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The Prevalence of at Least One-Time Substance Abuse among Kerman Pre-university Male Students

Hassan Ziaaddini MD*, Amir Sharifi MD**, Nouzar Nakhaee MD***, Ahmad Ziaaddini****

* Associate Professor, Department of Psychiatry, Neuroscience Research Center, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran.

** General Practitioner, Kerman University of Medical Sciences, Kerman, Iran.

*** Associate Professor, Department of Community Medicine, Neuroscience Research Center, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran.

**** Student of Medical, Kerman University of Medical Sciences, Kerman, Iran.

Abstract

Background: Substance abuse is one of the main health problems in Iran and awareness about its spread and procedure of spread in the society, particularly the susceptible society of students, is very important with regard to the population pyramid of Iran.

Methods: This study was performed by cross-sectional method. The sampling size was 610 male students in pre-university grade by a probabilistic cluster sampling. Our research instrument was the WHO questionnaire.

Findings: The experience of smoking cigarettes was seen in 34.6% of the students, 51.5% used hookah, 37.7% drank alcohol, 40.7% used non-prescribed tranquilizers, 10.2% used high-dosage painkillers, 6.6% used ecstasy, 6.7% hashish, 4.9% heroin, 8.7% opium and 9.7% used Pam or chewable tobacco.

The first age of experiencing smoking cigarette was 14.0, hookah 13.9, alcohol 14.6, tranquilizers 13.1, high-dosage painkillers 15.3, ecstasy 17.0, hashish 16.7, heroin 16.7, opium 16.7 and using chewable tobacco 15.3 years. The improper use of ecstasy pills, opium, heroin and chewable tobacco was more in governmental schools compared with non-profit school centers.

There was a relationship between the low educational level of the father and consuming alcohol, strong intoxicants, heroin, opium, pam and excessive use of cigarettes.

On the other hand, there was a relationship between the low educational level of the mother with using cigarettes, hookah, alcohol, tranquilizers, strong painkillers, ecstasy, heroin, opium, pam and excessive usage of cigarettes.

Conclusion: According to this study, in spite of the fact that drug abuse is at a warning rate, the tendency toward hookah, tranquilizers and alcohol is noticeable.

Key words: Substance abuse, Students, Kerman, Iran.

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Address of Correspondence: Hassan Ziaaddini MD, Associate Professor, Department of Psychiatry, Neuroscience Research Center, Kerman University of Medical Sciences, Kerman, Iran.
Email: h_ziaaddini@yahoo.com

Introduction

The consumption of drugs has been a part in the human's life. Narcotics have been used in medicine since 3500 years ago. Addiction to narcotics is one of the most tragic factors jeopardizing life and well-being. In spite of this jeopardy, willingness toward the use of drugs, especially narcotics, has had an ascending trend.¹

The use of drugs has a thousand-year history in our country. The first laws banning the use of opium go back to 400 years ago, which shows the authorities' concern about its consequences. This problem has become more complicated by the entrance of heroin and other drugs such as cocaine and ecstasy in the recent decades. Presently, our country has the highest consumption level of narcotics in the world.²

Substance abuse is one of the main health problems in Iran and it can lead to the intensification and deepening of physical, psychological and social problems.^{3,4}

Smoking alone is the reason for 20% of preventable deaths in developed countries. Which is not only higher than suicide, homicide and incidents all together but the prevalence of smoking can be a sign of psychological problems such as psychosis. Other drugs could also intensify the severity of psychiatric and social disorders.^{5,6}

In addition to the mentioned problems, smoking leads to a decrease in educational performance, not attending school and finally withdrawal from school in students. All these consequences confront the society with a serious health, cultural, social and economical crisis.⁷

According to dispersed studies in Iran, different results have been found. A study in Isfahan showed that 22.5 % of the youth smoked cigarettes in which the age of onset was between 10 and 13 years.⁸

A study In Shiraz in 9 to 15 year olds revealed 4.8% occasional smoking, 2% opioid use, 3.8% addiction to cigarette and 0.1% drug addicts.⁹

The distribution rate of narcotics among youth is more than any other age group. There has been a considerable increase in drug abuse since the 70s. The consumption of addictive drugs and banned medicines among youth, especially students, increased in 1992. According to a study in America, more than 48% of students used banned medicines before graduating from high school and the highest

usage of narcotics was between the ages of 18 and 24. The consumption of addictive drugs and banned medicines causes reduction in life span, incidents, aggressive sexual behaviors, unwanted pregnancy, suicide, aggression, crime, accident, drowning and personality and psychological disorders.^{10,11} Throughout another study in Shiraz in 2002, it was proved that 30.23% of young adults had at least used addictive drugs once and 23.86% were addicted to these substances:

8.3% cigarette, 1% heroin, 0.3% morphine, 4.3% alcohol, 0.8% opium and its by-products, 0.3% LSD, 0.5% cocaine, 0.8% hashish and 0.8% marijuana.¹²

In addition, throughout a study on senior pre-university students in Kerman within 2000-2001, it was found that 26.5 percent of the boys and 11.5 percent of the girls had at least experienced addictive drugs once. The prevalence of narcotic consumption among boys was accordingly 16.2% alcohol, 11.7% opium, 9.7% tranquilizers, 8.3% hashish, 8.2% tonic drugs, 7.7% opium sap, 5.8% LSD and 5.5% heroin and among the girls, it was 5.1% opium, 4.5% alcohol, 4.4% tranquilizers, 2.8% hashish, 2.8% tonic drugs, 2.6 % opium sap and 2% LSD.²

The studies have also shown that the substance abuse growth ratio to the population growth is three times higher and the growth rate of using injection-based drugs has been 33% in each year.¹³

The prevalence of addiction in different timelines would greatly help health decision makers in adopting preventive measures.

Methods

This study was performed by cross-sectional method. The sample size was considered 606 individuals according to the previous researches and $P = 0.27$, $d = 0.05$, $z = 1.96$ and design effect = 2. The sampling was done in a two-stage cluster manner, through which the schools were considered as clusters and the selection of schools was based on the school population.

Our research instrument was the World Health Organization's questionnaire which was designed to be used in schools and its validity has been established.¹⁴ After getting permission from the Education and Training Organization and school officials, followed by introducing themselves and the research objectives to students and emphasizing on the

confidentiality of information, the researchers distributed the questioners among the students and requested them to put it inside the box in the middle of the class after its anonymous completion so that the confidentiality of information would be warranted.

The questionnaire consisted of two parts; background information and questions about the use of ten different drugs, in which the case of experiencing their use for at least once and also the age of the first experience was asked.

A percentage mode was used to describe the nominal data. In order to compare the percentage among groups, a Chi square test was used.

Results

After completing 610 questionnaires, the following results were obtained: 310 students participating in the study were from public schools and 300 students were studying in private schools. The average age of students

was 17.9 years with a standard deviation of 0.55 years. 58.2 percent of the students' fathers had academic education, 34.8 percent had diploma and 7 percent were illiterate. The educational level among their mothers was 41.5 percent academic, 50 percent diploma and 8.5 percent illiterate. According to Table 1, the highest frequency of at least one time drug usage among students belongs to hookah (51.5%), tranquilizers (40.7%), alcohol and cigarette (34.6%) and the lowest in turn belongs to heroin (4.9%), ecstasy (6.6%), hashish, bang and marijuana (6.7%). The age of the first experience of use of cigarette was 14.0, hookah 13.9, alcohol 14.6, tranquilizers 13.1, strong painkillers 15.3, ecstasy 17.0, hashish 16.7, heroin 16.7, opium 16.7 and chewable tobacco 15.3 years. The improper use of ecstasy pills, opium, heroin and chewable tobacco was more in public schools than in private schools (Table 2).

Table 1. Absolute and relative frequency of at least one time substance abuse by students (n = 610).

	Yes		No	
	Number	Percentage	Number	Percentage
Cigarette	211	34.6	399	65.4
Hookah	314	51.5	296	48.5
Alcohol	230	37.7	380	62.3
Tranquilizers	248	40.7	362	59.3
Strong painkiller	62	10.2	548	89.8
Ecstasy	40	6.6	570	93.4
Hashish, bang, marijuana	41	6.7	569	93.3
Heroin	30	4.9	580	95.1
Opium	53	8.7	554	91.3
Pam or Chewable Tobacco	59	9.7	551	90.3

Table 2. Absolute and relative frequency of at least one time substance abuse by students based on school type (n = 610).

	Public school students		Private school students		Total		P value
	Number	Percentage	Number	Percentage	Number	Percentage	
Cigarette	113	36.5	98	32.7	211	34.6	0.32
Hookah	164	52.9	150	50	314	51.5	0.47
Alcohol	123	39.7	107	35.7	230	37.7	0.30
Tranquilizer	130	42.1	118	39.3	248	40.7	.0492
Strong Painkiller	36	11.6	26	8.7	62	10.2	0.229
Ecstasy	34	11	6	2	40	6.6	<0.001
Hashish, bang, marijuana	25	8.1	16	5.3	41	6.7	0.178
Heroin	30	9.7	0	0	30	4.9	<0.001
Opium	35	11.3	18	6	53	8.7	0.03
Pam or Chewable Tobacco	39	12.6	20	6.7	59	9.7	0.013

Table 3. Absolute and relative frequency of substance abuse in students on the basis of father's educational level

	Lower diploma		Diploma		Academic		Total		P value
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	
Cigarette	16	7.6	66	31.3	129	61.1	211	34.6	0.421
Hookah	26	8.3	117	37.6	170	54.1	314	51.5	0.095
Alcohol	24	10.4	71	30.9	135	58.7	230	37.7	0.022
Tranquilizer	20	8.1	94	37.9	134	54	248	40.7	0.204
Strong painkiller	10	16.1	15	24.2	37	59.7	62	10.2	0.006
Ecstasy	4	10	12	30	24	60	40	6.6	0.66
Hashish, bang, marijuana	2	4.9	19	46.3	20	48.8	41	6.7	0.264
Heroin	7	23.3	11	36.7	12	40	30	4.9	0.001
Opium	10	18.9	15	28.3	28	52.8	53	8.7	0.002
Pam or Chewable Tobacco	14	23.7	24	40.7	21	35.6	59	9.7	< 0.001

Table 4. Absolute and relative frequency of substance abuse by Students on the Basis of mother's educational level

	Lower diploma		Diploma		Academic		Total		P value
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	
Cigarette	31	14.7	108	51.2	72	34.1	211	34.6	< 0.001
Hookah	39	12.4	172	54.8	103	32.8	314	51.5	< 0.001
Alcohol	31	13.5	107	46.5	92	40	230	37.7	< 0.003
Tranquilize	38	15.3	116	46.8	94	37.9	248	40.7	< 0.001
Strong painkiller	12	19.4	25	40.3	25	40.3	62	10.2	0.004
Ecstasy	10	25	19	47.5	11	27.5	40	6.6	< 0.001
Hashish, bang, marihuana	5	12.2	23	56.1	13	31.7	41	6.7	0.362
Heroin	10	33.3	14	46.7	6	20	30	4.9	< 0.001
Opium	19	35.8	20	37.7	14	26.4	53	8.7	< 0.001
Pam or Chewable Tobacco	17	28.8	33	55.9	9	15.3	59	9.7	< 0.001

Conclusion

The present survey was conducted with the purpose of studying the prevalence of drug abuse among the male pre-university students of Kerman in the academic year of 2006-2007. In this regard, 610 students at pre-university level in the city of Kerman were studied.

The mean age of the first time use of cigarette is 13.99 ± 3.12 which is less than some previous

studies that showed a mean age of 20 ± 3 in the 15 to 24 year olds¹⁵ but more than another study that showed a mean of 12 ± 3.02 which finally demonstrates a decrease in the onset age.¹⁶

According to this study, 34.6 percent had the experience of smoking cigarettes which shows an increase in the prevalence trend of using tobacco in the year 1992-2000 that reported a 11.9 percent.¹⁷

In 2001, an 18.5 percent was reported in a rural area in Kerman within the upper-12 year-old population¹⁶ and in Shiraz it was 8.3% less than the present study while it was equal to 22.8 percent more in Kerman in a study in 2001.¹⁸

Only within a study in 1994, it was reported as 66.3%¹⁷. The prevalence of using hookah is reported 51.5 percent in this study which has been 52.9 percent among public school students and 50 percent among the private school students. The mean age of the first time of using hookah was 13.91 with a standard deviation of 2.64 while such an average is lower than the average of using cigarette which can be an indication of more vulnerability among youth and also to the risk of using narcotics via hookah by assuming that it is less dangerous besides the parents' overlooking of the risk involved in using hookah.

The experience of using chewable tobacco was 9.7 percent among students. The prevalence rate among students in public schools was 12.6 percent and among the students in private schools was 6.7 percent. Which was statistically meaningful by Chi square ($P = 0.013$). The difference could be attributed to the easier access of such substances in economically lower neighborhoods. The average age for the first time use of chewable tobacco was 15.30 years with a standard deviation of 1.50. 32.6 percent of students, who had fathers with lower-diploma education, had a record of using chewable tobacco and statistically the fathers' educational level had an effect on using such a substance ($P = 0.001$). In addition, the rate of using chewable tobacco was 32.7 percent among the students whose mothers had a lower-diploma education and mothers' education also proved to be effective on chewable tobacco usage ($P = 0.001$).

The results of this study showed that the tendency to drug abuse was more among students at public schools. Moreover, it was shown that the parents' education was higher among students at private schools which were a reflection of educated people's willingness to have a better education and educational conditions for their children. All in all, the parents' education, especially the mothers' had the highest level of effect on the improper use of narcotics by students and the highest prevalence of drug abuse was reported among the students whose mothers had a lower-diploma education.

37.5 percent of students had experienced alcohol. This was noticeable with regard to the 1% alcohol experience in children under the age of 12 in a rural area.¹⁹

In a study in 2001, 16.2 percent had experienced alcohol. In another study on students in the first and second grade in Kerman high schools the use of alcohol was 30 percent.¹ The experience of using alcohol among students at public schools was more than private school students (39.7 percent versus 35.7 percent). Meanwhile, no meaningful difference was observed by the Chi square test ($P = 0.30$). The average age for the first time alcohol consumption was 14.64 years with a standard deviation of 2.09.

Fathers' education was effective on the alcohol use which 59.6 percent of those students whose fathers had a lower-diploma education, had experienced alcohol consumption ($P = 0.22$) (Table 3).

The prevalence of alcohol experience was higher in the students whose mothers had a lower-diploma education (59.6 percent). This difference in prevalence was also statistically meaningful ($P = 0.003$) (Table 4).

Tranquilizers were used in 40.7 percent of the students without the doctor's prescription. Meanwhile, studies in Kerman showed a 9.7% rate² and another study showed an 18.8 percent of experience among boys¹ which seems that it has had an ascending trend and can be traced back to the lower age of the students in previous studies. In addition to tranquilizers strong painkillers like Tramadol had a 10.22 percent rate of use in our study which is quite noticeable. Although the prevalence among the students in public schools was greatly higher (11.6 percent versus 8.7 percent), no meaningful difference was statistically observed between the two groups ($P = 0.229$).

The mean age of the first time use of a strong painkiller without the doctor's prescription was 15.33 years with a standard deviation of 2.95 years. Parents' education was effective on the use of painkillers and the highest rate of prevalence was among the students whose fathers had a lower-diploma education (23.3 percent) and students with lower-diploma educated mothers (23.1 percent). This effect was also statistically significant by using Chi square for fathers ($P = 0.006$) and mothers ($P = 0.004$).

The prevalence of ecstasy use is reported 6.6 percent (often due to the users' mistake in using a set of methamphetamine and LSD). In previous studies, it was reported in 5.8 percent of girls and in 7.6 percent of boys.^{1,2} the prevalence was much higher among public school students (11 percent) than private school students (2 percent). This difference was statistically significant ($P < 0.001$). The observed difference in the prevalence rate of using ecstasy pills in this study according to such a fact that normally the students who have a better economical condition go to private schools can be attributed to the easy access to ecstasy pills in lower economic neighborhoods is one of the reasons for a higher prevalence usage rate of this kind of pill among the students with a lower economical situation. The mean age of the first time use of ecstasy was 17.02 years with a standard deviation of 0.7 year which is an indication of the higher age of onset for this social damage and it is possible to reduce its prevalence with appropriate educations. Paternal education did not have any effect on using ecstasy pills but the students whose mothers had a lower-diploma education had the highest rate of experiencing ecstasy pills (19.2 percent). In addition, this difference was statistically significant ($P < 0.001$).

The prevalence of hashish, bang and marijuana usage was 6.7 percent. This rate was 2.8 and 13.3 in previous studies among students in Kerman (1.2) which shows a serious difference and seems that supplementary studies with similar measurement tools can be quite helpful in this time period. The prevalence was 8.1 percent among public school students and 5.3 percent among private school students. Nonetheless, no significant statistical difference was observed ($\chi^2 = 1.814$, $df = 1$, $P = 0.178$).

The mean age of the first time use of these kinds of substances was 16.68 years with a standard deviation of 1.14 years. With regard to the use of opium and heroin (narcotics), it was totally reported as 13.6 which was less than previous studies.

The total prevalence rate of heroin use was

4.9 percent and all of them were studying at public schools which caused a significant difference ($P = 0.001$). This is an indication of higher prevalence in families who have a lower economical status. The mean age of the first time use of these substances was 16.7 years with a standard deviation of 0.83 year. The higher age shows that such a social damage may be prevented by appropriate educating programs. The parents education was effective on the prevalence of experiencing heroin and the highest prevalence was found among students whose fathers had lower-diploma education ($P = 0.001$). Moreover, mothers' education was also effective on the prevalence of experiencing heroin and the highest prevalence was among the students whose mothers had lower-diploma education ($P < 0.001$).

The prevalence of experiencing opium was 8.7 percent which was 11.3 among public school students and 6 percent among private school students. The statistical test of Chi square also showed a significant difference ($P = 0.03$).

The mean age of first time use of opium was 16.69 years with a standard deviation of 0.57 year; of which 21.3 percent of the students were those whose fathers had a lower-diploma education and 36.5 percent of the students were those whose mothers had a lower-diploma education. The father ($P = 0.002$) and mother's ($P < 0.001$) education was effective on the prevalence of opium use.

The results of this study showed that the tendency towards substance abuse is higher among public school students. It also showed that the parents educational level of the students in private schools is higher, which reveals the higher educated parents' tendency for having a better education for their child and their attention to their children's educational conditions. All in all, the parents' education, especially the mothers' had the most effect on the substance abuse by students and the highest level of substance abuse was among the students whose mothers had lower-diploma education.

Conflict of interest: The Authors have no conflict of interest.

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فراوانی تجربه حداقل یک بار مصرف مواد اعتیاد آور در دانش آموزان پسر پیش دانشگاهی شهر کرمان

دکتر حسن ضیاءالدینی*، دکتر امیر شریفی**، دکتر نوذر نخعی***، احمد ضیاءالدینی****

* دانشیار، گروه روان پزشکی، دانشکده پزشکی، دانشگاه علوم پزشکی کرمان، کرمان، ایران.

** پزشک عمومی، دانشگاه علوم پزشکی کرمان، کرمان، ایران.

*** دانشیار پزشکی اجتماعی، مرکز تحقیقات علوم و اعصاب کرمان، کرمان، ایران.

**** دانشجوی پزشکی، دانشگاه علوم پزشکی کرمان، کرمان، ایران.

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چکیده

وابستگی و سوء مصرف مواد یکی از مشکلات عمده بهداشتی در کشور ایران است و اطلاع از شیوع و روند شیوع آن در جامعه به خصوص جامع آسیب پذیر دانش آموزان با توجه به هرم جمعیتی ایران بسیار مهم است.

پژوهش به صورت مقطعی (Cross sectional study) انجام شد. نمونه پژوهش را ۶۱۰ نفر دانش آموز پسر مقطع پیش دانشگاهی شهر کرمان که به روش خوشه‌ای و تصادفی انتخاب شده بودند تشکیل می‌دادند. ابزار پژوهش پرسش‌نامه سازمان بهداشت جهانی بود.

۳۴/۶۰ درصد دانش آموزان سابقه مصرف سیگار، ۵۱/۵ درصد قلیان، ۳۷/۷ درصد الکل، ۴۰/۷ درصد آرام‌بخش بدون تجویز پزشک، ۱۰/۲ مسکن قوی، ۶/۶ درصد اکستازی، ۶/۷ درصد حشیش، ۴/۹ درصد هروئین، ۸/۷ درصد تریاک و ۹/۷ درصد ناس و پمپرک را داشتند. سن اولین تجربه مصرف در مورد سیگار ۱۴/۰، قلیان ۱۳/۹، الکل ۱۴/۶، داروهای آرام‌بخش ۱۳/۱، مسکن قوی ۱۵/۳، اکستازی ۱۷/۰، حشیش ۱۶/۷، هروئین ۱۶/۷، تریاک ۱۶/۷ و پمپرک یا ناس ۱۵/۳ سال بود. سوء مصرف قرص‌های اکستازی، تریاک، هروئین و ناس در مدارس دولتی بیشتر از مدارس غیر انتفاعی بود.

تحصیلات پایین پدر با مصرف الکل، مسکن قوی، هروئین، تریاک، پمپرک و مصرف زیاد سیگار ارتباط داشت. تحصیلات پایین مادر نیز با مصرف سیگار، قلیان، الکل، داروهای آرام‌بخش، مسکن قوی، اکستازی، هروئین، تریاک، پمپرک و مصرف زیاد سیگار ارتباط داشت.

بر اساس این پژوهش، علاوه بر این که سوء مصرف مواد مخدر در حد هشدار دهنده‌ای است، تمایل به قلیان، داروهای آرام بخش و الکل قابل توجه است.

سوء مصرف مواد، دانش آموزان، مواد مخدر، ایران.

مقدمه:

روش‌ها:

یافته‌ها:

نتیجه‌گیری:

واژگان کلیدی:

۸: تعداد صفحات:

۴: تعداد جدول‌ها:

-: تعداد نمودارها:

۱۹: تعداد منابع:

آدرس نویسنده مسؤول:

دکتر حسن ضیاءالدینی، گروه روان پزشکی، دانشکده پزشکی، دانشگاه علوم پزشکی کرمان، کرمان، ایران.

Email: h_ziaaddini@yahoo.com