

# **Substance use among Universities' Students in the Gaza Strip**

Abu Qamar, Kamal ; Thabet, A. A; Vostanis, Panos

## **Abstract**

**Aim** The aim of the study was to investigate the prevalence of substances abused among universities' students in the Gaza Strip.

**Design** A Cross-sectional study

**Settings** Four universities in the Gaza Strip (Al Azhar, Islamic, Open Alquds, and Al Aqsa university).

**Participants** A total number of 1047 university students in the 1<sup>st</sup> and 4<sup>th</sup> university grades of Art and Science colleges, aged 17-40 years, in 2003.

**Measurements** Participants completed an anonymous self-report questionnaire of two parts; the first part of 13 questions relating to socio-economic information, health status and abusing unprescribed substance, sources and reasons of abusing and the second part of 5 questions for 8 substance categories.

**Results:** Results showed that 2.1% have ever used unprescribed substance over the past twelve months; 11.7% abused tobacco (smokers) with significant differences for male (21.4%) compared to (2.1%) for female, 1.2% abused alcohol with significant differences for male (2.1%) compared to (0.2%) for female. The Study revealed no significant differences of other substances; 0.79% abused psycho-stimulants, 1.09% abused sedatives, 0.30% abused opiates, 0.99% abused cannabis, 0.70% abused inhalants, and 0.20% abused hallucinogenic. Pharmacies were the most common source of narcotics and stimulants.

**Conclusion:** Our low level of abusing alcohol and other drugs even during the years of conflict and war is inconsistent with literatures in the West, which suggested that people who experienced major trauma and those with post traumatic stress disorder or depression may self-medicate with drugs or alcohol to relax, cope with stress or relieve.

**Key words:** Prevalence, substance abused, university students, Gaza Strip

**Kamal Abu Qamar**, BA sociology, Master in Community Mental Health-UNRWA-Gaza.

\* **Abdel Aziz Mousa Thabet**, Assistant Professor of Child and Adolescent Psychiatry, Al Quads University, School of Public Health, Director of Child Health Institute/Gaza. PO Box 5314. Tel 00972 8 2878177, 00972 8 2834292, Email: [thabet@phealth.alquds.edu](mailto:thabet@phealth.alquds.edu)

**Panos Vostanis**, Professor of Child and Adolescent Psychiatry, University of Leicester, Greenwood Institute of Child Health, Westcotes House, Westcotes Drive, Leicester LE3 0QU, UK. Tel: 0044 116 2252885; Fax: 0044 116 2252881; Email: [pv11@le.ac.uk](mailto:pv11@le.ac.uk)

\* **Correspondence**

## **Introduction**

Substance abuse dates back thousands of years; the use and abuse of illicit drugs were today more prevalent and widespread throughout the world than ever before. University students are at risk of abusing drugs. Pickard et al (2000)<sup>1</sup> in a study about alcohol and illicit drug use 136 second-year medical students at the University of Leeds found that 86% of the students drank alcohol. Illicit drug use was reported by 33.1% of students (28.3% of males, 35.6% of females).

In another study of Alphons et al (2001)<sup>2</sup> to assess the prevalence of substance use among Dutch dental students found that alcohol was the students' drug of choice for lifetime (95%), past year (94%), and past month (88%) use. No significant correlations were found between alcohol use and sex, type of schools, and years in dental education. In the past month, 58% of students reported drinking on 5 or more days, 53% had 5 or more drinks on the same occasion, 20% had 5 or more drinks on the same occasion on 5 or more days, and 17% reported getting drunk at least monthly. Prevalence rates for past month use of tobacco was 24% and marijuana was 4%.

Tobacco consumption is one of the greatest public health threats in the 21<sup>st</sup> century. WHO estimates that there are 4.9 million tobacco-attributable deaths each year, which is about 7% of all deaths. The number of deaths is rising fast, especially in developing countries where the number of tobacco users has been increasing. Tobacco addiction starts early in life. Every day 80,000 to 100,000 youth become regular (WHO, 2003)<sup>3</sup>.

In Egypt, it was reported in late 1990s that annual prevalence was estimated at 5.2 percent for those aged 15 and above abused drugs (UN, 2001)<sup>4</sup>. Hashish is the most illicit drug used in Egypt. The reliable source from the State Welfare Organization in Iran warned against the prevalence of the ecstasy abuse and polydrug consumption in Iran as well as there are two million drug users and 1.2 million addicts in Iran (Tehrani, 2003)<sup>5</sup>.

In a cross-sectional study conducted in Jordan in 2001 indicated that there is likely to be a drug dependence problem in the near future. A large-scale survey on 5064 university and community college Jordanian students aged between 18-25, showed that 2.5% of the sample abused cannabis, 3.3% abused sedatives, 0.9% abused opiates, 2.8% abused Benzhexol, 2.6% abused stimulants, 12% abused alcohol, and 29% abused tobacco. Substance abuse was significantly higher in male students. Regarding to risk factors in abusing substance, seeking acceptance, encouragement by friends and poor communication with family were the most common risk factors (Suleiman et al, 2003)<sup>6</sup>. The aim of this study was to investigate the prevalence of substance abuse among the universities' students and association with other risk factors

In another study Madison-Colmore (2003)<sup>7</sup> in study of use of alcohol and other drugs among 193 Taiwanese female college students currently attending Tawinan Women's College of Arts and indicated that alcohol and tobacco

were the most commonly used substances. Compared to a similar study, alcohol use in the last year was considerably higher among the participants in this study and tobacco use was considerably lower. During the past 30 days, the use of both alcohol and tobacco were relatively low.

Akvardar et al (2004)<sup>8</sup> study of Dokuz Eylül University Medical School in Turkey found that Alcohol was the most frequently used substance. Lifetime smoking prevalence was as high as 50 %. Benzodiazepines (Alprazolam, diazepam) were the most frequently used sedative-hypnotics. The use of illicit substances was rare, cannabis being the most commonly used illicit substance.

McCabe et al (2005)<sup>9</sup> in study of one hundred and nineteen nationally representative 4-year colleges in the United States found that the life-time prevalence of non-medical prescription stimulant use was 6.9%, past year prevalence was 4.1% and past month prevalence was 2.1%. Past year rates of non-medical use ranged from zero to 25% at individual colleges. Non-medical prescription stimulant users were more likely to report use of alcohol, cigarettes, marijuana, ecstasy, cocaine and other risky behaviors.

The aim of the study was to investigate the prevalence of substances abused among universities' students and relationships with other sociodemographic factors in the Gaza Strip.

## **Methods**

### **Participants**

As the sample population is a quite large (22,706 students of both sex from 1<sup>st</sup> & 4<sup>th</sup> university students) and based on statistical view, the sample consisted of 1363 university students (6 %) of the total number of the first and fourth grade of the university students from both sex (455 female and 908 male) by stratified sampling. The reasons for selecting these two university grades (1<sup>st</sup> and 4<sup>th</sup>) were to have sufficient number of students for statistical analysis (this is the same reason for stratifying the sample into two specialty categories only: Art colleges and Science colleges) and the students of the first year have already got the experience of the university for a full year as the application of the study was conducted in the last two months of the scholastic year. The four universities and its branches participated in the study; the sample represented 6% of the total number of the first and fourth university grade of the selected students. Then, computerized- registry lists of students were obtained from the four universities by college and grade and a table of random technique was used to randomly select the sample. The drawn sample selection was occurred as follows: (1) Universities colleges were stratified according to the specialty (Art colleges and Science colleges), (2) within each of the specialty strata, a random selection of students was chosen with probability proportional. (3) Within each selected university college, subjects were randomly selected for

subsequent analysis to make various comparisons in terms of sex, grade and specialty. From 1363 students, a total of 1007 students responded to the interview with response rate of 76.8%. Three hundred and eight students (29.4%) from Islamic University, 298 students ( 28.4%) from Al-Azhar University, 284 students (27.1 %) from Al-Aqsa University, and 117 students (11.11%) from Al-Aqsa Open University.

### **Materials and procedures**

The questionnaire of closed-end questions was designed to collect related information about substance abused and patterns through self-administered questionnaire. A panel of nine experts in the field of psychiatry and research assess the tool and gave some guidance which led to slight amendment of some questions.

We obtained all necessary ethical approvals to conduct the study from Helsinki Committee in the Gaza Strip (Official ethical committee for research) and a letter of approval was obtained from the administration of each university. Confidentiality and anonymity was maintained, all the time, to protect students' identities by not showing personal data including name, address, telephone number, student number, and putting the questionnaire in a blank white envelop as well as collecting the questionnaires on the spot. In addition, an explanatory letter from the researcher was given to all participants and the administrators confirmed verbally the confidentiality

The result indicated that the correlation was from (0.57-0.86) is significant at the 0.01 level (2-tailed) and the reliability coefficient with Alpha scale, reached 0.79. Moreover, a reliability analysis, using scale split shows that correlation between forms was 0.58 and equal-length spearman-Brown was 0.73. The study started in April through end of June 2003.

### **Statistical analysis**

We used the Statistical Package for Social Sciences (SPSS) program for data entry (SPSS ver10). The variables were coded numerically, and then advance statistical analysis was done including descriptive and inferential statistics and frequency tables of all variables. Statistical differences between variables were assessed using Chi square ( $\chi^2$ ) statistical test for categorical variables. The researcher determined P value to be ( $<0.05$ ) with 95% confidence interval. Chi-square, as the most relevant statistical test for differences significance between frequency of abused substances such as tobacco among universities and socioeconomic factors such sex, marital status, and type of university.

### **Results**

#### **Sociodemographic characteristics of the study sample**

The results showed that 1007 students responded according to the instructions given out of 1047 received from the students, of which 40 questionnaires were not considered due to over exaggeration or spurious answering. 308 students (30.58%) out of 431 students from Islamic University, 298 students ( 29.60%) out of 431 students from Al-Azhar University, 284 students (28.20%) out of 315 students from Al-Aqsa University and 117 students (11.62%) out of 186 students from Al-Aqsa Open University.

Four hundred and seven male students were from the first grade (40.4%), and 91 from the fourth grade (9.04%), while 401 female students were from the first grade (39.82%) and 108 were from the fourth grade (10.72%). Students mean age was 20.4 years (SD= 2.9) , 67.2% of students were between 17-20 years-old, 24.7% of them between 21-23 years-old, 4.07% aged 24-26 years, and 3.97% of them were 27 years.

Three hundred and ten students (30.78%) live in camps, 529 students (52.5%) live in cities, 112 students (11.12%) live in villages, and 56 students (5.56%) live in housing projects. The sample was drawn from computerized-registry lists of students by college and grade of study.

### **Prevalence of substance abuse**

This study showed that 17 % of students have ever used substance over the past twelve months. One hundred and eight students (11.7%) abused tobacco, 12 students (1.2%) abused alcohol, 8 students (0.8%) abused psycho-stimulants, 10 students (1%) abused sedatives and hypnotic, 2 students (0.2%)

abused opium, 10 students (1%) abused cannabis, 7 students (0.7%) abused inhalants, 2 students (0.2%) abused hallucinogenic.

**Insert graph 1 here**

### **Sex differences in abusing substance**

This study showed that 17% of students have ever used substance over the past twelve months; One hundred seven male students (21.5%) abused tobacco compared to 11 female students (2.1%). There was a statistically significant differences in abusing tobacco, in which male students used more tobacco ( $\chi^2 = 90.87$ ,  $df=7$ ,  $p = 0.01$ ). Twelve male students (2.4%) abused alcohol compared to 1 female student (0.2%). There was a statistically significant difference in abusing alcohol, in which male students abused more alcohol ( $\chi^2 =9.676$ ,  $df =7$ ,  $p = 0.01$ ). However, there was no statistically significant difference between male and female students in using other substances.

**Inset table 1 here**

### **Type of university and tobacco abuse**

One hundred and eighteen students of the universities (11.7%) abused tobacco. 48 students at Al-Azhar University with (16.11%), 18 students at Al-Quds Open University with (15.38%), 33 students at Al-Aqsa University with (11.62%), and 19 students at Islamic University with (6.17%) abused tobacco respectively. There was a statistically significant difference between

universities' students abusing tobacco toward Al-Azhar university ( $\chi^2 = 16.24$ ,  $df = 3$ ,  $p = 0.05$ ).

**Insert table 2 here**

### **Pattern of tobacco abuse**

With regard to pattern of substance, 71.6% smoke cigarettes, 23% smoke hubble-bubble, 4.4% smoke cigar, and the least substance abused was pipe 0.9%.

### **Marital status and substance abuse**

One hundred and five single students 11.74% abusing tobacco ( $\chi^2 = 20.98$ ,  $df = 3$ ,  $P = 0.01$ ), eleven single students 1.23% abusing alcohol ( $\chi^2 = 17.82$ ,  $df = 3$ ,  $P = 0.01$ ), nine single students 1.01% abusing sedatives and hypnotic ( $\chi^2 = 38.91$ ,  $df = 3$ ,  $P = 0.01$ ), nine single students 1.01% abusing cannabis ( $\chi^2 = 24.54$ ,  $df = 3$ ,  $P = 0.01$ ), sixth single students 0.67% abusing inhalants ( $\chi^2 = 27.75$ ,  $df = 3$ ,  $P = 0.01$ ). It was noticed also that married students were the least one abusing substance. There is statistically significant difference in abusing tobacco, alcohol, hypnotics, cannabis for widows and inhalants for divorced.

**Insert table 3 here**

### **Tobacco abuse and place of residence**

Fifty five students (10.4%) abused tobacco lived in city, 37 students (11.9%) lived in camp, 16 students (14.2%) lived in village, and 10 students (17.8%) lived in housing project. With regard to other substances, it was noticed that majority of abusers lived in city and camp respectively. There was no statistically significant difference between different residential localities.

### **Size of family and substance abuse**

Two students 0.93% of family size more than 17 persons abusing Hallucinogenic. There is statistically significant difference in abusing Hallucinogenic ( $\chi^2 = 7.38$ ,  $df = 2$ ,  $p = 0.05$ ). However, it was noticed that the students whose family size 11 persons and above are more likely abusing substance (for example, 28 students with 13% abused tobacco, 4 students with 1.8% abused alcohol), followed by those from 6-10 persons (68 students with 12.3% abused tobacco and 5 students with 0.91% abused alcohol). There is statistically significant difference in abusing Hallucinogenic for students came from family size 11 and more.

### **Reasons abusing substances**

With regard to reasons of taking substances, male students abused substance more than females in the following causes: overcoming psychological stress

(20.3%) compared to (9.7%) for female, for curiosity (10.9%) compared to (7.3%) for female, for sex desire (6.2%) compared to (0%) for female. On the other hand, female students abused substance more than male for: treating physical problems (43.9%) compared to (39%) for male, removing feeling of weakness (12.2%) compared to (9.3%) for male, overcoming academic challenges (7.3%) compared to (0%) for male, treating psychological disorder (7.3%) compared to (4.6%) for male. However, both genders were mostly similar in the cause of social acceptance (4.6% male) and (4.8% female).

## **Discussion**

This study showed that 17 % of students have ever used substance over the past twelve months. This research study revealed that 11.7%, who experienced smoking during the last year is consistent with Palestinian Central Bureau of Statistics' result in 2000 whose average rate was estimated by 18.6% in Gaza Strip whose age rate was 12 and above. In addition, psychological and social stress forms a main factor, to prompt smoking this study and Palestinian Central Bureau of Statistics (PCBS) ; 16.1% and 18.6% respectively (PCBS, 2004)<sup>10</sup>.

Our results consistent with Webb et al (1996)<sup>11</sup> of a cross-faculty sample study of 3075 second-year university students from ten UK universities found that 11% of the students were non-drinkers. Experience with other illicit drugs were reported by 33% of the sample, most commonly LSD (lysergic acid diethylamide), amphetamines, Ecstasy, and amyl/butyl nitrate, which had each been used by 13–18% of students. The overwhelming reason given for taking alcohol or drugs was pleasure. In another study of prevalence of illicit substance abuse in Canada (Li-Yin et al, 2002)<sup>12</sup> found that the rate of substance use during the past 12 months was 9.8% for marihuana, 0.9% for LSD, 0,9% for cocaine, 0.2%for amphetamines, and 0.1% for heroin.

This research study revealed that 11.7% of students who experienced smoking during the last year is consistent with PCBS' result in 2000 whose average rate

was estimated by 18.6% in Gaza Strip whose age rate was 12 and above. Also psychological and social stress forms a main factor to prompt smoking in this study and PSCB; 16.1% and 18.6% respectively (PCBS, 2004)<sup>10</sup>.

Our results consistent with abusing tobacco and not other substances of Abu Abdulla et al (2002)<sup>13</sup> study of substance abuse among 1,197 Chinese undergraduates in Hong Kong. Students reported their current and past use of tobacco (13%), alcohol (61%), marijuana (2%), and other illicit drugs (0.4%). The rate of substance use was higher among males, residents of university hall, senior students, and among those who possessed a positive attitude towards substance use.

From global perspective, prevalence rate in Gaza Strip is very close to the prevalence rate in Cyprus and Romania, which varies from 1-2 %, but significantly less than Chile with 17.0 % (Kessler et. al, 1996)<sup>14</sup> and Czech Republic France, Ireland and United Kingdom with 35 % with “cannabis” as most commonly used illicit drug (UN, 2001)<sup>4</sup>. Regionally, however, prevalence rate in Egypt was 5.2 % for those aged 15 and above with “Hashish” as most illicit drug used (UN, 2001)<sup>4</sup>.

For other variables, study revealed significant differences in the following socio-demographic characteristics: (1) among sex towards male in tobacco with (21.4%) compared to (2.1%) for female and alcohol with (2.4%) compared to (0.2%). These results confirmed previous conclusions that substances use is not males activity only, but also for females (Swadi, 1987)<sup>15</sup>.

In addition, these findings are consistent with previous literature; women tend to use pills to cope with problems, whereas men tend to use cigarettes and alcohol (Chambers and Griffay, 1975)<sup>16</sup>.

We attribute the level of tobacco abuse that to the prevailing culture in Gaza, which limits highly using alcohol, which is not the case with tobacco that perceived as a “social drug”. Our results are much less than in comparison with western communities, in which 51% used alcohol in the past month, followed by cigarettes with 37% in the past month. The researchers concern has referred to the concept that overall alcohol or tobacco use was seven times more likely to start using marijuana than individuals, who reported no use of alcohol or tobacco (NIDA, 2003)<sup>17</sup>. The researcher referred these findings, as there is homogeneity between all localities and similarity in the social classes.

Ahmadi et al (2004)<sup>18</sup> in study the prevalence of substance abuse in a sample of Iranian nursing students found that 11.8% of the subjects reported using of substances occasionally (at least once a month): cigarette (10.8%), alcohol (3.5%), opium (4.3%), cocaine (0.5%) and hashish (0.3%).

Our low level of abusing alcohol and other drugs even during the years of conflict and war is inconsistent with literatures in the West, which suggested that people who experienced major trauma and those with PTSD or depression

may self-medicate with drugs or alcohol to relax, cope with stress or relieve symptoms (NIDA, 2002)<sup>17</sup>.

### **Clinical implications and recommendations**

In the light of the research findings, the researcher recommends that Ministry of Health, Ministry of High Education and other related Ministries should encourage and support drugs research activities, we have to investigate the same research study on the West Bank's universities in order to have a national data base. Recruiting social services units in high educational settings that should be administered by community mental health professionals, to address both group and individual issues including management crises, stress and life-skills techniques so that the students would be able to protect themselves from taking or abusing unprescribed drugs and prevention. To consider models of crises management and prevention for all universities' grades as part of the curriculum, so that students learn life skills in how best dealing with life stressors and crisis and acquire professional knowledge and techniques. To launch a systematic anti-drugs awareness campaign in the Gaza Strip. To reinvestigate same research study in a stabilized political period for comparison objectives, in the near future.

## Acknowledgment

We appreciated so much the help of the data collectors and the Palestinian Universities directors who facilitated our work. Also we would thank all the students who participate in this study.

## الخلاصة

هدفت هذه الدراسة الوصفية المسحية التحقق من مدى انتشار العقاقير غير الموصوفة طبياً وأنماط استخدامها بين الطلاب الجامعيين في قطاع غزة خلال الفترة بين (2002 - 2003). و لقد جمعت البيانات عن طريق استبيان ذاتي (أسئلة مغلقة) تميز بالسرية وخالي من البيانات الشخصية على العينة العشوائية التي بلغ عدد أفرادها 1363 طالباً وطالبة من المستوى الأول والرابع من كليات الآداب والعلوم وتراوحت أعمارهم بين (17 - 40 عاماً)؛ 431 طالباً وطالبة من الجامعة الإسلامية (31.6%) - 431 طالباً وطالبة من جامعة الأزهر (31.6%) - 186 طالباً وطالبة من جامعة القدس المفتوحة (13.7%) - 315 طالباً وطالبة من جامعة الأقصى (23.1%).

ولقد أظهرت الدراسة أن 2.1% تعاطوا عقاقير غير موصوفة طبياً (مخدرات) خلال الاثني عشر شهراً الأخيرة، ويمثل المدخنون 11.7% من العينة مع تباين إحصائي ملموس لصالح الذكور 21.4% مقابل الإناث 2.1%، وأن 1.2% تعاطوا الكحول مع تباين إحصائي ملموس لصالح الذكور 2.1% مقابل الإناث 0.2%. نسبة تعاطي المنبهات 0.79% ونسبة تعاطي المسكنات المنومات 1.09% ونسبة تعاطي المهدئات 0.3% ونسبة تعاطي المخدر (الحشيش) 0.99% ونسبة من يتعاطون العقاقير عن طريق الاستنشاق 0.70% ونسبة تعاطي عقاقير الهلوسة 0.2% وقد أشارت الدراسة أن الصيدليات هي المصدر للحصول على العقاقير المنبهة والمسكنة المنومة. و قد أظهرت الدراسة أنه لا يوجد اختلاف جوهري في تعاطي العقاقير الأخرى بين كافة شرائح العينة.

من أبرز نتائج هذه الدراسة التأكيد على مشكلة تعاطي العقاقير غير الموصوفة طبياً بين طلاب الجامعات وبخاصة الدخان في الجامعات، ويمكن تعميم نتائج هذه الدراسة لعدة أسباب مثل كبر حجم العينة وارتفاع معدل الاستجابة ودقة عملية البحث.

## References

1. Pickard, M, Bates, L, Dorian, M, Greig, H, Saint, D. Alcohol and drug use in second-year medical students at the University of Leeds. *Medical Education* 2000; 34:148-150.
2. Alphons J.M. Plasschaert, L, Hoogstraten, J, van Emmerik, BJ, Webster, D, Clayton,R . Substance use among Dutch dental students. *Community Dent Oral Epidemiol* 2001;29:48–54.
3. World Health Organization. Tehran Lipid and Glucose Study. Reported in Strong, K. and Bonita, R. The SURF Report 1. surveillance of risk factors related to non-communicable diseases: current issues of global data. Geneva. 2003.
4. United Nations Office on Drugs and Crime. A rapid situation assessment on patterns and trends in drug abuse in Egypt (RSA). Ministry of Health with support from UNODC, 1999.
5. Tehrani A. BBC Monitoring Middle East- political. London:. ProQuest Information and Learning Company. 2003.
6. Suleima, RA, Shareef, M, Kharabsheh, S, Abu Danoon, N. Substance use among university college students in Jordan. *The Arab Journal of Psychiatry* 2003; 14: 94-105.
7. Madison-Colmore, O. Substance use among Taiwanese female college students *International Journal for the Advancement of Counselling* 2003; 25: 43-51.
8. Akvardar, Y. Demiral, Y, Ergor, G, Ergor. Substance use among medical students and physicians in a medical school in Turkey. *Soc Psychiatry Psychiatry Epidemiology* 2004 ; 39 :502 –506.
9. McCabe, SE, Knight, JR, Teter, CJ, Wechsler, H. Non-medical use of prescription stimulants among US college students: prevalence and correlates from a national survey. *Addiction* 2005; 99: 96 –106
10. Palestinian Central Bureau of Statistics, Dissemination and Documentation Department, Division of User Services 2004).
11. Webb, BA, Ashton, CH, Kelly, P, Kamali, F. Alcohol and drug use in UK university students. *Lancet* 1996; 348: 922-925.

12. Li-Yin Chien, M, Anne George, M, A, Armstrong, RW. Country of birth and language spoken at home in relation to illicit substance use. *Canadian Journal of Public Health* 2002; 93: 188-192.
13. Abdullah, AS, Fielding, R, Hedley, A, J. Patterns of cigarette smoking, alcohol use and other substance use among Chinese university students in Hong Kong. *Am J Addict* 2002; 11(3): 235-46.
14. Kessler R. C. et al.. The twelve-month prevalence and correlates of serious mental illness (SMI), in *mental health, United States*, ed. RW, 1996.
15. Swadi, H. Methodological problems in adolescent substance abuse research, paper presented at November of the child psychiatry research society, London. *British Journal of addiction* 1987; 83: 935-942.
16. Chambers, CC, Griffey, MS. Use of legal substance within the general population: the sex and age variables. *Addictive Diseases* 1975; 2: 7-19.
17. National Institute on Drug Abuse. *NIDA Notes, Volume 17, Number 5 B*. NIH Publications No. 03-3478, 2003.
18. Ahmadi, J . , Maharlooy, A, N, Alish, AM Substance abuse: prevalence in a sample of nursing students. *Journal of Clinical Nursing* 2004; 13: 60–64.

**Graph 1**

**Percentage of substances abused by university students**

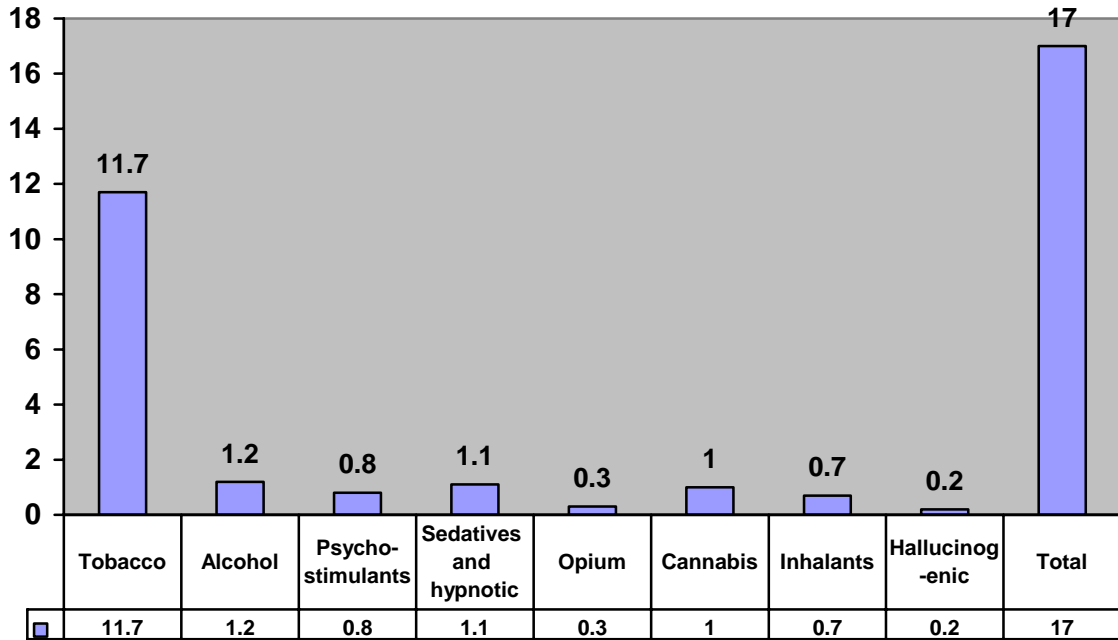


Table 1

Sex differences in abusing alcohol and tobacco

Substance	Gender	Yes		No		$\chi^2$
Tobacco	Male	107	21.49	391	78.51	90.871**
	Female	11	2.16	498	97.84	
Alcohol	Male	12	2.41	486	97.59	9.676 **
	Female	1	0.20	508	99.80	

\* p= 0.05, \*\* p = 0.01, \*\*\* p = 0.0

Table 2

Differences in abusing tobacco according to universities

Substance	University	Yes		No		$\chi^2$
		No.	%	No.	%	
Tobacco	Islamic University	19	6.17	289	93.83	16.241*
	Al-Azhar University	48	16.11	250	83.89	
	Al-Aqsa University	33	11.62	251	88.38	
	Al-Quds Open University	18	15.38	99	84.62	
	Total	118	11.72	889	88.28	

\*p= 0.05, \*\* p = 0.01, \*\*\* p = 0.001

Table 3  
 Martial status and type of substance abused

Substance	Martial status	Yes		No		$\chi^2$
		No.	%	No.	%	
Tobacco	Single	105	11.74	789	88.26	20.988**
	Married	8	7.69	96	92.31	
	Widowed	3	75.00	1	25.00	
	Divorce	2	40.00	3	60.00	
Alcohol	Single	11	1.23	883	98.77	17.824**
	Married	1	0.96	103	99.04	
	Widowed	1	25.00	3	75.00	
	Divorce	0	0.00	5	100.00	
Sedatives and Hypnotic	Single	9	1.01	885	98.99	38.915**
	Married	0	0.00	104	100.00	
	Widowed	1	25.00	3	75.00	
	Divorce	1	20.00	4	80.00	
Cannabis	Single	9	1.01	885	98.99	24.543**
	Married	0	0.00	104	100.00	
	Widowed	1	25.00	3	75.00	
	Divorce	0	0.00	5	100.00	
Inhalants (Solvents)	Single	6	0.67	888	99.33	27.757**
	Married	0	0.00	104	100.00	
	Widowed	0	0.00	4	100.00	
	Divorce	1	20.00	4	80.00	

p= 0.05, \*\* p = 0.01, \*\*\* p = 0.001