Development of a Questionnaire to Assess Drug Abuse among High School Students of Isfahan Province, Iran: An Action Research

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ABSTRACT

Background: Considering the problem of drug abuse in Iran especially in adolescents and the youth, recent alterations in drug abuse rate and its trend, the necessity to have local information about this problem, applied research has a determining role in management of this problem and making proper decisions. Therefore, the current study was conducted to develop a questionnaire to assess the status of drug abuse among high school students of Isfahan Province, Iran.

Methods: This cross-sectional study was conducted out in 2009 in 20 cities of Isfahan Province. A researcher-made questionnaire was developed to determine knowledge, attitude, and practice of high school students regarding addictive drugs and their associated causes. This was accomplished by recruiting 7137 students who were selected by multistage random cluster sampling.

Results: The designed questionnaire identified the status quo of drug abuse according to age, gender, and different cities of Isfahan Province. We also accessed information about the type of abused drug, the most common causes of drug abuse for the first time, the most important causes of drug abuse, mean age of abusers and mean age at the first abuse, common time and locations of drug abuse, and the most common routes of drug abuse according to gender as well as urban and rural areas of Isfahan Province. Reliability of the questionnaire, based on the calculated Cronbach’s alpha coefficient, was 77% considering a cut-off point of 0.07.

Conclusions: According to the obtained results, the designed questionnaire is capable to assess the drug abuse status among high school students of Isfahan Province. Regarding the importance of teenage years in forming the future behaviors of adolescents and the opportunities provided at schools, it is prudent to pay more attention to interventions in this age group in order to increase their knowledge and correct their attitude toward illegal drugs and strengthening their confidence in this regard. These interventions can have an important role in decreasing the rate of drug abuse in this age group and consequently in the whole community.

Keywords: Attitude, drug abuse, high school students, knowledge, practice, questionnaire
INTRODUCTION

In all countries, illegal drug economy plays a prominent role in national decisions made. Fortunately, cost-effective measures targeting drug abuse treatment are available. This fact increases motivation to conduct studies in order to improve interventions compatible with cultural issues.[1] Various countries have taken measures at society level to change knowledge and attitude of the society toward illegal drugs. These interventions aimed to prevent illegal drug abuse. Usually, focus of these interventions was teenagers and the youth, as these age groups are at more risk of drug abuse due to less information regarding this problem.[2] On the whole, drug abuse is the result of the interaction between person, abused drug, and the environment. Knowledge and attitude toward this problem and its effects, easy access to such drugs, and the nature of the abused drug are among other effective factors.[3]

Drug abuse, as a psychological-social-biologic issue, in adolescents is one of the most critical issues for countries nowadays. This problem involves new chemical drugs (e.g. crack and ecstasy) besides traditional ones (e.g. opium and marijuana). In Iran, even though there is no official report about drug abuse, clinical observations in drug addiction consultation centers and medical centers for drug addiction rehabilitation show that addiction to new psychoactive drugs in adolescents has a high prevalence. Nowadays, instead of traditional single-factor approach to the etiology of drug abuse, multifactorial and interactive causal approaches are considered as the etiology of drug abuse. The latter factors assess related factors to drug abuse. The result of these evaluations is identifying a complex of risk factors as well as protective factors which, respectively, increase and decrease the likelihood of drug abuse.[4] Studies in Iran have demonstrated that mean age of cigarette smoking for the first time is in adolescence. Likewise, such a situation has been reported from the US and China.[5]

Knowledge about the age of drug abuse commence is of paramount importance. Unfortunately, the onset of drug abuse most often stems in adolescence. In a study, 6.9% of high school students in Tehran experienced drug abuse and 16.9% experienced cigarette smoking. The most prevalent used drugs were alcohol, opium, and marijuana.[6] In another study from Shiraz, 30.2% of high school students had experienced cigarette, alcohol, and stimulants and narcotics at least once in their lifetime.[7]

Studies note that age range of addicts and drug abusers has decreased globally. This decreased age range has endangered many adolescents and young people and has raised extensive concern in societies. Therefore, avoiding the problem of drug abuse has detrimental consequences for every society such as demolition of social and economic resources, threat to social security, and various forms of maladaptive behaviors.[8]

The present questionnaire was designed by studying some previously published questionnaires, though it has a different structure. This questionnaire can be used in similar studies. In general, it can be stated that this questionnaire provides useful information about knowledge, attitude, and practice of high school students toward drug abuse. The information yielded by this questionnaire can be used for more in-depth studies and organized, continuous, and appropriate decision makings in terms of future actions and interventions.

METHODS

This cross-sectional study was conducted in 2009 in 20 cities of Isfahan Province. Study population was high school students aged 14–18 years. The required sample size (considering $\alpha = 0.05$) was calculated as 6489 students, which was increased to 7137 students with consideration of the dropout rate of 10%.

Because there is a difference in student population of the cities of the province and also to provide possibility of generalization of the results, multi-stage random sampling was applied after determining the proportion of each city in supplying the sample size. To determine the denominator, all students who were studying at high schools of the province were summed up which was 227,127 students. High school student population of each city in cities and villages were determined and the proportion of students each city to the whole province was determined. This proportion was multiplied by the sample size, and sample size of each city was determined. After determining the sample size of each city,
sample size of urban and rural areas of each city was determined. To determine the sample size in high schools, a list containing names of all high schools was prepared. About 20–30% of high schools (depending on the number of high schools in each city) were selected randomly. The total sample of each city was divided by the selected school, and the sample size in each school was determined. Due to lack of a significant difference between male and female population of the schools, the gender proportion was considered equal. Using the list of students names (using random number table or odd/even numbers) the number of students was determined and the questionnaires were filled out.

To collect the information, proficient examiners were selected, involved people were trained, and data were collected under the supervision of the observer. Coordination was made with the education organization to implement the study. Experienced personnel of the education organization and Health Centers of the cities were recruited to help collect data in a 1-day workshop about the method of collecting data and determining the sample size. To achieve an equal approach in data collection and control of confounding variables by the interviewers, a uniform training workshop was held for 8 h in 1-day. A 1-day workshop for 6 h was held to ascertain meticulous questioning by the observers. Besides these training workshops, a guideline was issued to the interviewers to unify the data collection. In this guideline, it was explained why filling out the questionnaire carefully and completely, and avoiding unanswered questions and emphasizing confidentiality of the information were important. To fill out the questionnaires, first students were briefed about how to answer the questions by the interviewers. Then, the questionnaire was completed by the students. Each student had 20–30 min to complete the questionnaire and after that the questionnaires were gathered and delivered to the researcher.

RESULTS

To determine the real nature of drug abuse in the province, we needed a local tool to gather the required data. Various questionnaires were evaluated, but they lacked sufficient efficiency for this purpose. Therefore, a research-made questionnaire was designed. By referring to different articles, standard questionnaires were extracted and used for the study. The designed questionnaire had two sections: The first section contained general information and answers were marked on the questionnaire. In final analysis, the data of this section were calculated as a percentage. The second section contained three parts of questions related to knowledge, attitude, and practice. The questions of these three items were determined based on the study requirements which included students’ knowledge about narcotics and stimulants. The other was their attitude toward the cause of the tendency toward drug abuse and finally, the practice of the students to determine the prevalence of drug abuse. Hence, we decided to prepare the second section of the questionnaire in three parts. The first part contained questions about measuring students’ knowledge about illegal drugs, short-term and long-term complications of abusing narcotics and stimulants, as well as information about different illegal drugs accessible in the society. In the second part, their attitude was assessed about the causes of the tendency toward drug abuse. In the third part, questions in terms of practice of the students about drug abuse, the type, shape, and the cause of drug abused, the age of drug abuse onset, and the location of abuse were asked. The preliminary version of the questionnaire was designed and evaluated in several sessions with attendance of related experts in the field. In general revision, the questions were edited and finalized.

To determine scales of each question, the questions were scored at three levels. The knowledge score was the overall correct answers obtained by the respondent. Since the score range was calculated separately for each question and items and related data, the score range of each question was different from another one. The score range in question 1 of knowledge part was one. The scores of the 2nd–7th item for knowledge ranged 0–11, 0–3, 0–5, 0–3, 0–7, and 0–9, respectively. In question 1 of attitude section, the maximum attitude was scored 5, and the minimum attitude was scored 1 and if anything was written in “others” section, the score of 5 was allocated. In question 2 of attitude section,
the score of 10 reflected the strongest attitude and the score of 14 reflected the weakest attitude. In question 3 of attitude section, the score of 1 was the most positive attitude and the score of 2 was the most negative attitude. In question 1 of practice section, the “yes” answer was considered as positive practice.

To determine the validity of the questionnaire, its content and face validity were determined through two groups. The questionnaire was handed to 5 experts in the field of drug addiction, and they were asked to provide their suggestions about content and scoring of the questions. Also to determine its face validity, the questionnaire was issued to 10 students. Finally, the questionnaire was revised according to the suggestions made by these two groups.

To determine the reliability of the questionnaire, two schools (a boys’ school and a girls’ school) were randomly selected. Fifteen students from each school were also selected randomly. A total of 30 questionnaires were filled out. The Cronbach’s alpha coefficient was calculated as 77%. The cut-off point was 0.07. To delete irrelevant questions, inter-item analysis was applied.

In the knowledge section, the items covered identifying various narcotics, short-term and long-term complications of narcotics and stimulants, and familiarity with different illegal drugs accessible in the society. The score ranged from 0 (lack of knowledge) to 100 (complete knowledge) in each variable. To measure attitude of the students, questions were categorized in three parts of importance of different causes in attitude toward drug abuse, physical and psychological changes as a result of drug abuse, and addiction potency of drugs.

The importance of different factors responsible in tendency toward drug abuse was assessed so that each factor was scored with a 5-point scale (1 as the least important and 5 as the most important) by the students. Mean of these scores was calculated for each factor. Drug abuse-induced physical and psychological changes were assessed by asking the students to comment as “agree,” “no comment,” and “disagree.” Then scoring was done as 0 = the lowest attitude score to 100 = the highest attitude score. The questions about addictive potential of drugs were assessed as the percentage of questions answered correctly by the students.

After completing the questionnaire design, the questionnaires were delivered to the interviewer teams (each team consisted of an interviewer from the education organization and another interviewer from the Provincial Health Center). These teams had participated in a 1-day workshop to be prepared to do their tasks. All questionnaires were anonymous to reassure students about confidentiality. After gathering the data, they were coded and analyzed using Chi-squared test and t-test in the SPSS software (version 15.0, Chicago, IL, USA). Significance level was considered as $\alpha = 0.05$.

**DISCUSSION**

It has been noted in different studies that drug abuse is affected by knowledge and attitude toward drugs. To change a behavior, at first knowledge and attitude toward that particular behavior should be corrected.\(^2\) Iran has more than 15 million adolescent and young people and is considered the youngest country in the world.\(^9\) There are few studies in this age group about their knowledge and attitude toward drug abuse, while attention to these views can help them guide to safer behaviors. Considering the literature review performed before the study, available questionnaires did not meet the objectives of this study. For example, in a study which aimed to determine drug abuse among male high school students in Tehran, the research team designed a questionnaire to measure attitude, behavioral intention, resistance skills against narcotics, etc., But considering the low sample size and male exclusivity of the study, this questionnaire was not suitable for our study.\(^9\)

In another study on male high school students in Faridan, their susceptibility to drug abuse was determined by addiction measurement questionnaire and related factors were evaluated by a research-made questionnaire. Because this questionnaire did not meet the related reliability and validity, did not follow the objectives and hypotheses of our study, had a low sample size, covered only male students, and the study setting which is a small city, the results of this study are not generalizable.\(^10\) The questionnaire used in Mehriz, Yazd among high school students only assessed alcohol and psychoactive drugs and did
not have required validity and reliability for our study.\[11\]

Therefore, by designing a new questionnaire, we determined the current status of drug abuse among high school students according to age, gender, and different cities of Isfahan Province. We also gathered data about the type of drug abused, knowledge about short- and long-term complications of narcotics and stimulants, the most common causes of drug abuse for the 1st time, frequency of the most important causes of drug abuse, mean age of abusers, mean age of drug abuse onset, time and location of abuse, the most common routes of drug abuse according to age, gender, and urban as well as rural areas of Isfahan Province. Based on the results of this study, the designed questionnaire is qualified to measure drug abuse status among high school students of Isfahan Province.

CONCLUSIONS

Using the obtained results of this research, knowledge, attitude, and practice of students toward drug abuse are identified. The organized continuous decision makings and programs can be implemented to raise knowledge and attitude of the students toward drug abuse and to decrease the rate of dependence to drugs. Considering the importance of adolescent age in forming personal behaviors in the future and the opportunity provided at schools, paying more attention to related interventions in teenagers can have a significant role in decreasing drug abuse in this age group and consequently in the society by increasing their knowledge and correcting their attitude toward drug abuse.

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Questionnaire of evaluating knowledge, attitude, and practice of high school students regarding drug abuse and some related factors in urban and rural areas of Isfahan province in 2009

Studies show that there is relationship between drug abuse and psychological disorders, escape from home, aggressiveness and violence, theft, delinquency, academic failure and reluctance to study, suicide, etc., Since people’s knowledge and beliefs have an important role in the tendency toward drug abuse, being aware of your knowledge and attitude, authorities and policy makers can plan accordingly. Therefore, the following anonymous questionnaire which will be kept confidential is delivered to you. Your complete and honest answers will help programmers the most.

General information
☐ Questionnaire number
   (please do not write down inside the box)
City name: _______
City code: _______
   1. City
   2. Village
Age (in years): _______
Gender: _______
   1. Female
   2. Male
Family size: _______
Interviewer name: _______
Interview date: _______
Father’s educational level
   1. Illiterate
   2. Reading and writing
   3. Elementary school
   4. Middle school
   5. High school
   6. High school diploma
   7. Associate diploma
   8. Bachelor’s degree
   9. Master’s degree and higher
Mother’s educational level
   1. Illiterate
   2. Reading and writing
   3. Elementary school
   4. Middle school
   5. High school
   6. High school diploma
   7. Associate diploma
   8. Bachelor’s degree
   9. Master’s degree and higher

8. Bachelor’s degree
9. Master’s degree and higher
Father’s occupation
   1. Clerk
   2. Self-employed
   3. Unemployed
   4. Retired
   5. Others (Please write it down)

1. Have you received any information about drug use?
   ☐ Yes
   ☐ No
   (Each of the questions 2-7 can have more than one possible answer, so mark as many answers as you consider correct)
2. Which of the following drugs causes addiction?
   ☐ Ecstasy
   ☐ Sleeping pills
   ☐ Hashish
   ☐ Analgegesics like ibuprofin “pills”
   ☐ Crack
   ☐ Antibiotics pills
   ☐ Shisheh
   ☐ Shireh (opium extract)
   ☐ Morphine
   ☐ Naas
   ☐ LSD
   ☐ Heroin
   ☐ Cocaine
   ☐ Opium
   ☐ Psychological medication (used for treatment of psychological diseases)
   ☐ Do you know any other drugs? If yes, name them
3. Which of the following signs or symptoms are complications of addictive drugs (e.g., opium, heroin, morphine…)?
   ☐ Myosis
   ☐ Dry mouth
   ☐ Constipation
   ☐ Mydriasis
   ☐ Renal damage and failure
   ☐ Diarrhea
   ☐ Brain damage
   ☐ Seeing unreal images that others can’t see
   ☐ Hearing unreal sounds that others can’t hear
   ☐ Others (Please write it down)
4. Which one of the following complications is caused by stimulants (e.g., ecstasy, shisheh)?
   ☐ Myosis
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1. What is your idea about the role of each of the following factors in tendency toward illegal drug use? Based on the importance of each factor, please score from 1 to 5

- Teenagers curiosity
- Joy-seeking
- Somatic diseases
- Psychiatric disorder
- Lack of knowledge about complications of drugs
- Positive attitude toward drug abuse
- Low self-confidence
- To eliminate shyness
- Parents’ divorce
- Lack of amusement facilities
- Disability in resolving routine problems
- Crowded family
- Having strict parents
- Presence of an addicted person in the family
- Friends offer
- Family disputes
- Access to drugs
- Lack of access to consultation centers
- Low cost of drugs
- Having free time
- Presence of an addicted person in residential/educational place
- Others (Please write down)

2. What physical or psychological changes occur after drug use?

- In my opinion, drug use causes

- Transient euphoria
- Improved memory and learning ability
- Depression
- Improvement in some somatic diseases
- Increase in self-confidence
- Better acceptability by friends

3. What is your idea about addictive potential of drugs?

- In my opinion
- Using some drugs like hashish are not addictive
- Even with using drugs for 1 time, there is a possibility of becoming addicted
- Occasional use is OK

| Agree | No comment | Disagree |
|-------|------------|----------|
| Transient euphoria | ☐ | ☐ | ☐ |
| Improved memory and learning ability | ☐ | ☐ | ☐ |
| Depression | ☐ | ☐ | ☐ |
| Improvement in some somatic diseases | ☐ | ☐ | ☐ |
| Increase in self-confidence | ☐ | ☐ | ☐ |
| Better acceptability by friends | ☐ | ☐ | ☐ |
| Using some drugs like hashish are not addictive | ☐ | Yes | No |
| Even with using drugs for 1 time, there is a possibility of becoming addicted | ☐ | Yes | No |
| Occasional use is OK | ☐ | Yes | No |
Questionnaire of students’ Performance regarding drugs

1. Have you ever used drugs?  Yes  No
If you answered “yes,” please answer the following questions
2. I used once for curiosity  Yes  No
3. If an acute condition occurs, I use drugs to improve my general condition  Yes  No
4. I use drugs to improve my memory before exams  Yes  No
5. I use drugs so I can give public lectures  Yes  No
6. I use drugs following family disputes  Yes  No
7. I use drugs to achieve feeling of happiness and joy  Yes  No
8. I use drugs to win sport competitions  Yes  No
9. If you use drugs for any other reason, please mention it…
10. What is the name of the drug you used for the 1st time?
    Opium  Hashish  Ecstasy  Crystal  Morphine  Crack  Shireh (opium extract)  Nas  LSD  Heroin  Cocaine  Others (Please write it down)
11. At what age you used drugs for the 1st time?  Year…
12. How often do you use drugs?
    Once a day  More than once a day
    Once a week  Several times a week
    Others (Please write it down)
13. How much drug do you use every time?
14. What drug do you use currently? (you can answer more than one item)
    Opium  Hashish  Ecstasy  Shisheh  Morphine

Crack  Shireh (opium extract)  Nas  LSD  Heroin  Cocaine  Currently I do not use drugs  Others (Please write it down)
15. In what occasions do you use drugs?
    Before exams  Before doing sports  On the street  At parties  At home  Others (Please write down)
16. Why did you start using drugs?
    For each item which is true for you, please score from 1 (least important) to 5 (most important)
    Teenagers curiosity  Joy-seeking  Somatic diseases  Psychological disorder  Lack of knowledge about complications of drugs  Positive attitude toward drug abuse  Low self-confidence  To eliminate shyness  Parents’ divorce  Lack of amusement facilities  Disability in resolving routine problems  Crowded family  Having strict parents  Presence of an addicted person in the family  Friends’ offer  Family disputes  Access to drugs  Lack of access to consultation centers  Low cost of drugs  Having free time  Presence of an addicted person in residential/educational place  Others (Please write down)
17. How do you use the drug?
    Sniff (via nose)  Smoke (like cigarette)  Oral  Injection  Others (Please write down)

contd..