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Original Article

# Delinquent Adolescents' Substance Use during Stay in Juvenile Correctional and Rehabilitation Center

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**Abstract**

**Background:** Staying in Juvenile Correctional and Rehabilitation Centers (JCRCs) exposes adolescents to high levels of stress, potentially increasing the risk of substance use cravings and drug-seeking behaviors. Preventive programs should prioritize enhancing protective factors and mitigating risk factors. This research aimed to identify the risk and protective factors related to substance use among adolescents in JCRCs in Iran.

**Methods:** This study was a content analysis based on individual semi-structured, in-depth interviews with volunteer adolescents (aged 12–18 years) who had experienced JCRCs in Iran within the past 12 months. Snowball sampling was used to identify the participants. Open coding was initially conducted by reading transcripts. Then, similar codes were grouped and placed into categories. We ensured the utmost trustworthiness using constant comparison, member checks, peer debriefing, and revisiting the data multiple times.

**Findings:** Twenty-three eligible adolescents participated in the study. There was no substance use treatment protocol to treat adolescent substance users. Buprenorphine was the most accessed substance in JCRCs. Risk factors included peer substance use, substance offers during high-stress situations, stress, depression, hopelessness, slow passage of time, positive past substance use experiences, curiosity, poverty, financial problems, and myths about quitting. Protective factors included establishing rapport, providing counseling and social work services, engaging the adolescents in daily recreational activities, and assigning them responsibilities.

**Conclusion:** Shifting from punitive to supportive and preventive approaches within JCRCs by addressing peer influence, training staff in adolescent substance use treatment, and facilitating meaningful leisure activities could promote healthier behaviors among adolescents in these facilities.

**Keywords:** Juvenile correctional and rehabilitation center (JCRC), Adolescent, Substance use, Risk factors, Protective factors

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## Introduction

Iran has a long-term historical background of drug use. Before 2000, the use of stimulants (i.e., cocaine and amphetamines) was very uncommon in Iran. Methamphetamine entered Iran's market in the early 2000s, and after two decades, methamphetamine use is one of the most serious social concerns in Iran.[1] A systematic review showed that the most common drugs among adolescents in Iran were hallucinogens, sleeping pills and tranquilizers, hookah, opiates, and central nervous system stimulants. The overall prevalence estimates for cigarette smoking, alcohol use, and chewing tobacco/Pan/Nas among adolescents were 16.8%, 14.7%, and 10.0%, respectively. The risk of smoking, alcohol consumption, and drug use was considerably greater in boys than in girls.[2] The earlier a child or adolescent initiates alcohol and other drug use, the higher the risk for serious health consequences and substance use in adulthood.[3] Alcohol and other drug use in the adolescent population increases the risk for poor school performance, mental health problems, delinquency, and risky behaviors.[4-7] Delinquent adolescents may initiate drug and/or alcohol use before admission to Juvenile Correctional and Rehabilitation Centers (JCRCs). Juvenile justice-involved youth report high rates of illicit drug use,[8] and substance-related disorders are prevalent among youth placed in juvenile facilities.[9,10] Therefore, targeted interventions to address withdrawal symptoms and drug craving should be provided in JCRCs. Youth in secure juvenile justice settings (e.g., detention, incarceration) often suffer from complex trauma, lack of coping skills, and deficient social cognitive skills, which are strongly related to their drug use.[11,12] Thus, providing treatment for adolescent drug users in JCRCs should be a part of a comprehensive program that covers all main problems of juvenile delinquents. However, debate over

the effectiveness of correctional treatment has been raging for decades. It is criticized that correctional treatment interventions have little positive impact on recidivism, and many appear to exacerbate the problem.[13] JCRCs most of the time do not offer comprehensive services and may neglect drug use among this group of adolescents. In many cases, these services do not follow an international or national standard, and JCRCs may offer a variety of services or sometimes ignore the problem of drug use. For instance, some juvenile correctional centers offer a low level of pharmacological services to adolescents, while many of them are likely to have serious substance use issues.[14] Motivational interviewing, counseling, and drug-related education are offered in some centers, but these services are not consistently implemented across all juvenile correctional facilities. It may be assumed that drugs are not available in JCRCs and that adolescents will inevitably stop using them. However, drug use often co-occurs with other adolescent mental health issues, and ignoring it can reduce the effect of interventions.[9] Risk and protective factors that influence drug use among delinquent adolescents have been studied; however, most of these studies have focused on factors outside JCRCs.[15-18]

In this study, interviews were conducted with teenagers who had experience in correctional facilities in Iran, aiming to explore factors perceived as either risk factors or protective factors during their time in these facilities. Risk factors encompass negative influences that can heighten cravings and drug-seeking behaviors among adolescents in the JCRC community, ultimately increasing the likelihood of substance use or misuse of tranquilizers. Conversely, protective factors are positive influences that can improve adolescents' well-being and contribute to the safety of the JCRC community. These factors tend to diminish the likelihood of substance use cravings and drug-seeking behaviors, empowering adolescents to better counteract risk factors. Identifying both risk and protective factors aids in understanding why adolescents may turn to substance use within JCRCs. It is known that adolescents are significantly influenced by their peer group. Group living in JCRCs can intensify this influence. In this study, we explored how peer pressure affected delinquent adolescents with a history of drug use during their time in JCRCs. Although preventive programs may focus on enhancing protective factors and mitigating risk factors to effectively address substance use among adolescents, these factors have never been studied within the context of JCRCs in Iran. Thus, to the best of our knowledge, this is the first study to examine the underlying risk factors for drug use, as well as the protective factors that may help prevent substance use among adolescents in JCRCs in Iran.

## Methods

### *Study design*

We used content analysis to identify the risk and protective factors associated with substance use among delinquent adolescents in JCRCs. Individual semi-structured in-depth interviews with delinquent adolescents were employed for data collection. The interviews were transcribed and read several times. Then, the risk and protective factors were coded and categorized. This study was conducted between March and November 2022.

### *Participants and procedures*

Individual semi-structured in-depth interviews were employed with adolescents who experienced JCRCs in Iran within the past 2 years. Using the snowball sampling method, which facilitates the identification of additional individuals based on referrals from initial participants, we expanded our participant pool. Eligibility criteria included Iranian and Afghan adolescents aged 12–18 years with a minimum of one month's residency in any JCRC across Iran.

Access to juvenile delinquents is difficult due to the absence of regular and formal follow-up on their conditions after discharge from JCRCs. As a result, accurate information about this group of adolescents is lacking. Social workers and child welfare practitioners working with teenagers in social work clinics or child protection organizations referred four eligible participants to the researchers. Although some participants had avoided contact with other delinquent adolescents after their discharge from JCRCs, others remained in contact with similar adolescents and referred the researchers to additional eligible participants. Initial sampling began in Tehran, Mashhad, Shiraz, and Isfahan; however, the adolescents referred to the researchers were from various other cities, including Rasht, Shahryar, Karaj, Bojnord, and Shahr-e-Kord.

### *Data collection*

A social worker (PhD.) and a psychologist (M.A.) conducted semi-structured interviews for data collection. The interviewers were trained in qualitative research methods and the conduct of semi-structured interviews. They had over 15 years of experience working with delinquent teenagers. The interviewers were familiar with the characteristics of adolescence and how to communicate with teenagers. Moreover, they were trained in the ethical considerations of conducting research with adolescents and carefully followed codes of ethics throughout the data collection process.

The participants answered questions about substance use in JCRCs. Sample questions included: "How do you understand that a teenager in a JCRC has used drugs?", "If adolescents express a desire to withdraw, what support services are available to them? Could you describe the nature of these services, who administers them, and where they are provided?", "How do teenagers residing in JCRCs interact with those who use drugs?", "How do

staff members handle teenagers who are involved in drug use?", and "What factors within JCRCs could potentially influence teenagers to use drugs?" Each interview lasted between 60 and 90 minutes and was recorded using a smartphone.

The interviews were conducted at the place of residence of the participants or in organizations that provided services to juvenile delinquents. One interview was conducted online, and two were conducted via smartphone, as the participants were unwilling or unable to participate in face-to-face interviews. Professional confidentiality was ensured in the interview environment during all interviews.

### *Data analysis*

The interviews were meticulously recorded, transcribed verbatim, and subjected to thorough analysis using a content analysis approach.[19-22] We followed Corbin and Strauss's (2014) steps for data analysis.[20] Data analysis took place concurrently with the interviews to identify emerging ideas, which then guided subsequent interviews. Each interview underwent initial analysis before the next one, allowing any significant issues raised in earlier interviews to be addressed in subsequent sessions. We diligently immersed ourselves in the text to gain a comprehensive understanding of each interview's content. Transcriptions were cross-referenced with recorded digital files to ensure accuracy. Both researchers were involved in the open coding phase. All texts were read multiple times, and keywords, phrases, and factual details were noted. We continued data collection until saturation was reached for each concept, at which point further collection ceased to yield new insights. We started open coding by carefully reading each transcript. Any data that did not align with existing codes prompted the creation of new ones. In the following steps, similar codes were grouped and organized into categories.

### *Trustworthiness*

Various techniques were employed to ensure the highest trustworthiness of both data collection and analysis, including constant comparison, member checks, and peer debriefing. Throughout the analysis process, the authors revisited the data multiple times to confirm and refine categories, adhering to the principles of constant comparison.

### *Ethical consideration*

Participation in this study was strictly confidential, anonymous, and entirely voluntary. Prior to involvement, all participants received detailed oral explanations regarding the research's objectives and their unequivocal right to withdraw at any stage. Oral consent was obtained from parents for the inclusion of their teenagers, while explicit permission for interview recordings was sought from the participants. Additionally, the participants were reassured about the confidentiality of their contributions. We confirmed that the participants understood their rights through a member check.

In an interview, we discovered that one interviewee and his mother were in very poor economic conditions and had difficulty meeting basic needs. After the interview, we referred them to the Support and Empowerment Office of the Ministry of Cooperation, Labor, and Social Welfare to receive appropriate support. We followed up to ensure that they received the support.

## Results

Twenty-three eligible adolescents participated in this study. The average duration of stay in JCRCs was 13.4 months. Table 1 provides more details about the participants' characteristics. According to Iran's new criminal procedure law (approved in 2014 and enacted in June 2015), alternative sentencing is considered for juvenile delinquents. As a result, adolescents who have committed serious crimes (such as murder and kidnapping) are referred to correctional centers. Afghan juvenile delinquents living in Iran are also referred to correctional centers. Some of them were staying illegally in Iran, and their guardians and families were not present. As a result, the processing of their cases took longer, and they stayed in JCRCs for an extended period.

The participants reported that substance use screening was conducted during admission to JCRCs. In addition to tranquilizers, the adolescents also had access to some illegal substances. Risk factors that made the adolescents more likely to use substances included peer pressure, high levels of stress, depression and hopelessness, unstructured free time in JCRCs, adolescent curiosity, poverty and economic problems, and myths about quitting substance use. On the other hand, they believed that if JCRC staff established good relationships with them, involved them in more activities, and assigned them responsibilities, the likelihood of substance use at the center would decrease.

### *Substance use screening*

Some adolescents admitted to JCRCs had prior experience with substance use or may be dependent on drugs. Upon arrival, they were seen by a physician, who asked questions such as, 'Do you use substances?' If the answer is yes, the physician prescribes sedatives for the adolescent. These medications cause the adolescent to spend long hours sleeping. All adolescents spent some time in quarantine immediately after admission, and concealing substance dependence during this period is not possible. If an adolescent denies substance use during the physician's visit, withdrawal symptoms will emerge during the quarantine period. The staff then reports the observed signs to the physician, who prescribes the necessary medications. For example, participant No. G1-

**Table 1.** Demographic Characteristics of the Participants

| Code | Age | Conviction | Duration of Staying in JCRC (Months) | EDU (Years) | Nationality |
|---|---|---|---|---|---|
| P1 | 22 | Murder | 36 | 9 | Iranian |
| P2 | 21 | Murder | 24 | 9 | Afghan |
| P3 | 20 | Drug dealing and theft | 3 | 12 | Iranian |
| P4 | 28 | Murder | 12 | 11 | Iranian |
| P5 | 21 | Kidnapping | 36 | 5 | Iranian |
| P6 | 24 | Murder | 74 | 12 | Iranian |
| P7 | 19 | Infliction of serious bodily injury | 6 | 5 | Iranian |
| P8 | 28 | Drug dealing and theft | 18 | 9 | Iranian |
| P9 | 16 | Theft | 8 | 0 | Iranian |
| P10 | 17 | Murder | 7 | 6 | Afghan |
| P11 | 14 | Murder | 5 | 5 | Iranian |
| P12 | 16 | Sexual Assault | 8 | 0 | Afghan |
| P13 | 17 | Murder | 12 | 0 | Afghan |
| P14 | 18 | Theft | 11 | 10 | Iranian |
| P15 | 17 | Murder | 10 | 11 | Afghan |
| P16 | 16 | Murder | 31 | 4 | Afghan |
| P17 | 17 | Drug dealing and theft | 9 | 8 | Iranian |
| P18 | 16 | Theft | 3 | 0 | Iranian |
| P19 | 18 | Murder | 6 | 9 | Afghan |
| P20 | 18 | Murder | 10 | 7 | Afghan |
| P21 | 18 | Murder | 12 | 3 | Iranian |
| P22 | 19 | Murder | 7 | 9 | Iranian |
| P23 | 18 | Murder | 4 | 10 | Iranian |

2, who was dependent on substances before admission to a JCRC, said:

*When I arrived, they took me to the doctor. I was feeling very bad. I couldn't move at all when I came to JCRC. They quickly took me to the care unit. They prescribed heavy medication for me, and then I went into quarantine. At night, the medication came, I took it, and I slept until the next afternoon…*

Self-reporting, caregiver reports, and peer reports were the primary mechanisms for identifying adolescent substance users.

***Substance use treatment plan in JCRC***

There is no specific protocol for treating substance use in JCRCs. The prescription of sedative medications is the primary intervention for treating substance-using adolescents. Periodic meetings with psychiatrists also take place in some JCRCs. Every day, at a specified time according to the JCRC physician's order, a staff member responsible for drug distribution visits the quarantine or cells and provides the adolescent with the prescribed dose of medication for that day. Sedative drugs are sometimes used as substitutes for substances by adolescents. Considering that these drugs can also lead to dependency, the participants emphasized that these drugs could become problematic over time because individuals cannot stop using them and eventually become dependent.

Participant No. 1:

*Psychiatric drugs for treatment are not sufficient. Most of the pills just make you sleepy. For example, the pill they gave, sometimes I felt bad, the doctor would write it down saying you have to take it. After a while, taking it felt like an addiction. If you didn't take it, you would feel bad. You would develop an addiction to it. The medication didn't have symptoms like drugs. But the medication they gave caused excessive weight gain, excessive sleep. For example, during the day, he might sleep for 12 hours. He couldn't wake up; he was just asleep. Most of the pills made you sleepy. They also had sedatives, but mostly they made you sleepy. After taking them for a while, you were just asleep, then you woke up feeling unwell. You only felt sleepy and tired…*

JCRC caregivers try to communicate in a friendly manner with adolescent substance users and motivate them to request professional support and stop using drugs. Receiving counseling and social work services in JCRCs is voluntary. However, there is little motivation for counseling in JCRCs. The participants provided various reasons for not seeking counseling, including a lack of patience or a reluctance to have someone dictate to them.

Narcotics Anonymous (NA) meetings are held in JCRCs based on a mutual agreement between NA and the prison organization. However, the adolescents stated that these meetings were not held regularly, and some meetings were suspended for several months. Even when meetings were held, the number of participants was very low. The participants believed that those who were familiar with the 12-step program before entering JCRCs also attended NA meetings during their stay, but those who were not familiar with the program did not attend the meetings.

Participant No. 1:

*NA meetings were held in the prayer room. Sometimes I went and listened to it sounded like a heart-to-heart conversation, where you could talk to someone and become somewhat like a close friend. They would stand there and announce their turn, then if anyone had something to say, they would speak up. The good thing about NA meetings is that if someone had something to say but couldn't speak up, they could comfortably express themselves there. Not many of the teens attended NA meetings. Maybe only 6-7 people from the entire JCRC would go… Someone who had previous substance use and knew what NA was about would attend, but someone who didn't know what NA was about didn't care.*

***Drug use in JCRC***

The most consumed substance in JCRCs is B2. This substance is accessible in the form of tablets. The participants were unaware of what 'B2' stood for or what the full name of this substance was. B2 stands for a medication known as Buprenorphine.

Although B2 is used more than any other substance in JCRCs, other drugs or substances may also be accessible in these centers and used in certain cases. For example, Morphine, Methadone, Tramadol, Cannabis, and Marijuana are sometimes brought into JCRCs.

Participant No. 2:

*In the center [JCRC], where only morphine, B2, tramadol, and their syrups, for example, these were what I could openly see, maybe ... I didn't see their bottles; in the year I was there, for example, once or twice, something like that came, maybe once or twice something like that came, nothing else came except those, just chemicals, but well, I know morphine openly.*

Participant No. 14:

*Sometimes they [adolescents] bring Cannabis, Tramadol or Methadone tablets but B2 is more common... There's no cigarette in JCRC. Nobody brings cigarettes. Cigarettes are too big; they can't sneak them in. B2 is smaller, so it's easier to bring in.*

When the participants were asked how these substances were brought into JCRCs, they revealed that a lack of thorough inspections was a key factor in allowing substances to enter these centers. According to the participants, JCRC staff were not involved in bringing substances into the centers; however, adolescents, their families, and occasionally soldiers were identified as sources.

Adolescents bring substances into the centers when returning from court appearances or periods of leave. They may conceal substances in nylon packaging and swallow them so that, upon returning to JCRCs and undergoing a physical inspection, the entry of substances remains undetectable. After some time inside JCRCs, the swallowed packages are expelled. Families of resident teenagers are also sometimes responsible for bringing substances into JCRCs, particularly when inspections are not thorough. Resident adolescents may ask soldiers to bring substances for them. In such cases, adolescents' families or friends may pay soldiers outside JCRCs. This is despite the fact that adolescents, their families, and soldiers are aware that bringing and dealing drugs entails punishments for those involved.

After substances enter a JCRC, a teenager who is either a seller or a user hides them. Then, they gradually sell the substances to other teenagers in the JCRC or consume them themselves. Newly arrived teenagers can quickly identify the sellers by asking others. In some cases, the seller approaches the newcomers and suggests substance use to them. The seller may initially provide the substances to the teenager for free several times. Once the teenager becomes dependent on the substance, the seller then asks for money.

After the quarantine period, when the adolescents are staying in the cells, obtaining substances becomes relatively easy. The interested adolescent can simply identify substance distributors by asking peers and approaching them. If they have enough money to purchase substances or are willing to perform daily tasks for others in exchange for money, acquiring substances poses no significant challenge in JCRCs. Teenagers seeking substances turn to their families, friends, and relatives, requesting money transfers from outside JCRCs. In fact, the money for purchasing substances is deposited into the seller's account outside JCRCs. Sometimes, the family, friends, or relatives of a teenager may be unaware that the money they deposit into an individual's account is being used to purchase substances. The teenager may have provided a false explanation, such as claiming that his friend's mother would bring him warm clothes and that the money was intended for that purpose.

Participant No. 21:

*When you need drugs, you knock on every door. For instance, if your father isn't available, your mother, your aunt, your relatives, your friends, etc. For instance, I'm saying we want to produce handmade dolls and I need materials which must be brought from outside the JCRC... They don't understand that it's B2 here. Then*

*they will pay for it and don't know that this payment if for B2… You can't just sit still at all; you have to call this one and that one, figure out the money…*

***Drug use risk factors in JCRC***

*Peers and substance use*

Peers were the primary and most powerful influencers of substance use in JCRCs. They may offer substance use as a mechanism for feeling less stressed: 'Take these for free, let time pass,' but after a while, when the adolescent becomes dependent, they will be asked to pay money for the substance.

The interaction of peers with substance-using adolescents is largely dependent on their attitudes toward substance use and their previous experiences with it. Peers who have a positive attitude toward substance use or are substance users themselves encourage and praise substance use, portraying it as a success for the consuming adolescent. In contrast, peers who have a negative attitude toward substance use and do not use substances themselves do not endorse this behavior, refrain from associating with the substance-using adolescent, and do not accept them into their groups.

Some adolescents with no prior history of substance use before admission to JCRCs may initiate use for the first time due to peer influence. During times when adolescents experience more psychological pressure, they may face more offers for substance use from their peers. Peers may argue that with substance use (e.g., B2), time passes, and the mind becomes calm and peaceful. Validation of substance use by peer groups can be encouraging for adolescents. Conversely, peers who do not use substances can also be a significant deterrent to non-substance use. For instance, Participant G1-2 reported:

*I used to use B2. There was a boy that I liked to spend my time with him, but he said "Don't come near me. You're addicted to B2". But when I stopped, he accepted me as a friend…*

Adolescents who do not use substances avoid socializing with substance-using peers. They are unwilling to be exposed to the unpredictable behavior of substance-using individuals, and socializing with them may lead to negative labeling, harming their reputation among peers.

***Feeling stress, depression and hopelessness***

Adolescents who have committed more serious delinquencies (such as murder, participation in homicide, or kidnapping) are at a greater risk of engaging in substance use. This is likely due to their longer stay in JCRCs, which results in lengthier legal proceedings, longer sentences, harsher penalties, and a sense of hopelessness about being pardoned or supported by others—all of which significantly increase psychological pressure on the adolescent. The lack of essential coping skills to manage psychological pressure, combined with the absence of professional services, may drive adolescents in such situations toward substance use. They turn to substance use as a temporary escape from their worries and feelings of hopelessness

The adolescents cited psychological pressure and emotional distress as primary reasons for initiating and continuing substance use. The absence of coping skills and problem-solving abilities appears to contribute to their reliance on substances when faced with difficult situations.

Receiving bad news from outside JCRCs was identified as a risk factor that increased emotional distress among the adolescents. Family members were often the primary source of such news. When adolescents receive distressing news and feel overwhelmed, they may view substance use as a way to escape the resulting psychological pressure. In some cases, families have no alternative but to inform adolescents of distressing news. For example, when families encountered difficulties while pursuing legal proceedings or seeking redress outside JCRCs, it became necessary to inform the adolescent. Since the adolescent believes he cannot solve the problem in this situation, he seeks immediate and accessible relief. Substance use becomes the most accessible option for him. An important point raised by one participant was that, in many cases, adolescents receive distressing news, especially news related to legal proceedings, in the mornings. That is when families visit the judicial system to follow up on legal matters.

Participant No. 14:

*For example, you call your family, something sad has happened that is bothering you. You say: "Let me take medicine to calm down."*

Participant No. 3:

*Some of the consumption occurred mostly in the mornings. For instance, if someone's mother or father went to court and received bad news, such as delayed freedom or an adverse outcome, they would go and sit down to consume substances... They were under pressure, they would quickly sit down to ease their minds, to ease their thoughts, and such… Many would go to clubs as I mentioned, but because the club wasn't always available, it was just for an hour, from 2 PM to 5 PM. One, for example, received bad news at 10 AM, perhaps at that time, he wanted to do something to free his mind eventually, and that's why he went to consume…*

Limiting access to the club, according to this participant, is a factor that pushes adolescents toward substance use.

When asked whether it was preferable for their families to share news from outside JCRCs, the adolescents expressed varying opinions. Some believed that they should not be informed of bad news, while others thought it was necessary. One participant's argument regarding this matter is provided below:

Participant No. 7:

*The brother of one my roommates in JCRC passed away. They [his roommate's family] should tell him. They couldn't say he should go out and find out, it would make his nerves worse... If they didn't tell him and he found out when he went out, he might do something again and come back to JCRC...*

Sometimes receiving good news from outside JCRCs causes adolescents to feel deprived. In addition to the fact that receiving bad news can arouse negative emotions in adolescents, sometimes receiving good news can also lead to negative emotions. For example, when families inform adolescents that a wedding ceremony has taken place, the adolescent may feel disappointed that they cannot attend the ceremony. Feeling deprived in such situations increases psychological pressure on the adolescent, who lacks the necessary skills to manage their emotions and may turn to substance use.

Lengthy legal proceedings significantly increase psychological pressure on juveniles in JCRCs. They cannot predict the court's verdict, and sometimes their peers provide them with very negative speculations about the potential court decision. The anxiety of juveniles increases in such situations, and if they are faced with an offer to use substances, they are likely to accept the offer.

Adolescents who are not visited and are not supported by their families are more at risk of stress and feelings of hopelessness.

***Time passes slowly in the JCRC***

Many interviewees emphasized that time seemed to pass very slowly during their stay in JCRCs. A significant part of JCRC programs takes place in the first half of the day. Various vocational workshops, literacy classes, and Quranic studies are among these activities. The club is one of the recreational activities available to resident adolescents in JCRCs and operates in the afternoons. Participation in the club is voluntary, and there is no program after the club. Some adolescents spend their free time knitting dolls and earn income from selling them, but this activity appeals to only a small number of adolescents. Watching television and chatting with others are two other forms of entertainment for adolescents during their free time.

Extended free time during weekends is very stressful for adolescents residing in JCRCs. As mentioned above, many adolescents have free afternoons and spend their time without a specific, meaningful plan. The situation becomes even more challenging on weekends because both the club and workshops are closed, increasing pressure on adolescents during their days off.

Participant No 13:

*Loneliness... Time doesn't pass within these four walls. When you use substance, you're not in a normal state; you don't understand.*

Participant No 22:

*I was in JCRC for eleven months… I just tried to make the time pass a bit faster, for example, by taking medicine; a couple of hours pass, but then you do something, and you calm down a bit.*

***The pleasant previous experience of substance use***

If a juvenile has had a positive prior experience with substance use, he may be more inclined to use substances while in a JCRC. The desire to experience the pleasurable sensation associated with substance use often drives juveniles to employ various means to obtain substances. Participant No. 4 believed that *"If they were a user outside, they'll remain a user inside [the JCRC]. Because they enjoyed using drugs outside [JCRC]…"*

***Curiosity***

Curiosity is sometimes a contributing factor to adolescents' initial substance use in JCRCs, as some are eager to try it out.

Participant No. 2:

*Many simply wanted to experiment and see how it feels. After trying it out, some enjoyed it and continued, while others didn't like it or couldn't afford it. For example, they couldn't bring it in but, for some, it became a regular occurrence… once or twice a week…*

***Poverty and financial problems***

Some adolescents become involved in drug dealing to cover their own expenses as well as those of their families. The risk of substance use among this group is very high. Adolescents' concerns about supporting their families and their families' inability to cover their expenses during their stay in JCRCs can be significant factors in their inclination toward drug dealing and substance use.

Participant No. 23:

*There were some boys who were worried about their poor families who could not cover their expenses while the boy was in the JCRC. I remember a boy who sold substances to support his poor family. The money was paid to his mother outside of the JCRC… His mother knew how her son was making money. She knew that her son was selling drugs… but she had no solution…*

***Myths about quitting substance use***

Some adolescents fear quitting substance use, believing they may not be able to cope with life without it and may not survive. On the other hand, some believe they can stop using substances whenever they want. These false beliefs are reinforced by peers and ultimately lead to a lower inclination among teenagers to quit substance use.

***Drug use protective factors in JCRC***

Protective factors are influences that can protect adolescents against the temptation of substance use,

support them in managing cravings, assist in cessation if use has begun, and encourage re-engagement with treatment and recovery in the event of relapse. As indicated by the participants in this study, certain situations, as well as the behaviors of some staff members and peers within JCRCs, can function as protective factors for resident adolescents.

***Stablishing a rapport and offering counseling and social work services***

The staff's approach to drug-using teenagers varied. According to the participants, the physician and psychiatrist considered substance use as a part of the issues faced by JCRC residents and prescribed medications to help the teenagers. The absence of condemnation from prominent staff members and their indifferent behavior toward drug-using teenagers were identified as influential factors. Although physical punishment for substance use was not reported, the adolescents were sometimes subjected to one-day isolation. Adolescents cannot seek help from the social work and psychological support team unless they are able to establish a trusting relationship with them. This is why establishing rapport with adolescents is of paramount importance. In this context, adolescents are more likely to seek professional help from social workers and psychologists, which can decrease the risk of substance abuse.

Participant No. 2:

*There was no physical punishment, not at all. But when the caregivers realized that someone used drugs, their behaviors towards him were no longer as friendly as before. The teenagers really liked that caregiver, so it was very important to them that he paid attention to them, talked to them, chatted with them, and they enjoyed spending time with him. But when they did this [used drugs], the caregiver showed them through his behavior that he was not pleased with their actions…*

***Engaging in daily recreational activities***

The participants emphasized that engaging in daily recreational and meaningful activities, especially on holidays when adolescents do not attend workshops and spend long hours in their rooms, is an important protective factor.

Participant No. 2:

*We used to go to the center's courtyard, it was lush green, we would sit, some would play, some would just enjoy the fresh air, walking around, that's it. Our mood would change... You know, time would fly by, right?! For example, we would go out to the courtyard, and suddenly two hours would pass, we would play for two hours, time would pass, we would get tired, we would sleep, nobody would think about substances, just think, if you're alone in a room, in a house, the TV gets boring, it's just news, a documentary, then newcomers, they don't have many friends, they get bored, they just say let's use, it helps, finally, they feel different from the normal state...*

***Giving responsibility to adolescents***

Giving responsibilities to adolescents and involving them in daily activities in JCRCs is a protective factor. However, as some participants pointed out, delegating responsibilities is usually applied to adolescents who are not substance users and have a long history of residence.

Participant No.8:

*For example, I spent months in JCRC, then they [JCRC staff] used to give me some responsibilities. They gave responsibilities mostly to those who were healthy, who weren't into anything, but I think it would have been better to involve newcomers as well…*

**Discussion**

This study was a content analysis, and 23 juvenile delinquent boys from different cities in Iran participated in semi-structured interviews, answering questions about the substance use risk and protective factors in JCRCs. The participants reported that illicit drugs are available in some JCRCs. Substances may enter a JCRC through various means, including adolescents ingesting or swallowing them before returning from leave, soldiers bringing them in, or family members introducing them during their visits.

Substance use is screened during admission to JCRCs, and the prescription of tranquilizers for treating adolescents' substance use is common. The participants highlighted peer pressure, high levels of stress, depression and hopelessness, unstructured free time in a JCRC, adolescent curiosity, poverty and economic problems, and myths about quitting substance use as risk factors. They also believed that staff building rapport with adolescents, involving them in meaningful activities in JCRCs, and assigning them responsibilities are protective factors.

The problem of substance use is more pronounced among adolescents in contact with the juvenile justice system. Although juvenile delinquent substance use has been studied in several research papers, most of these studies have focused on factors outside of JCRCs.[15-18] This study is the first to focus on juvenile substance use experiences inside JCRCs in Iran. We found that some delinquent adolescents have a history of drug use before their admission to JCRCs, and therefore, during prosecution and the initial days of their stay, they need professional support to manage withdrawal. The importance of addressing adolescent drug use when they first come into contact with the judicial system and during prosecution has been emphasized to intervene more effectively in the substance abuse-delinquency cycle.[23-24] According to the JCRC guidelines in Iran,

substance use should be screened during admission, so physicians may ask simple questions such as, 'Do you use drugs?' and explain why it is important for the adolescent to answer honestly. The physician should also clarify that if the adolescent discloses substance use, support will be available and they will not face additional prosecution. Many adolescents fear the consequences of quitting drug use. Providing clear information about available support services and strategies to manage withdrawal symptoms can help reduce adolescents' concerns.

Typically, screening for substance use is implemented among newcomers in JCRCs. When adolescent substance users are under high-stress conditions, they are more susceptible to experiencing cravings. The environment of a correctional facility, coupled with the judicial process and uncertainties about the future, can significantly elevate a teenager's stress levels, potentially exacerbating cravings. Cravings often prompt drug-seeking behaviors. If substances or tranquilizers are accessible within a JCRC, teenagers are likely to attempt repeated access and consumption.

If an adolescent is a substance user, a JCRC physician or psychiatrist prescribes tranquilizers, and the use of these drugs may continue after transitioning from quarantine to the dormitory. The administration of tranquilizers is supervised by JCRC staff members. Tranquilizer prescription is the most important addiction treatment method in JCRCs. Adolescents reported that using these medicines could become a secondary addiction and cause long-term problems for them. Motivational interventions and counseling for substance use treatment are less common in JCRCs. In some JCRCs, NA holds meetings, but only a small number of adolescents participate.

The physicians attempted to treat the adolescents' drug dependencies by prescribing medication, while non-medical interventions were ignored in JCRCs in Iran. Providing services for adolescents who have used drugs requires qualified professional staff with sufficient knowledge and skills in the field of treating drug-using teenagers. These interventions should be delivered according to guidelines that clarify the interventions and roles of the professional team in JCRCs. Wiblishauser et al reported that the most cited perceived barrier to providing services in juvenile justice facilities in the United States was the lack of qualified staff.[14]

There is limited data regarding the efficacy of pharmacotherapy in treating adolescent drug use.[25] Although there has been some promise in naltrexone for alcohol use,[26-28] N-acetylcysteine for cannabis use,[29] and bupropion for nicotine use,[30] Wiblishauser et al reported the low level of pharmacological services offered to incarcerated youth, many of whom were likely to have serious substance use issues.[14] The limited scientific evidence on the effectiveness of pharmacotherapy may be the reason for not focusing on pharmacological services in these centers. The Ministry of Health, Treatment, and Medical Education developed the diagnostic and treatment protocol for opioid dependence in children and adolescents, but it is not applied in JCRCs in Iran.[31]

The participants reported no family counseling or services for juvenile offender substance users in JCRCs. Some other studies similarly reported the low prevalence of such interventions for the families of this group of adolescents.[14] According to the participants in this study, individual counseling was more accessible to adolescents upon request in JCRCs. Wiblishauser et al discussed that cognitive behavioral therapy was the main approach applied in individual counseling, and they emphasized that, considering the association between anger, stress, substance use, and crime, some facilities did not invest time in addressing anger management and stress management in their substance use curricula.[14]

Adolescents in JCRCs may have access to substances, and some of them initiate substance use within JCRCs. According to the participants' reports, Buprenorphine is the most accessible substance, although other drugs are occasionally brought in but are less abundant. Substances may enter a JCRC through various means, including adolescents ingesting or swallowing them before returning from leave, soldiers bringing them in, and family members introducing them during visits to JCRCs. Adolescents purchase substances from their peers within a JCRC. As there is no private space in a JCRC, other adolescents may observe drug use and identify substance use through physical signs such as red eyes, irritability, talkativeness, or increased sleepiness. The distribution and use of substances in JCRCs may result in punishments. The most important punitive measure is individual isolation, which, however, is not effective from the adolescents' perspective.

As anticipated and consistent with the findings of previous studies, this study confirmed that peer influence is a key factor in both the initiation and continuation of drug use.[32-34] Substance use usually begins with peer suggestions within JCRCs and continues with their approval. Interacting with substance-using peers increases the risk of substance use. JCRC staff members generally do not exhibit inappropriate behavior toward substance-using adolescents. They try to encourage adolescents to quit substance use but mostly rely on advice in this regard. Friendly staff behavior, engaging daily activities, assigning responsibilities to adolescents, and the availability of counseling and social work services are among the protective factors within the centers. Facilities provided in the centers for education (literacy, vocational training, and Quranic education) and sports are also considered important protective factors for adolescents. On the other hand, several risk factors were identified within the centers, including pleasant past experiences with substance use, committing serious crimes, feelings

of hopelessness, curiosity about substances, psychological pressure, receiving both bad and good news from outside the centers, feelings of deprivation, a general tendency toward substance use, young age, depression, witnessing cigarette or substance use in the centers, prolonged stays, delays in legal proceedings, financial difficulties, fear of illness, attempts to stay awake, the winter season, and—most notably—long periods of unstructured free time.

Sometimes, families unknowingly facilitate substance acquisition and use by adolescents during their stay in a center by providing financial support and increasing psychological pressure, particularly by delivering bad news. This can also happen when families do not follow up on the legal process or provide emotional support. Family unawareness of the signs of substance use and the appropriate ways to respond to substance-using adolescents can be a significant risk factor that hinders the treatment process.

One of the most important recommendations for improving services to resident adolescents, particularly those using substances, was shifting the center's approach from punitive to supportive and empowering. At the same time, training center staff in the treatment methods for substance-using adolescents is crucial. JCRC facilities should be used more effectively to reduce the significant challenge of unemployment and long free times in centers (e.g., longer club activities, greater diversity of vocational workshops). Additionally, empowering adolescents should be considered an essential process that requires the involvement not only of correctional organizations but also of other governmental and non-governmental entities. Closing the center's doors to external organizations and volunteers may seriously reduce the quality and quantity of services provided.

There is insufficient evidence for the treatment of juvenile justice-involved children and adolescent drug and alcohol users. Most guidelines for the treatment of children and adolescent substance users do not provide specific interventions for those in correctional facilities. Some guidelines, however, offer general recommendations that can be adapted to this context.

Interventions for delinquent children and adolescents should be strengths-based, socio-culturally modified, individualized, multi-level, gender-responsive, integrated, multidimensional, and community-based. Medication for children and adolescent substance users is not the primary option. It is important to note that scientific literature emphasizes the need for a comprehensive intervention for this group of children. Several risk factors threaten the well-being of delinquent children and adolescents. In addition to receiving these comprehensive services at the correctional center, they should also be supported after discharge. The comprehensive plan should include specific interventions to reduce risk factors and reinforce protective factors. Adolescents' participation could be an important protective factor in JCRCs. UNICEF (2020) defines participation as the individual and/or collective formation and expression of views to influence matters that concern adolescents directly and indirectly. Their participation is possible when there is a platform for dialogue, contribution, and partnership.[35] The guidelines should include policies and suggestions for encouraging adolescents' participation. Bringing adolescents together through clubs and small groups may facilitate their participation. JCRCs should promote adolescents' involvement in accountability and decision-making mechanisms, including issues that pertain to health, entertainment, and education. In this regard, their skills need to be improved to form and voice their opinions. The policies should include opportunities for adolescents' involvement in creating solutions for some problems inside their community in JCRCs.

Bälter et al believe that meaningful leisure time positively impacts adolescents' mental health through social relations, support, and guidance. Leisure is believed to have spillover effects on reducing stress.[36] Organizing meaningful activities for leisure time in JCRCs will have positive effects on adolescents' healthy behaviors. The need for activities and treatments that are meaningful, goal-driven, and rewarding has been emphasized in other studies.[37,38] Engaging in sports and physical activities such as basketball, soccer, or swimming promotes physical fitness, teamwork, and stress relief. Globally, 80% of adolescents are insufficiently active, and many adolescents engage in 2 hours or more of daily recreational screen time. Adolescent physical inactivity likely contributes to key global health problems, including cardiometabolic and mental health disorders.[39] Creative hobbies like painting, writing, playing a musical instrument, or crafting can be both relaxing and mentally stimulating. Opportunities for volunteer activities in JCRCs, such as working at a soup kitchen or participating in clean-up efforts, provide a sense of purpose and fulfillment for adolescents. Additionally, learning and education, like taking classes or workshops in subjects of interest, whether it is language learning, cooking, photography, or gardening, can expand knowledge and skills while providing enjoyment for adolescents. Social activities such as having a game night, hosting a dinner party inside JCRCs with adolescent participation, organizing concerts inside JCRCs, inviting guests from outside JCRCs (if possible), watching movies, and holding open discussions about adolescents' topics of interest can promote their social relationship skills. Reading books, listening to podcasts, or watching documentaries on topics of interest can be both entertaining and intellectually stimulating. Practicing mindfulness techniques, yoga, or meditation will promote relaxation, reduce adolescents' stress, and enhance their overall well-being. According to the participants, almost every afternoon and weekend, they

had no options to engage in, which led them to use drugs. It is essential to ensure that adolescents in JCRCs have opportunities to engage in meaningful leisure time during high-risk hours (especially afternoons and weekends). Offering such programs only during official hours increases the risk of substance use in JCRCs. It should also be considered that even if substances are not accessible in JCRCs, adolescents may turn to the use of tranquilizing medications prescribed by the JCRC physician or psychiatrist for stress reduction and become dependent on them.

## Limitations

The results of our study should be interpreted with some potential limitations in mind. All participants in this research were delinquent boys. In general, the number of female adolescents in JCRCs in Iran is much lower than that of boys, and sometimes their number may be less than five at any given time in a JCRC. Meanwhile, correctional centers for boys are usually more numerous, and living with a large number of other juvenile delinquents in a JCRC creates different conditions for boys. Therefore, the findings of this research do not reflect the views of delinquent girls. Although efforts were made to ensure diversity among the participants in terms of their city of residence, the sample size was small due to the qualitative nature of the research. We achieved information saturation with this sample size, but the small sample size may affect the generalizability of the findings.

Drug use is still considered a negative behavior in Iranian society. The interviewers made efforts to reassure the participants that they were not being judged for their drug use, but some participants may have refrained from sharing certain experiences due to concerns about how the interviewer might evaluate or judge them. As a result, the findings may be influenced by socially desirable responses and recall bias among the participants.

## Future studies

Future studies could consider larger samples of boys and girls in JCRCs in Iran. We strongly recommend conducting experimental research to evaluate interventions aimed at reducing risk factors and enhancing protective factors within JCRCs.

## Conclusion

The adolescents who participated in this research reported that, in some correctional centers, teenagers had access to drugs. When drugs are not available, sedatives prescribed by the JCRC physician are often used as substitutes. In the absence of structured programs that include meaningful activities and appropriate treatments, peer pressure may lead adolescents to initiate substance use within a JCRC, or, for those who used drugs prior to admission, to continue using. Concerns about judicial decisions and emotional reactions to news, whether positive or negative, can intensify feelings of deprivation and increase cravings for drug use. A positive attitude toward drug use, especially the belief that it can alleviate stress, raises the likelihood of drug or sedative use within a JCRC. One of the key risk factors identified was long periods of unscheduled free time, particularly in the afternoons and on holidays, during which the adolescents reported being more preoccupied with thoughts of drug use.

Protective factors identified in this study included effective communication between staff and adolescents, assigning responsibilities to adolescents, friendships with peers who avoided drug use or held negative attitudes toward it, and participation in meaningful hobbies. These risk and protective factors should be taken into account when engaging with adolescents and designing daily schedules in JCRCs.

Although scientific evidence does not support pharmacological treatment as the sole intervention for adolescent substance use, the primary approach in Iranian correctional centers was the prescription of sedatives. Most adolescents did not receive motivational interventions, counseling, or educational programs related to substance use.

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**Competing Interests**

The authors have no conflicts of interest.

**Data Availability**

The data used in this research is confidential and cannot be shared by the authors.

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