



Research article

A comprehensive overview of substance abuse amongst Syrian individuals in an addiction rehabilitation center

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ABSTRACT

Objectives: This study aims to provide a comprehensive overview of substance abuse amongst Syrian individuals in an addiction rehabilitation center.

Methods: This is a descriptive cross-sectional survey-based study, from patients receiving treatment in an addiction rehabilitation center in Damascus, Syria. The study was conducted over a period of nine months.

Results: A total of 82 participants were recruited, the majority of them were males (n = 78.95.1%). More than half of those investigated reported multi-level failure (n = 46, 56.1%) during their education. Most of the participants (n = 44, 53.7%) started to use drugs at a friend's home. The family was shown to play a positive role in stopping the initial drug taking trials at early stages (33/56, 58.9%). Again, friends' effect was the main reason for the return of abusing drugs (20/56, 35.7%). Sources of drugs were mainly from drug promoters for most of the participants (n = 58, 70.7%) followed by friends (n = 28, 34.1%). Participants revealed that taking drugs were mostly accompanied by additional habits such as cigarette smoking before using their drugs (n = 65, 79.3%), or drinking alcohol (57.3%). Surprisingly, participants believed that drug abuse does not lead to addiction (n = 52, 63.4%). The most common experienced feeling was depressed, desperate, or sad (n = 47, 57.3%), followed by anxiety and the desire to escape reality and resort to imaginations (n = 44, 53.7%).

Conclusions: The findings of this study indicate the need of policymakers to give more attention, in developing preventive strategies, to friends, as a main cause of addiction, in addition to the family influences on individual's drug abuse, addiction behaviors, and mindsets. Understanding the influencing factors could spot the light on the key to solve the addiction problem. A realist rehabilitation programs must be well designed and implemented as the level of individuals, institutions and communities to face this problematic addiction disaster.

1. Introduction

One of the major global concerns is drug abuse [1–3]. The United Nations Office on Drugs and Crime (UNODC) declared in 2018 reports that most of the rate of drug abuse (particularly Cannabis) had increased recently among adults aged 18–25 years and older [4]. The Middle East was not excluded and this concern has been seen over the last decade in the region, including but not limited to Egypt

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[5], Syria [6,7], and Palestine [8]. In the context of Syria, it is dealing with one of the most complicated humanitarian crises in the world as a result of more than ten years of war. Due to a deteriorating economic crisis, ongoing small-scale hostilities, widespread population displacement, and severely damaged public infrastructure, two-thirds of the population needs aid [9]. In Syria, in particular during the Syrian crisis, the consumption of opioids was substantially seen among young men [10]. A higher rate of alcohol consumption was also reported among the Syrian population [6]. Considerably, among the several definitions of “abuse,” the main characteristic that frequently appears is that drug abuse is “the use of a substance for nontherapeutic purposes to experience psychotropic (e.g., euphoric, sedative, or anxiolytic) effects: [1–3]. The National Institute on Drug Abuse (NIDA) classified the reasons behind drug abuse, including the need for better feelings, stopping the undesired feelings, and achieving better performance in life [4].

Predictors to understand why people abuse drugs are varied and complicated [11]. Numerous drug abuse patterns were associated with many factors, as discussed in several studies [10,12–16]. Understanding these predictors and factors would help overcome this global concern [11]. This includes analysis of components of behavior psychology and cultural context [11]. The authors previously evaluated the current pattern, causes and attitude toward drug abuse among Syrian prisoners [7]. Euphoria and curiosity were found on top of the reasons standing behind drug abuse in the Syrian community [7]. Individual and family income inequality are factors that have a possible effect on the behaviors of drug abusers as well [17]. According to literature, abusive behaviors are used more by young people, which could be related to a numerous number of causes, including the need for social acceptability among friends and peers (i. e., to fit in), induction of pleasure and happiness, relieving some related psychological disorders such as depression and anxiety, improving their performance in the required activity (e.g., sports) and out of curiosity [6,13,18]. Other factors were found to be associated with more substance abuse education and income [13,19,20].

Psychological-related factors are found to play a role in drug abuse. One of the most important psychological causes of drug abuse is people’s thoughts, beliefs and perceptions [10,21]. A study by Hanan et al. [11] evaluated the major causes of drug abuse with particular reference to the adoption of criminal behavior. A highly significant correlation between false psychological self-esteem using the drug and criminal behavior was found. Moreover, the research revealed a significant relationship between using illicit drugs to improve sexual potential, emotional depression, loneliness, curiosity and criminal behavior [11].

The risks of drug abuse, its consequences, and the possible causes and reasons differ among individuals within a different cultural contexts. Understanding the differences across segments of the targeted population is critical to provide an overview of their current status of substance abuse, in particular, the Syrian cultural context, as an attempt to understand the predicting factors and the need to gather information in the context of Syria. Thus, this study aims to provide a comprehensive overview of substance abuse among Syrian individuals in an addiction rehabilitation center.

2. Methods

2.1. Study design and participants

This is a descriptive cross-sectional, survey-based study of patients receiving treatment in an addiction rehabilitation center in Damascus, Syria. This center is a national center of youth care; a governmental organization working in a hospital dealing with drug addiction treatment). The study was conducted over nine months following approval by the Syrian ministry of health for the availability of abusers receiving drug abuse treatment.

2.2. Questionnaire development and data collection

Following an extensive review of studies on the prevalence, causes, and perceptions of drug abuse among individuals, including patients receiving treatment in an addiction rehabilitation center, a draft questionnaire was designed to cover the areas of interest in this study [22–24]. The questionnaire was modified, and the study’s researchers recommended some questions. The final version of the questionnaire was tested for content validity by subject matter experts, who provided constructive feedback, positive feedback, and approval for the process.

The data in this study were gathered using a self-administered survey that was distributed to patients receiving treatment in an addiction rehabilitation center after their agreement to participate in this study was obtained. The questionnaire asked about the entire drug abuse process, including socio-demographic characteristics, history, current practice and functional use of drugs, drug source, causes, and perception of drug abuse. Researchers made several trips to Damascus’ addiction rehabilitation center to approach patients who were found to be eligible to participate in this study. The study used a convenient sampling method in which any abuser being treated was contacted in order to collect as large a sample as possible during the project period. The patients were met separately in a specialized room for an average of 30 min.

2.3. Ethical approval

This study was performed according to the ethical protocol of the World Medical Association Declaration of Helsinki guidelines. The study approval was granted by the Syrian ministry of the interior (Approval Number 9621) and by the Research Ethics Committee at the Faculty of Pharmacy at Applied Science Private University (ASU), Amman, Jordan (Approval No: 2021-PHA-12). The data were obtained under strict rules concerning participants’ IDs and the confidentiality act. Verbal consent was obtained from volunteering participants before distributing the survey.

2.4. Statistical analysis

Data were analyzed using a statistical package for social science (SPSS) version 24 (SPSS Inc., Chicago, IL, USA). The descriptive analysis was performed using frequency (percentage) for qualitative variables, and mean (standard deviation; SD) for quantitative variables. McNemar's test was used to compare the different kinds of drugs abused at the beginning of abuse and the last kind of drug abuse.

Linear regression analysis was performed to assess factors affecting participants' perception score about drugs and drug abuse. Statistical significance was considered at $P \leq 0.05$. Perception score was calculated from the 21 perception statements, where for statements indicating positive perception towards drug abuse the following scoring was used "3: agree, 2: neutral, 1: disagree". While for statements indicating negative perception towards drug abuse, the following scoring was used "1: agree, 2: neutral, 3: disagree".

3. Results

A total of 82 participants were recruited and the mean age of recruited participants was 34.9 years (SD = 7.2). The majority of participants were males (n = 78, 95.1%), having Syrian nationality (n = 69, 84.1%), and 97.6% of them (n = 80) reported that Syria was their place of birth. The vast majority of participants received primary or preparatory education (n = 29, 35.4%), and around half of them (n = 46, 56.1%) stated the average level when they were students. More than half of those investigated, reported multi-level failure (n = 46, 56.1%) during their education (Table 1). The desire to work was the most common reason for leaving education (n = 22, 26.8%).

Participants started their drug abuse habits at the age of 22.2 (SD = 6.0) years with a high percentage (n = 59, 72.0%) shown to be employed at the start of their drug use. Most of them (n = 44.53.7%) started to use drugs at a friend's home. Of those, two-thirds had quitted addiction with incomplete success reported (n = 56, 68.3%), returning to drug addiction for many reasons. On top of these reasons were the financial ones; family was shown to play a positive role in stopping the initial drug-taking trials at early stages, but with limited effects. (33/56, 58.9%). Again, the friends' effect was the main reason for the return to abusing drugs (20/56, 35.7%). The majority of the participants (n = 58, 70.7%) had a previous history of increasing the amount of the used drug to get a better feeling (Table 2).

Table 1
Demographic and educational characteristics of the study participants (n = 82).

Parameters	n (%)	Mean (SD)
Gender		
o Males	78 (95.1)	
o Females	4 (4.9)	
Age (years)		34.9 (7.2)
Nationality		
o Syrian	69 (84.1)	
o Others	13 (5.9)	
Place of birth		
o Syria	80 (97.6)	
o Others	2 (2.4)	
Education level		
o Uneducated	11 (13.4)	
o Can read and write	3 (3.7)	
o Primary education	29 (35.4)	
o Preparatory education	29 (35.4)	
o General secondary education	6 (7.3)	
o Secondary technical education	1 (1.2)	
o University education	3 (3.7)	
Participant's educational level when they were students		
o Outstanding student	21 (25.6)	
o Average student	46 (56.1)	
o Weak student	15 (18.3)	
The reason for leaving the education*		
o Frequent failure	10 (12.2)	
o Lack the desire to learn	12 (14.6)	
o The desire to work	22 (26.8)	
o Desire to make money	17 (20.7)	
o To imitate friends	15 (18.3)	
o Dismissal from school for disciplinary reasons	7 (8.5)	
o Frequent family problems	16 (19.5)	
o Others	5 (6.1)	
Failure during the education period (at least once)	46 (56.1)	

* More than one response applied to the same participant.

Regarding the family history of the study participants (Table 3), less than half of the participants (n = 34, 41.5%) stated that they lived with their parents together. Most participants have their fathers and their mothers alive at the beginning of their drug abuse (n = 66, 80.5% and n = 72, 87.8%, respectively). Moreover, only one-third of the participants reported that their fathers were married to more than one wife (n = 17, 20.7%). Only 12 participants (14.6%) reported that their parents were divorced at the beginning of drug abuse.

Regarding the type of substances abused by the study participants at the first and the last time (Fig. 1), results showed that the most commonly abused substance the first time was Hashish (n = 39, 47.5%), followed by Heroin (n = 9, 11.0%) and Benzohex (n = 7, 8.5%). Furthermore, Hashish remains the most commonly last abused substance (n = 30, 36.6%) followed by Heroin (n = 22, 26.8%) (Fig. 1). The difference in the proportion of Hashish abusers at the beginning and the end was statistically significant, $\chi^2(1) = 7.111$, $p = 0.004$. Furthermore, nine (11.0%) of the participants initially started Heroin and, in the end, the number had increased to 22 participants (26.8%). This change was a consequence of 13 participants becoming Heroin abusers. The difference in the proportion of Heroin abusers at the beginning and the end was statistically significant, $\chi^2(1) = 11.007$, $p = 0.001$.

Table 2

Assessment of abuse history for the study participants (n = 82).

Parameters	n (%)	Mean (SD)
Age at the beginning of drug abuse		22.2 (\pm 6.0)
Status before drug abuse		
oStudent	12 (14.6)	
oUnemployed	11 (13.4)	
oEmployed	59 (72.0)	
Monthly income (\$) for those who were working during the drug abuse period		278.8 (224.8)
Expenditures of the monthly income*		
oOn their self	25 (30.5)	
oOn family	51 (62.2)	
oOn friends	3 (3.7)	
oOn smoking	22 (26.8)	
oOn alcohol	16 (19.5)	
oOn drugs	44 (53.7)	
oOn others	13 (15.9)	
Place where participants took drugs for the first time		
oAt home	11 (13.4)	
oAt a friend's home	44 (53.7)	
oAt empty places	10 (12.2)	
oAt street	5 (6.1)	
oAt school	2 (2.4)	
oOthers	10 (12.2)	
Individuals whom participants prefer to take drugs with them		
oFriends	38 (46.3)	
oWork colleagues	3 (3.7)	
oFamily member	4 (4.9)	
oAlone	37 (45.1)	
Previous history of transient hold on taking drugs	56 (68.3)	
Reasons		
oBad health	5/56 (8.9)	
oFamily Problem	13/56 (23.2)	
oFinancial reasons	18/56 (32.1)	
oFriends	7/56 (12.5)	
oOthers	13/56 (23.2)	
Interventions used for the initial stop of taking drugs		
oGeneral practitioner (GP)	13/56 (23.2)	
oSpecialist treatment center	9/56 (16.1)	
oParticipant's family	33/56 (58.9)	
oOthers	1/56 (1.8)	
Reasons for return of abusing drugs		
oEffect of friends	20/56 (35.7)	
oFamily problems	4/56 (7.1)	
oFinancial reasons	3/56 (5.4)	
oSocial Environment	10/56 (17.9)	
oProblems with others	4/56 (7.1)	
oPsychological reasons	9/56 (16.1)	
oOthers	6/56 (10.7)	
A previous history of increasing the amount used to get a better feeling	58 (70.7)	

* More than one response applied to the same participant.

Table 3
Family history of the study population (n = 82).

Parameters	n (%)
Individual(s) whom participants live with	
oAlone	25 (30.5)
oWith parents together	34 (41.5)
oWith father without mother	3 (3.7)
oWith mother without father	6 (7.3)
oWith father's wife	4 (4.9)
oOthers	10 (12.2)
Father was alive at the beginning of drug abuse	66 (80.5)
Mother was alive at the beginning of drug abuse	72 (87.8)
Number of wives the father had at the beginning of drug abuse	
oOne	64 (78.0)
oTwo	12 (14.6)
oThree	3 (3.7)
oFour	2 (2.4)
oMissing data	1 (1.2)
Parents were divorced at the beginning of drug abuse	12 (14.6)
Presence of any problem between father and mother at the beginning of drug abuse	28 (34.1)
Presence of drug abuser among family members or relatives	17 (20.7)
Any family member or relatives accused of any criminal charge such as theft, assault, drinking alcohol, etc.	14 (17.1)

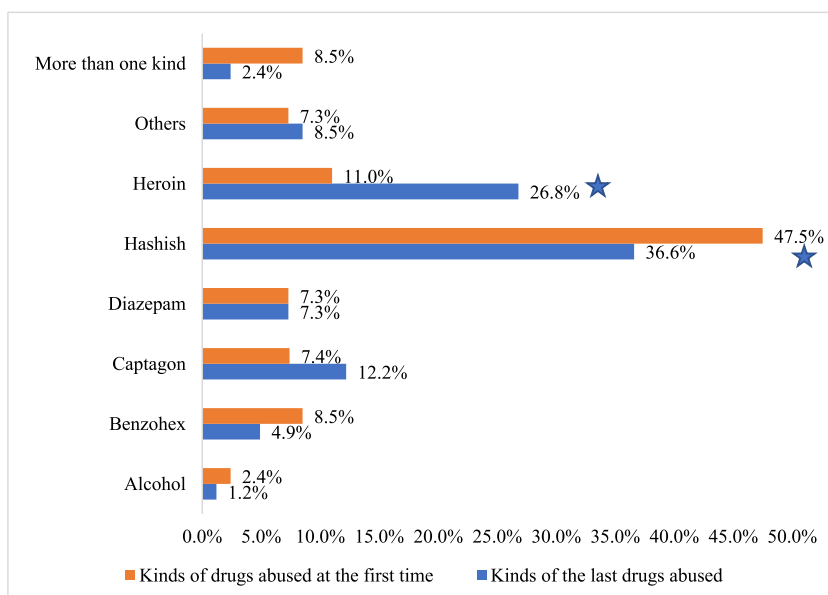


Fig. 1. Kinds of drugs were abused at the first time versus those abused in the last among the study participants (n = 82). *P < 0.05 using McNemar test.

Sources of drugs were presented in Fig. 2, and results showed that abusers were mainly obtaining drugs from drug promoters for most of the participants (n = 58, 70.7%) followed by friends (n = 28, 34.1%). The study participant reported that their drug takings were mostly accompanied by other habits such as cigarette smoking before using their drugs (n = 65, 79.3%), drinking alcohol (n = 47, 57.3%), or water pipe smoking (n = 29, 35.4%). Moreover, the reasons for drug abuse by the study participants were evaluated, as presented in Fig. 3. Among these reasons, feeling of fun (n = 16, 19.5%) and a need to be hyperactive (n = 12, 14.6%) were the most commonly reported reasons that drove participants to abuse drugs.

Participants' perceptions about drugs and drug abuse were presented in Table 4. Interestingly, drug abuse was thought to help overcoming daily concerns (n = 54, 65.9%), and gives the illusive impression of living in a dream world (n = 54, 65.9%), and helps to work for long periods of time without fatigue (n = 48, 58.5%). Moreover, participants believed that drug abuse does not lead to addiction (n = 52, 63.4%). On the other hand, 49 participants (59.8%) reported that drug abuse could drive an individual to steal and 51 (62.2%) stated that the punishment should be on those who promote drugs.

Regarding the side effects experienced by the study participants due to their drug abuse (Table 5), the most commonly experienced

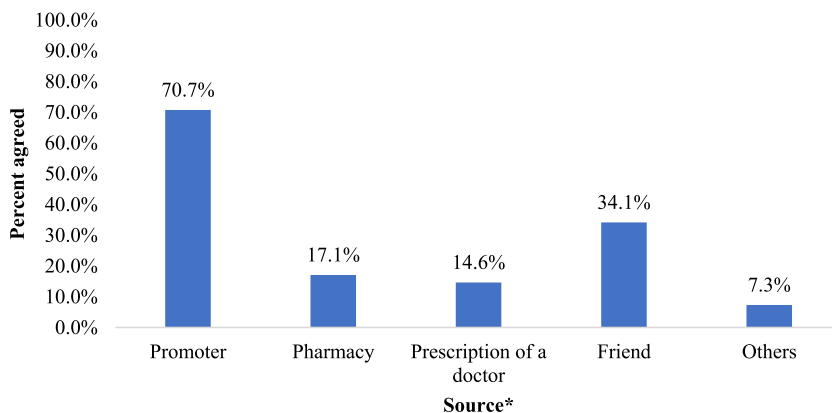


Fig. 2. Sources of obtaining drugs among the study participants (n = 82). *More than one response applied to the same participant.

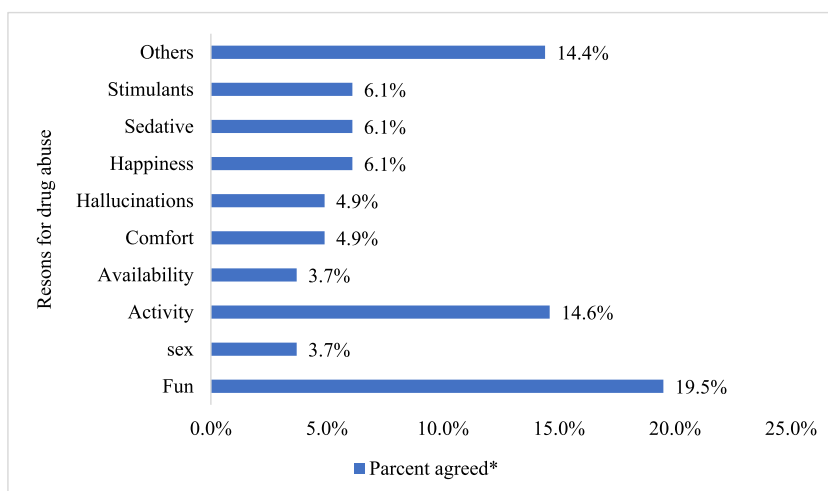


Fig. 3. Functional use of the abused drugs for the study participants (n = 82). *More than one response applied to the same participant.

Table 4
Perception towards drug abuse of the study participants (n = 82).

Statements	n (%)
Drug abuse helps the person to forget the worries	54 (65.9)
Drug abuse makes a person live in a dream world	54 (65.9)
Drugs activate and increase sexual capacity	45 (54.9)
Drugs make a person strong and courageous	26 (31.7)
Drugs make the person a nice one	41 (50.0)
Drugs help the person to work long periods without fatigue	48 (58.5)
Drugs help the person to be creative and to achieve targets	38 (46.3)
Drugs relieve physical trouble and pain	45 (54.9)
Drug abuse is taboo	50 (61.0)
Ruling on using drugs, such as the ruling on smoking in terms of legality	28 (34.1)
Drug abuse does not lead to addiction	52 (63.4)
Drugs can lead to death	70 (85.4)
Drug abuse is evidence of manhood	15 (18.3)
Drug abuse increases the student's ability to attain academic achievement	22 (26.8)
The treatment of addiction is a waste of money, effort and time	32 (39.0)
Drugs give pleasure to life	35 (42.7)
Drugs harmful effects are overestimated	30 (36.6)
The punishment should be on those who promote drugs	51 (62.2)
Drug abuse is a personal behavior that should be interfered with	29 (35.4)
Drug abuse can drive an individual to steal	49 (59.8)
Drugs help me to study and speed understanding	29 (35.4)

feeling was depression, desperation, or sad ($n = 47$, 57.3%), followed by anxiety and the desire to escape reality and resort to imaginations ($n = 44$, 53.7%).

Finally, linear regression analysis was performed to assess factors affecting participants' perception scores about drug abuse (Table 6), and none of the factors showed a significant association with participants' perception scores ($P > 0.05$ for all).

4. Discussion

Drug abuse has been a central concern for the countries' policymakers long ago [25]. This study's main finding showed that most drug abusers were in their mid-thirties of age, less than university level in their education and influenced by friends as a main cause of addiction. The most commonly abused products were Hashish (i.e., Cannabis), followed by Heroin, administered mainly for fun.

Worldwide, Cannabis is considered the most widely used drug and is often perceived to be the least harmful and of minimal interest to public health compared to other illicit drugs [26,27]. However, cannabis usage has many negative effects, including dependency, a higher risk of automobile accidents, compromised respiratory function, cardiovascular illness, and negative effects of regular use on teenage psychosocial development and mental health [26,27]. At the same time, the use/addiction of Heroin is increasing globally as one of the most common opioids [28]. Heroin usage is associated with a high risk of overdose death and is the major contributor to the treatment demand for opioids [28]. The findings of this study comply with the global statistics for drug abuse, as Cannabis was significantly the most commonly used drug, followed by Heroin and other types of illicit drugs. In addition, in this study, the majority of the participants in the rehabilitation center were males (95.1%). This may be related to the higher tendency of males for addiction and illicit drug use. According to the published report of the national institute of drug abuse, males are more prone to use illicit drugs than females, which also contributes to more hospital emergency visits or overdose mortality [29]. Also, the same report revealed that females are more susceptible to relapse and craving upon addiction [29].

In parallel, this study's findings matched similar causes and confirmed that friends are the major contributors to these practices. Shadur and Hussong have revealed that friendship intimacy was associated with increased substance use [30]. Friends and family play a major role in addiction behaviors and mindsets [31], as this study showed that the family has a role in the trial of addiction cessation. In contrast, friends encounter a relapse pattern after quitting. The effect of the family may be related to the enhancement of self-blame and social responsibility; on the other hand, friends may fire the curiosity and self-satisfaction effect, which is considered alarming at all levels [30,31]. Relapsing for addiction could be related to insufficient rehabilitation, motivation and mindfulness support [32]. Understanding the influencing factors could spotlight the key to solving the addiction problem.

Addicts of this study have reported the need for euphoric feelings as one of the major reasons for their abusive behavior and the seeking for happiness and comfort. That was expected according to the published studies and the known context of addiction [4]. Study participants demonstrated a low-medium level of religious commitments, which may play an important role in their attitudes and behaviors. Noteworthy is that religious beliefs known to affect the individual's attitudes at the personal and community levels, i.e., negative religious experience, could contribute substantially the substance abuse [33]. Although the study participants showed good

Table 5
Side effects experienced by the study participants following drug abuse ($n = 82$).

Side effects	n (%)
Uncomfortable or tired	38 (46.3)
Depressed, desperate or sad	47 (57.3)
Anxious	44 (53.7)
The desire to escape reality and resort to imaginations	44 (53.7)
Unable to concentrate while reading or watching TV	21 (25.6)
Unable to move or speak slowly	18 (22.0)
The urge to move excessively or speak fast	24 (29.3)
Wanting to die	24 (29.3)
Not wanting to live	21 (25.6)
Unable to sleep	33 (40.2)
A desire to sleep a lot	24 (29.3)
Tired or lacking energy	28 (34.1)
Low appetite	29 (35.4)
Wanting to eat a lot	18 (22.0)
Dissatisfied with self and failure	41 (50.0)
Upset and jealous of family differences	42 (51.2)
Your father's relationship with your mother is bad and violent	23 (28.0)
The family situation is explosive	20 (24.4)
Your father toughens you a lot	13 (15.9)
There is insufficient family control	32 (39.0)
Feeling lonely due to weak family relationship	26 (31.7)
Sense of psychological comfort outside the home	40 (48.8)
Sense of psychological comfort in isolation from the family	34 (41.5)
I can't talk to my father when I need him	38 (46.3)
I can't talk to my mother when I need her	24 (29.3)
I can't express my feelings	34 (41.5)

*More than one response applied to the same participant.

Table 6
Assessment of factors affecting participants' perception about drugs and drug abuse (n = 82).

Parameter	Perception score	
	Beta	P-value#
Gender		
oMales	Reference	0.999
oFemales	0.000	
Age (years)	-0.175	0.116
Nationality		
oSyrian	Reference	0.436
oOthers	0.087	
Education level		
oPrimary education or lower	Reference	0.606
oPreparatory education or higher	- 0.058	
Monthly income	-0.106	0.345

Using simple linear regression analysis

knowledge about the risks of drug abuse, they also admitted a positive perception towards drug abuse and denied their tendency for addiction. Such perceptions could result from the need to fulfill their physical and psychological desires. According to their experiences with these drugs, they agreed on the benefits and ignored the risks. Therefore, these findings highlight the need for deep awareness programs about the short and long terms consequences of addiction, as well as, a strict regulation by the policymakers and stakeholders to control these harmful phenomena, as this study revealed that most of the drug abusers could reach their products easily and mostly by promoters and drugs dealers. Realist rehabilitation programs must be well designed and implemented at the level of individuals, institutions and communities to face this problematic addiction disaster.

Several limitations were raised in this study. Firstly, this study was conducted using a self-administered questionnaire, which could affect the reliability of this study. The sample size was also relatively small because of the limitation in the data collection and inclusion criteria of this study. Future studies are required on a larger scale to look out for the study outcomes at a more representative level. Finally, the participating men were prominent in the study sample, which may contribute to gender bias that relatively affects the results' representees.

5. Conclusion

The findings of this study indicate the need for policymakers to give more attention to the main causes of addiction, understanding the influencing factors of addiction and develop an effective preventive strategy. As addicts of this study have reported the need for euphoric feelings as one of the major reasons for their abusive behavior, in addition to the seeking for happiness and comfort. This study highlights the need for deep awareness programs about the short and long terms consequences of addiction, as well as, strict regulation by the policymakers and stakeholders to control this harmful phenomenon, as this study revealed that most of drug abusers could reach their products easily and mostly by promoters and drugs dealers. Realist rehabilitation programs must be well designed and implemented at the level of individuals, institutions and communities to face this problematic addiction disaster.

The government, community leaders, local authorities, and religious institutions must work together to end or curtail the use of psychoactive substances and ban the indiscriminate manufacturing and distribution of psychoactive substances. Improving a victim's social and moral support and instilling positive behaviors can help them overcome this threat. Our findings can help Syrian policy-makers reframe the legalization of certain drugs, such as unscheduled benzodiazepines (e.g., lorazepam, diazepam).

Author contribution statement

Husam Abazid: Conceived and designed the experiments; Performed the experiments; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Muna Barakat: Performed the experiments; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Raja'a Al-Qudah: Performed the experiments; Wrote the paper.

Ahmad R. Alsayed: Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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Data availability statement

Data associated with this study has been deposited at "Applied Private Science University INSTITUTIONAL REVIEW BOARD (IRB)" under the accession number "Approval Number: 2021-PHA-12".

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