Determinants of Drug Abuse in High School Students and their Related Knowledge and Attitude

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Abstract

Introduction: The aim of the current study is to evaluate the knowledge and attitude of high school students toward addicting drugs. Thus, the interventions, which are more appropriate for this age group can be designed and applied.

Methods: This cross-sectional study was carried out in 2009 in Isfahan province. The study population was high school students, who were randomly selected by multi-stage cluster sampling. The evaluation tool was an author-devised questionnaire, which was filled out by the students. The data obtained was analyzed using SPSS software, version 16.

Findings: Among 6998 students who filled out the questionnaire, 50.1% were female. The mean knowledge scores were 58.7±10.3 and 57.9±10.2 for girls and boys, respectively, which were significantly different (p= 0.002). Considering the scores students obtained in attitude toward inclination to drug abuse, the most important factors in this regard were parents' divorce, familial conflicts, seeking pleasure, adolescents' curiosity, availability of the drugs, peer pressure, low levels of self-confidence, psychological disorders, and strict parents.

Conclusion: With respect to the results obtained, promoting the knowledge and modifying the attitude of students, and increasing their self-confidence particularly in schools can play an important role in decreasing drug abuse in this age group. Moreover, policymakers should consider the strategies, which can support the family structure and reduce the harms in unstable families.

Keywords: Addictive drugs, High school students, Knowledge, Attitude (JPMA 62: S-62; 2012).

Introduction

Drug abuse and drug dependence are of the major concerns of today's world. Since these items have negative effects on development of communities, they are considered as worrying social topics. Addiction to natural and synthetic agents has increased in the recent decade. As a result, it has become a serious problem in social and psychological health issues. According to the report of the World Health Organization, there were 200 million of drug addicts through the world in 2005. In addition, it was reported that the highest addiction rate occurred in Iran and the highest prevalence of abuse was observed in the age group of 20-35.[1] Being aware of the age of onset for substance abuse is of great importance, since it helps policymakers in the health sector to focus on this specific age group to increase the effect of interventions. The age of the onset in most cases is adolescence. Different studies have shown that substance abuse mostly initiates with smoking and alcohol consuming in adolescence.[2] Few studies have been carried out on prevalence of smoking, and alcohol and substance abuse among Iranian adolescents. In a study, it was reported that 6.9% of high school students in Tehran had the experience of drug abuse, and 16.9% experienced cigarette smoking. The most frequent drugs that were abusedwere alcohol, opium, and marijuana.[2] In another study in Shiraz, 30.2% of high school students had experienced smoking, alcohol drinking, or addictive or stimulant drugs at least once, and 13.8% of them took one of these substances regularly.[3] In general, drug abuse is the result of interaction among the individual, the substance, and the environment. Knowledge and attitude of the individual toward the drug and the drug effect is effective in its abuse. Another important factor in this respect is availability and nature of the substance. Some environmental factors that contribute to drug abuse are cultural factors, peer attitude toward drug abuse, parents' behavior, and regulations and policies, which restrict access to the drugs. One of the worst points in drug abuse is that adolescents and youth are more susceptible to it. This is because adolescence is a period of curiosity, experiencing, and seeking for personal identity. Transition from childhood to adolescence is a delicate period and in many cases the initiating of drug abuse occure in this period. The adolescents may abuse substances due to various reasons. Some reasons to mention are lack of adequate knowledge about the harmful effects of the substances, incorrect attitude toward drugs and addiction, presenting

personal independence, peer pressure, satisfying the curiosity, low levels of self-confidence, inability in maintaining inter-personal communications, and reducing stress. In general, a combination of personal and familial factors, and the conditions of school and the society play an important role in substance abuse in adolescents. Presence of a substance abuser in the family, the ways the family controls the adolescent, inter-personal communications in the family, level of emotional dependence between parents and children, and the expectations of parents from their children are factors effective on substance abuse by adolescents. Moreover, the type of experience of an adolescent from the school is equally important in this regard.[4]

The reasoned action theory emphasizes the relationship among beliefs, attitudes, and behaviors. In different studies, it has been demonstrated that substance abuse is influenced by the knowledge and attitude toward the drugs. To change a behavior, knowledge and attitude toward the behavior should primarily be modified. In different countries, some interventions have been carried out in the society to modify the knowledge and attitude of the people. The objective of these studies was prevention of initiation of drug abuse. The studies mainly have focused on juvenile and adolescents, because these groups are more susceptible to social harms due to their lower level of knowledge.[5] Iran consists more than 15 million adolescents and youths, and is considered as one of the youngest countries around the world. Few studies have been carried out on knowledge and attitude of Iranian adolescents toward substance abuse. This is while considering these topics would be helpful in guiding this age group to safer behaviors. The aim of the current study is evaluation of knowledge and attitude of high school students toward addictive substances. The results could be used in identification of risky behaviors and designing and applying organized, appropriate and ongoing programs to promote the knowledge and attitude of this age group.

Materials and Methods

This cross-sectional study was carried out in 2009 in 20 towns of the Isfahan province (all towns of the province except Kashan and Aran-vaBidgol). The study population was high school students in the age range of 14-18. The required sample size ($\alpha = 0.05$) was calculated to be 6489, and considering 10% of sample miss, we considered 7137 as the sample size. The sampling method was randomized multi-stage cluster sampling. First, with regard to the high school student population, the share of each town was determined. Then, proportionate to the number of high school students in rural and urban areas, samples were selected in each town. Since there was not a significant difference between the percentage of male and female students, sex ratio of the students was considered similar. In each town, 20-30% of the high schools were selected using simple randomized method. Then, with respect to the number of students calculated for the town, the number of students required from each school was determined,

and in the following, on the list of students' name and using randomized number table, the samples were determined and the questionnaires were handed out.

The inclusion criteria were being high school student in one of the high schools of the Isfahan province.

The exclusion criteria were not responding to all items of the questionnaire, or inappropriate or inconsistent responding to the questionnaires; based on the investigator's discretion. In these cases, the questionnaire was excluded and replaced by another sample of the same sex, age, and place of residence.

Research Tool:

The research tool was an author-devised questionnaire, designed to evaluate the knowledge and attitude of high school students. The steps of the questionnaire development were as follows: Literature review and interview with specialists of the field, extraction of the topics required for the questionnaire, determination of items of each topic, preparation of the draft of the questionnaire, and determination of scale for each item. To evaluate the face and content validity of the questionnaire, we used two groups. To this end, the questionnaire was given to five specialists in the field of addiction to provide their suggestions on the content and scoring of the items. Moreover, to determine the face validity, the questionnaire was given to 10 high school students. Finally, the questionnaire was modified according to the recommendations of the two groups.

To confirm the reliability of the questionnaire, two all-boy and all-girl high schools were randomly selected and from each school, 15 students were randomly asked to fill out the questionnaire. Based upon the questionnaires filled out, alpha-Kronbach coefficient was determine to be 0.77 (the cut-off point was considered to be 0.7). By using inter-item analysis, the unrelated items were deleted. The items for evaluation of knowledge level were about familiarity with different types of addictive substances, adverse effects of stimulant drugs, adverse effects of opiums, short-term and long-term adverse effects of the drugs, and different formulations of addictive drugs on the market. The range of knowledge score was zero (lack of knowledge) to 100 (complete knowledge) for each item.

Evaluation of attitude of the students was performed in the following three areas; importance of various factors in inclination to taking the drugs, physical and psychological changes resulted from the drugs, and the addicting potential of the substances.

To determine the importance of various factors in inclination to taking the drugs, the students scored each factor on a five-point scale (1: as the least importance, and 5: as the highest importance), and the mean score for each factor was determined. The physical and psychological changes caused by drugs were evaluated as the students chose" I agree", "I do not have any idea", and "I disagree" for each change, and the attitude was scored in a zero (the lowest level of attitude) to

100 (the highest level of attitude) range. With regard to the items on the addicting potential of the substances, the percentage of items answered correctly was considered. After designing the questionnaires, they were handed out to questionnaire teams. Each team consisted of a questioner from the education and development organization and a questioner from the province health center. Before carrying out the study, the teams attended a one-day workshop on how to perform the questioning process. To reassure the students, the questionnaires were anonymous. The questionnaires were distributed among the students. Then after the questionnaires were filled out and collected, the data was coded and entered in the SPSS software, version 16, and analyzed. The data was analyzed using t-test and chi square and ?=0.05 was considered as the level of significance.

Results

After collecting 7137 questionnaires, 139 questionnaires were excluded considering the exclusion criteria, and 6998 questionnaires were used for the study. Among these questionnaires, 6512 (93.1%) questionnaires were filled out in high schools in urban areas. Among the participants, 3504 (50.1%) were female, and the mean age of participants was 15.7±1.1. Some demographic characteristics of the students and their parents are presented in Table-1. The mean scores obtained for total knowledge by female and male students were 58.7±10.3 and 57.9±10.2, respectively, which were significantly different (p=0.002). The mean scores obtained for total knowledge for urban and rural areas were 58.6±10.3 and 55.5±9.5, respectively, which were significantly different (p<0.001). The knowledge score in different areas are provided in Table-2. Generally, it seems that boys have a higher level of knowledge about different types of the drugs, while girls have a higher level of knowledge about the adverse effects of stimulant drugs, and short- and long-term adverse effects of the drugs. Students of the two sexes were not significantly different with regard to the knowledge about the adverse effects of opiums and the formulations on the market. Moreover, it was observed that students in urban areas in comparison with those in the rural areas have a higher level of knowledge about the different types of drugs, adverse effects of stimulant drugs, long-term adverse effects of the drugs, and the different formulations of the drugs on the market but the score of knowledge about the short-term adverse effects of drug was

Table-1: Some demographical characteristics of students under study and their parents.

Age group of students				
	14 years	11.2%		
	15 years	34%		
	16 years	30.5%		
	17 years	20%		
	18 years and above	4.3%		
Parents' education level		**Fathers' education level**		**Mothers' education level**
		Urban areas	Rural areas	Urban areas	Rural areas
	Illiterate	6.9%	10.1%	10.3%	21.2%
	Read and write	5.8%	13.2%	7.1%	14.2%
	Primary school	21.5%	36.8%	27.1%	45.4%
	Guidance school	22.3%	25.9%	21.8%	14%
	High school	7%	4.1%	6.7%	2.5%
	High school diploma or AI	26.2%	6.4%	23.1%	1.9%
	B. Sc.	6.9%	1.9%	2.8%	0.4%
	M. Sc. and above	2.1%	0.6%	1%	0.2%
No. of family members	**Urban areas**	**Rural areas**		
2	0.7%	0.2%		
3	6.4%	2.8%		
4	34.3%	28.8%		
5	29.5%	31.3%		
6	15.5%	15.3%		
7 and more	13.5%	21.6%		
Mean number of family members	5.06±1.5	5.46±1.66		

Table-2: Mean knowledge scores students obtained.

	Girls	Boys	P value	Urban areas	Rural areas	P value
Mean score of knowledge about different types of drugs	62.3±18.2	64±19.5	<0.001	63.4±18.7	59±18.6	<0.001
Mean score of knowledge about adverse effects of stimulant drugs	55.9±17	53.9±17.9	<0.001	55.3±17.4	50.8±18.4	<0.001
Mean score of knowledge about short-term adverse effects of drug abuse	56.5±22.3	52.2±22.4	<0.001	54.4±22.6	54.3±20.6	0.961
Mean score of knowledge about long-term adverse effects of drug abuse	62±21.4	59.4±22.2	<0.001	61.2±21.8	55.2±20.8	<0.001
Mean score of knowledge about formulations of addictive drugs on the market	62.3±22.4	62.5±24.2	0.722	62.8±23.5	57.6±20.8	<0.001

Table-3: Factors effective on inclination to drug abuse from students' viewpoint.

Factors of inclination to drug abuse in	Girls' attitude score (1-5)	Boys' attitude score (1-5)	Attitude score in urban areas	Attitude score rural areas
Parents' divorce	3.9±1.3	3.7±1.4	3.7±1.4	3.7±1.5
Familial conflicts	3.6±1.3	3.4±1.4	3.4±1.4	3.3±1.4
Seeking pleasure	3.5±1.4	3.4±1.4	3.4±1.4	3.3±1.4
Strict parents	3.5±1.4	3.3±1.4	3.3±1.4	3.3±1.4
Psychological disorders	3.5±1.3	3.2±1.4	3.2±1.4	3.1±1.4
Curiosity of adolescents	3.4±1.5	3.3±1.5	3.3±1.5	3.2±1.6
Availability of the drugs	3.4±1.5	3.4±1.5	3.4±1.5	3.4±1.5
Lower levels of self-confidence	3.4±1.4	3.3±1.4	3.3±1.4	3.1±1.4
Presence of an addict among family members	3.3±1.5	3.2±1.5	3.2±1.5	3.3±1.5
Peer pressure	3.3±1.4	3.3±1.4	3.3±1.4	3.4±1.4
Lack of knowledge about the drugs' adverse effect	3.2±1.5	3.2±1.5	3.2±1.5	3.1±1.5
Positive attitude toward drug abuse	3.2±1.5	3.2±1.5	3.2±1.5	3.2±1.5
Presence of an addict in the life or education environment	3.1±1.5	3.1±1.5	3.1±1.5	3.1±1.5
Inability to deal with daily problems	2.9±1.4	2.9±1.4	2.9±1.4	2.8±1.4
Lack of entertainment facilities	2.9±1.5	2.9±1.4	2.9±1.5	2.9±1.5
Availability of the drugs	2.7±1.6	2.8±1.6	2.8±1.6	2.9±1.6
Overcoming shyness	2.7±1.5	2.7±1.5	2.7±1.5	2.8±1.5
Having free time	2.6±1.5	2.7±1.5	2.7±1.5	2.8±1.5
Physical diseases	2.5±1.4	2.5±1.4	2.5±1.4	2.5±1.4
Lack of access to consultation centers	2.4±1.4	2.4±1.5	2.4±1.5	2.5±1.4

Table-4: Percentage of correct answers to items on addictive substances.

Percentage of correct answers Items	Girls	Boys	Urban areas	Rural areas
Abusing some drugs such as cannabis is not addictive.	80.8	75.1	78.1	75.7
Even by once abusing a drug, one may become addict.	81.6	77.3	79.4	79.7
Occasional drug abuse is OK.	79.6	73.1	76.5	75.9

not significantly different in urban and rural area students.

The scores obtained by the students on the different factors of inclination to drug abuse are demonstrated in Table-3. In general, in students' viewpoint, the most important factors were parents' divorce, familial conflicts, seeking pleasure, adolescents' curiosity, availability of the drugs, peer pressure, low levels of self-esteem, psychological disorders, and strict parents.

The mean attitude scores obtained by male and female students on physical and psychological changes were 72.2±18.2 and 64.7±19.3, which were significantly different (p=0.001). Furthermore, the mean attitude score obtained by students in urban and rural areas were 68.7±19.1 and 66.1±18.94, respectively, which were significantly different (p=0.004).

The percentages of correct answers to the items on the types of addictive substances are provided in Table-4.

Discussion

The current study indicate that the knowledge level of high school students about addictive drugs and particularly their adverse effects is in a medium level for both sexes and in urban and rural areas. Nevertheless, in some fields, significant differences were observed between the two sexes or urban and rural areas, which seems to be originated from the large sample size, and it seems that these groups are not considerably different with respect to the knowledge level. In the studies performed in other countries, the students' level of knowledge about the addictive drugs was in the medium level and the knowledge level of girls was higher than that of the boys in the drugs adverse effects. Our results are consistent with findings of other studies in this respect.[6] In a study carried out in the Netherlands, it was shown that the knowledge of students about tobacco and cannabis was insufficient. Therefore, it seems that holding continuous education courses in schools is an effective approach in prevention of drug abuse. In this way, the knowledge of students about drug abuse would be promoted. Success of such programs has been reported in some studies.[7]

According to the attitude scores, in the viewpoints of the students in the current study, major factors in inclination to drug abuse are parents' divorce, familial conflicts, seeking pleasure, curiosity of adolescents, availability of the drugs, peer pressure, lower levels of self-confidence, psychological disorders, and strict parents. In a qualitative study, which was carried out in Kerman on high school students, the major causes for inclination to drug abuse were determined to be poverty, unemployment, lack of friendly relationships among family members, parental neglect of children, divorce, strict parents, psychological disorders, peer influence, inadequate

knowledge about the drugs, education problems, and lack of confidence.[8] In another study, students considered inadequate self-confidence to "say no", peer pressure, positive viewpoint to some addictive substances, and lack of skills to resist against addictive substances as the major reasons for drug abuse.[9] In a study performed in Tabriz, the attitude toward drugs as a pleasuring factor for adolescents, curiosity of adolescents, and inability to resist peer pressure have been considered as the reasons for inclination of students to drug abuse.[10] Furthermore, in a study on effective factors on cannabis inclination in adolescents, some factors such as family problems, low levels of self-confidence, peer influence, and availability of the drugs were the main reasons for drug abuse.[11] Families, as the main place for individuals' behavior control, have a particular position among the reasons for inclination to drug abuse. In this regard, parents' divorce, familial conflicts, and children neglect have been always considered among the factors effective in children's addiction. In some studies, it was reported that children of divorce are at the highest risk for addiction.[12] Moreover, in the current study, divorce and familial conflicts were considered as the major causes of inclination to drug abuse in students' viewpoint. Therefore, in designing of preventive measures, training of parents in appropriate dealing with children and providing a friendly and safe environment in the family should be included. Furthermore, identification and support of students who live in unstable families or have experienced their parents' divorce is an important intervention that can be applied in schools. Considering the importance of peer influence and inadequate self-confidence and skill of "saying no" in many students, training the skills of resistance skills against peer pressure and the skill of "saying no" are beneficial strategies. Schools can play a crucial role in training of such skills.[13] Various educational programs either by focusing on promotion of knowledge of the students about addictive drugs and their adverse effects or on improvement of skills such as decision-making skills and resisting peer pressure can be performed in schools. Review studies on effectiveness of training adolescents in schools have shown that both of these educational programs would play an important role in decreasing the prevalence of drug abuse among adolescents.[14] Adolescence period has an important role in establishment of individuals' behaviors and schools have a great opportunities to influence the process. Thus, paying more attention to deliver trainings on risky and harmful behaviors and promotion of different skills of adolescents would elevate the students' knowledge level and modify their attitude toward drug abuse.

These items along with enhancement of students' self-confidence would be considerably helpful in decreasing the prevalence of drug abuse among this age group, and consequently in the society.

Conflict of Interest:

The authors have no conflicts of interest.

Authors' Contributions:

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