there is strong association between being male and drug abuse especially in our community as female abusing is socially unacceptable. Similarly, in a study done by El Ansari *et al.* (2014)^[28] among 3258 students at 11 faculties of Assiut University they found that smoking was positively associated with one's illicit drug/s use.

Similarly, in tramadol study in Zagazig secondary schools, there was a significant association between tramadol use and smoking as two-thirds of the students sample started with tramadol as the first drug after the onset of tobacco smoking.^[25]

In study about college students' attitudes about smoking Morrison *et al.* (2003)^[28] found that the primary reason for starting to smoke, and the main reason smokers continue to smoke as reported were addiction and stress. Similarly, in a self-administered questionnaire study among 3258 students at 11 faculties of Assiut University El Ansari *et al.* (2014)^[27] found that drinking alcohols was positively associated with one's illicit drug/s use.

Similarly, the study in Colombia concluded that drug abuse and the problems caused in university students reported a higher default and dropout in this population group, school dissatisfaction,

a higher amount of repetitions in the courses and low academic performance.^[30]

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