



Role of Substance Abuse Treatment Centers in Addiction Recurrence

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Abstract

Background: Recurrence or relapse to drug abuse is a socioeconomic problem in communities. There are clear and hidden factors in addiction relapse.

Objectives: Therefore, the purpose of the study was to determine the role of some factors in Substance Abuse Treatment Centers (SATCs) on relapse to addiction in Iran.

Patients and Methods: A qualitative study was carried out with an interpretational approach in Iran in 2017. The study area was Sistan and Baluchestan province located in the Southeast of Iran, where it is a transit route for drug smuggling. We selected 22 patients, who had the experience of relapse, by a purposive sampling method. Data were collected using semi-structured questionnaires and individual interviews that were recorded and transcribed. A content analysis method was used to analyze the data.

Results: There were 20 (91%) male patients and about 27% of the patients were unemployed. Approximately, 68% (n = 15) of patients had drug quitting experience for one to five times. Five themes emerged as reasons for addiction recurrence including inadequate supervision on the SATCs, managers and personnel's inappropriate behaviors, inadequate meetings at SATCs, and overstaying in these centers.

Conclusions: In total, SATCs may have some negative effects in the treatment and recovery of patients. Therefore, more careful and constant supervision is recommended for these centers.

Keywords: Substance-Related Disorders, Substance Abuse Treatment Centers, Recurrence, Iran

1. Background

Nowadays, drug addiction has become one of the most important social problems with worrying dimensions worldwide (1-4). As studies show, about 300 million people are suffering from drug addiction globally and it causes more than 200,000 deaths and an additional 10 million disabilities annually (5). Many countries including Iran, located in the EMRO region, are facing some serious problems with opiate dependency such that the rate of drug addiction has extremely increased as a mental, biological, and social problem during the last decades. Accordingly, the number of drug addicts has increased from two million persons in 1997 to about three million persons in 2011, while unofficial figures suggest six million drug addicts for the same year in Iran (1).

It has been known for many years that there is a high risk of recurrence or relapse after treatment and rehabilitation of drug abuse (6). Opioid drugs create great physical and mental dependency; therefore, a large percentage of relapses occur among drug addicts after detoxifica-

tion treatment. For a long time, the high rate of return to addiction has been influenced by the effectiveness of non-pharmaceutical approaches all over the world. In this regard, a study showed that the relapse rate within the first year is usually between 80% and 95% (7). Also, the findings of another study demonstrated that about 80% of drug addicts re-consume in the first six months after quitting (8). Drug addicts mostly fall into the vicious cycle of "drug-taking-detoxification-relapse-effort-quit", constituting a worldwide problem in current anti-drug programs (9, 10).

Different factors can affect the return of addiction, including psychological dependence on drugs, lack of social and family support, socioeconomic risk factors, morbid psychology like personality and mood disorders, and some demographic variables (10). In a study conducted by Shafiei et al. (11), the time spent with others and the unfavorable feelings were the most important reasons for the recurrence of drug abuse.

As indicated above, drug addiction is one of the social problems in Iran; therefore, the anti-narcotic laws have

been passed for the deployment of addiction treatment and rehabilitation programs since 1997. The most important program for reducing drug abuse was the establishment of Substance Abuse Treatment Centers (SATCs) and Methadone Maintenance Treatment (MMT) centers (12). The SATCs have impressive effects on patients; in this regard, McCarty in a study indicated that the use of opioid maintenance services was associated with lower total costs of care for opioid-dependent members (13). Also Comiskey (14) found that the setting was a significant factor in predicting heroin use in the first year; however, it was not significant in predicting changes in health. In addition, the treatment success rates of addicts in these centers were different. In this regard, Shirinbayan et al. (15) and Ramo and Brown (16) found that the relapse rate in the first six months was above 75%.

Although a number of studies have shown that the return to addiction is dependent on some factors (17), currently, there are no adequate quantitative and qualitative studies to determine the link between relapse and some specific factors. Also, the mechanism of relapse has remained unclear (17) and the role of addiction treatment centers in relapse needs to be investigated.

The southeast of Iran (Sistan and Baluchestan province) borders Afghanistan and Pakistan, as opiate producers in the world. On the other hand, this region has the highest number of addicts in Iran. Therefore, the investigation of drug addiction and predicting factors of relapse in this region are necessary. Also, most existing studies are quantitative and there is a gap in the depth of the issue. Moreover, addiction in Sistan and Baluchestan province is a priority; however, no in-depth study by a qualitative approach has been done in this region to examine this social problem.

2. Objectives

Therefore, this study aimed to determine the reasons for return to addiction among patients referring to the SATCs using a qualitative method in the high-risk region of Iran.

3. Patients and Methods

This qualitative study with an interpretational approach was carried out in 2017. The study area was Sistan and Baluchestan province, the vastest and poorest province in Iran (18), where it is a transit route for opium smuggling. The study population consisted of all addicts who referred to the SATCs in Zahedan (as the capital of the

province) in 2017. The inclusion criteria were the willingness to cooperate, having a history of full drug discontinuation, drug re-orientation after a clean period, and good talking ability. Also, having mental disorders was considered an exclusion criterion. Individual interviews were used for data gathering. An interview guideline was used including three general questions to clarify the objectives of the study. To assess the validity and reliability of questions, two interviews with addicted persons, who were not among the participants, were conducted as a pilot study. According to the feedback received from the pilot study, the necessary modifications were made. Each interview started with an open question ("What are the reasons for drug relapse").

At the beginning of the interview, the objectives of the study were explained to the participants and they were assured that their information would remain confidential. The participants allowed the interviews to be recorded. Moreover, the researchers explained that the participants' contribution to the study was completely voluntary. Then, an informed consent form was signed by the participants.

In this study, the interviews were conducted at the SATCs in a quiet room without any responsible person from the centers. The average duration of each interview was 20 to 40 minutes. Finally, 22 interviews were conducted with participants. At the end of each day, the interviews were gathered and then the researchers initiated analysis and coding of information. Then, we used the content analysis method with coding and 91 codes were generated. According to the content analysis approach, all codes were merged and categorized based on their similarities. The process continued throughout the study.

For maximum data integrity, continuous iterative analysis of the gathered information was performed by multiple study conveners and external peer reviewers. To achieve trustworthiness and rigor, their credibility was ensured by using member checks, peer checks, and continuous data analysis (transcribing interviews and reviewing them to expand the main themes). In addition, to attain conformability, thick descriptions of the findings were performed. Qualitative content analysis, as mentioned in the literature, is a specialized method in processing qualitative data to define the presence of certain words and concepts (19). After becoming familiar with the scope and diversity of the content, the thematic framework was adjusted accordingly to identify key concepts and issues. Then, the researchers reviewed the data from individual interviews and annotated based on the thematic framework that was obtained and arranged according to the right thematic source. Then, concepts, contradictions, ideas, and themes were extracted from the findings by comparing the relationships by the researchers, who had no conflict of in-

terest with the subject or relevant institutions. The Ethics Committee of Zahedan University of Medical Sciences (ZA-UMS) approved the study (Ir.Zaums.Rec.1395.282).

4. Results

In this study, 20 (91.0%) subjects were male and 12 were married. Also, seven persons were illiterate and the education level of 10 persons was below diploma degree. Nearly one-third (41.0%) of all participants were aged 21 - 29 years. The other demographical variables are shown in [Table 1](#).

As shown in [Table 1](#), most of the participants (n = 15; 68) experienced relapse to drug addiction one to five times in their lives.

4.1. Substance Abuse Treatment Centers

As shown in [Table 2](#), the role of SATC in relapse was mentioned in all interviews. The participants had mentioned inappropriate SATCs as a reason for relapse to drug use (P1 to P22).

4.2. Poor Supervision on Substance Abuse Treatment Centers

Most of the participants reported that poor supervision on SATCs by supervisors and health centers led to the low quality of services. One of the participants declared that “there is no supervision on SATCs and most of the time, the center’s personnel beat patients” (P3).

4.3. The Owner of Substance Abuse Treatment Centers

One of the main reasons for relapse, which was mentioned by patients, was the SATC’s owner behavior. They declared if the center owner’s behavior is good and kind, it is the strength of the SATC and patients’ treatment process can be accelerated. On the other hand, one of the participants declared that “center’s owner was very kind and he loved me more than my father and he was an important factor that I quit drugs” (P9).

4.4. Inappropriate Behavior in Substance Abuse Treatment Centers

Physical and emotional punishments were mentioned frequently. One of the participants said that “They beat you for no reason; for example, they spoke a word without reason. That SATC is closed now” (P17). Also, another patient declared that “first, they brought me here by force, I was telling myself even if they hold me for 10 years, I surely will use the drug again” (P6). “They always beat me but in this new SATC, the personnel did not beat and talked sincerely, the only place that I saw compassion was this SATC” (P5).

Table 1. Demographic Variables of the Participants Referring to SATCs in 2017

Variable/Dimensions	Frequency (%)
Age	
Under 20 years	2 (9.1)
21 to 29 years	9 (41.0)
31 to 39 years	5 (22.7)
Above 40 years	6 (27.2)
Sex	
Men	20 (91.0)
Women	2 (9.0)
Marital status	
Single	9 (41)
Married	12 (54.5)
Divorced	1 (4.5)
Job	
Non-governmental job	15 (68.2)
Unemployed	6 (27.3)
Housewife	1 (4.5)
Education	
Illiterate	7 (31.8)
Under diploma	10 (45.5)
Diploma	5 (22.7)
Drug used before quitting	
Opium and sap of opium	13 (59.0)
Crystal and crack	9 (41.0)
Drug used after relapse	
Opium and sap of opium	9 (41.0)
Heroin	1 (4.5)
Crystal	10 (45.5)
Methadone	2 (9.0)
Average clean time	
Below 2 months	10 (45.5)
2 to 6 months	7 (31.8)
7 to 12 months	1 (4.5)
Above 12 months	4 (18.2)
Number of relapses	
1 to 5 times	15 (68.2)
6 to 10 times	4 (18.2)
More than 10 times	3 (13.6)

4.5. Substance Abuse Treatment Centers’ Meetings

Meeting sessions in the SATCs were mentioned as a useful method. “These meetings are the only thing that would

Table 2. Predicting Factors of Relapse to Drug Addiction in SATCs in Iran

Theme	Sub-Theme
Poor supervision on SATCs	
	Failure to visit SATCs
	Failure to inspect the addiction centers
	Lack of appropriate planning for quitting drugs in SATCs
The responsible of SATCs	
	Lack of responsibility in the managers of the SATCs
	Not talking with patients in the centers
	The weak communications of center's manager
	Having an argument with the center's owner
	Inappropriate behavior of the center's owner
Personnel's behavior in SATCs	
	Inappropriate behavior of the personnel
	Misbehavior
	Violence
	Beating at the SATC
	Entering the SATC with the compulsion without incentive to quit
	No affection
	Dissatisfaction with the SATC
	Inappropriate psychological punishment
	The effect of SATC's environment
	Getting acquainted with other addicted people
	Abuse in the SATC
	Self-mutilation in SATCs
	Deciding to start using drugs immediately after leaving the SATC
SATC meetings	
	Not attending the center's meetings
	Ineffective sessions from the perspective of the individual
Keeping too much in SATCs	
	Keeping for giving more money from families
	Keeping for forced labor

keep you away from going back; sessions are the most important thing" (P16). There were some people who did not get sessions seriously and this got them to slip to use again. "Meetings are effective but we go there only to make jokes, but if we took it seriously, we would not see our parents cry-

ing, we would not steal again" (P20).

4.6. Solutions

The solutions proposed by the participants for preventing relapse were classified into two main themes;

1. SATC's situation; including more monitoring at the centers, training for the staff, increasing emotional support, non-physical and emotional punishment, no abuse of people, and planning to quit drugs.

2. Meetings in SATCs; including active participation in meetings.

Being satisfied with the rehabilitation center's situation or choosing the right rehabilitation center is a positive factor toward a successful treatment. Therefore, one of the participants mentioned "the personnel of SATCs talked to me and did not hit me and I decided to stay in the center and complete the treatment process. I was an angry person but with their good behavior, I became calmer and got along with the principles here" (P21).

Regular attendance in meetings and taking them seriously are important factors for a successful treatment. "It is very influencing, one person may quit drugs in a short time but there are some behaviors that will stay with the person and these meetings could put away these behaviors from patients" (P3).

5. Discussion

This qualitative study investigated the role of SATCs in relapse to addiction in the southeast of Iran. As mentioned above, relapse is one of the main aspects of drug abuse (20). In this study, 13% of the patients had addiction relapse more than 10 times and this indicates the weakness of some therapeutic processes. In this regard, Bennett et al. found that the relapse rate was about 31% in those who had attended training programs in a 10-month follow-up (21). The high rate of recurrence in the studies demonstrate its importance in communities as a socioeconomic problem.

The current findings showed that addiction treatment centers had an impressive negative effect in drug relapse of patients. Most of the participants declared that the poor condition and management of these centers are the main reasons for relapse. In fact, families choose and trust addiction treatment centers with the hope that their children leave drugs and recovery; therefore, these centers should do their best to create suitable conditions for the healing and recovery of patients. In this regard, Hajian et al. (22) and Koohestani et al. (23) found that the poor conditions of the SATCs and the lack of satisfaction with these centers were the main reasons for recurrence. Regarding the importance of SATCs, a study in Iran stated that therapeutic

centers must put mental health at the forefront of their programs (24). Also, Giri et al. (25) in a study showed the role of SATCs in communities. Some studies have highlighted the utility of the “de-addiction camp” approach as an economic and effective treatment alternative for patients with alcohol and drug dependency in the community (26, 27). Therefore, identifying the role of SATCs should be more attractive to both the government and families. Also, more supervision is necessary.

According to the present study, personnel behavior in SATCs is an important factor for patients’ relapse. In this regard, some studies have shown that drug relapse in addicts was related to three aspects of physical, psychological, and social factors (28). Given that drug addicts are known as patients, it is necessary that service providers, with appropriate behaviors in serving, accelerate the recovery of these patients. Also, in this context, it is suggested that managers and personnel of SATCs be closely monitored by relevant organizations. The use of psychological empowerment is recommended for having high-quality personnel (29) in these centers.

The low supervision on SATCs was another factor for relapse. It is notable that SATCs are now supervised by the State Welfare Organization and health centers in Iran. Good supervision and control of treatment centers were suggested by Kassani et al. (20). In this regard, it is suggested that more monitoring and inspection of SATCs be taken.

High-quality meeting in SATCs was known as a major factor in the prevention of relapse. In this regard, a study indicated that psychological counseling or other services can improve the effectiveness of MMT (30). Also, Chao in a study found that the use of suitable psychological counseling and social support combined with detoxification medications would help improve the effectiveness of relapse prevention (10). Moreover, it has been emphasized in Garmendia et al. study (31).

According to the findings, the time from treatment to relapse in most patients was lower than two months. The low quality of the SATCs and socioeconomic status are the main reasons in this area. In this regard, Mirzaei et al. found that 53% of the relapse occurred in less than three months after treatment. Also, Kassani et al. found that job status, marital status, family size, and age had statistically significant relationships with relapse in Ilam (a region in the west of Iran) (20). Also, another study in Iran showed that insomnia, temptation, easy access to drugs, family conflicts, and non-compliance with treatment were the most personal and environmental factors of relapse, in sequence (24).

The experiences of the patients showed that the services’ quality improvement in treatment centers and in-

creasing the patients’ participation in center-held meetings could increase the patients’ satisfaction and promote their health status. According to a study, patients’ supporting is one of the main approaches to accelerate the treatment process (32). Therefore, it is suggested that centers’ managers do their best to create a friendly environment based on respect and delivery of high-quality services.

One of the limitations of this study was the incomplete response of study participants or refuse to participate. In studies that deal with private subjects, some participants possibly do not express reality. To overcome this restriction, it was explained that the interview information would be kept completely confidential and anonymous. Also, the generalizability of this study to other cultures and conditions is another limitation of this study.

5.1. Conclusions

In total, SATCs may have a negative effect in the treatment and rehabilitation of patients without strong and consolidate supervision. Therefore, more supervision on the rehabilitation centers is recommended.

Footnotes

Conflict of Interests: No conflict of interest is declared.

Ethical Approval: The Ethics Committee of Zahedan University of Medical Sciences (ZAUMS) approved the study (Ir.Zaums.Rec.1395.282).

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Informed Consent: An informed consent form was signed by the participants.

References

1. Nastizayi N, Hezareh Moghadam M, Mollazehi A. The study of factors for recurred addiction from the view of self-introduced addicts to the addiction abandonment centers of Zahedan. *J Urmia Nurs Midwifery Fac.* 2010;8(3):0.
2. Jahanpour F, Vahedparast H, Ravanipour M, Azodi P. The trend of hookah use among adolescents and youth: A qualitative study. *J Qual Res Health Sci.* 2015;3(4):340–8.
3. Bakhshani NM, Dahmardei M, Shahraki-Sanavi F, Hosseinbor M, Ansari-Moghaddam A. Substance abuse among high school students in Zahedan. *Health Scope.* 2014;3(1). doi: [10.17795/jhealthscope.14805](https://doi.org/10.17795/jhealthscope.14805).
4. Tarrahi MJ, Mohammadpoorasl A, Ansari H, Mohammadi Y. Substance abuse and its predictors in freshmen students of Lorestan universities: Subgrouping of college students in west of Iran. *Health Scope.* 2017; *In Press*(In Press). doi: [10.5812/jhealthscope.64186](https://doi.org/10.5812/jhealthscope.64186).
5. Xu H, Gu J, Lau JT, Zhong Y, Fan L, Zhao Y, et al. Misconceptions toward methadone maintenance treatment (MMT) and associated factors among new MMT users in Guangzhou, China. *Addict Behav.* 2012;37(5):657–62. doi: [10.1016/j.addbeh.2012.01.020](https://doi.org/10.1016/j.addbeh.2012.01.020). [PubMed: 22353775].

6. Ashouri A, Mollazadeh J, Mohammadi N. The effectiveness of cognitive-behavioral group therapy on the improvement of coping skills and relapse prevention in addicted individuals. *Iran J Psychiatry Clin Psychol.* 2008;**14**(3):281-8.
7. Schwartz RP, Kelly SM, O'Grady KE, Mitchell SG, Peterson JA, Reisinger HS, et al. Attitudes toward buprenorphine and methadone among opioid-dependent individuals. *Am J Addict.* 2008;**17**(5):396-401. doi: [10.1080/10550490802268835](https://doi.org/10.1080/10550490802268835). [PubMed: [18770082](https://pubmed.ncbi.nlm.nih.gov/18770082/)]. [PubMed Central: [PMC2814176](https://pubmed.ncbi.nlm.nih.gov/PMC2814176/)].
8. Rimaz S, Mohseni S, Khoei M, Sadat E, Dastoorpour M, Akbari F. Case-control study of factors influencing on drug abuse relapse in addicts referred to two recovery centers in Tehran. *J Sch Public Health Institute Public Health Res.* 2013;**10**(3):53-64.
9. Oviedo-Joekes E, Guh D, Brissette S, Marchand K, Marsh D, Chettiar J, et al. Effectiveness of diacetylmorphine versus methadone for the treatment of opioid dependence in women. *Drug Alcohol Depend.* 2010;**111**(1-2):50-7. doi: [10.1016/j.drugalcdep.2010.03.016](https://doi.org/10.1016/j.drugalcdep.2010.03.016). [PubMed: [20510551](https://pubmed.ncbi.nlm.nih.gov/20510551/)].
10. Rong C, Jiang HF, Zhang RW, Zhang LJ, Zhang JC, Zhang J, et al. Factors associated with relapse among heroin addicts: Evidence from a two-year community-based follow-up study in China. *Int J Environ Res Public Health.* 2016;**13**(2):177. doi: [10.3390/ijerph13020177](https://doi.org/10.3390/ijerph13020177). [PubMed: [26828510](https://pubmed.ncbi.nlm.nih.gov/26828510/)]. [PubMed Central: [PMC4772197](https://pubmed.ncbi.nlm.nih.gov/PMC4772197/)].
11. Shafiei E, Hoseini AF, Bibak A, Azmal M. High risk situations predicting relapse in self-referred addicts to bushehr province substance abuse treatment centers. *Int J High Risk Behav Addict.* 2014;**3**(2). e16381. doi: [10.5812/ijhrba.16381](https://doi.org/10.5812/ijhrba.16381). [PubMed: [25032159](https://pubmed.ncbi.nlm.nih.gov/25032159/)]. [PubMed Central: [PMC4080483](https://pubmed.ncbi.nlm.nih.gov/PMC4080483/)].
12. Shariatirad S, Maarefvand M. Sanctions against Iran and the impact on drug use and addiction treatment. *Int J Drug Policy.* 2013;**24**(6):636-7. doi: [10.1016/j.drugpo.2013.04.003](https://doi.org/10.1016/j.drugpo.2013.04.003). [PubMed: [23683411](https://pubmed.ncbi.nlm.nih.gov/23683411/)].
13. McCarty D, Perrin NA, Green CA, Polen MR, Leo MC, Lynch F. Methadone maintenance and the cost and utilization of health care among individuals dependent on opioids in a commercial health plan. *Drug Alcohol Depend.* 2010;**111**(3):235-40. doi: [10.1016/j.drugalcdep.2010.04.018](https://doi.org/10.1016/j.drugalcdep.2010.04.018). [PubMed: [20627427](https://pubmed.ncbi.nlm.nih.gov/20627427/)]. [PubMed Central: [PMC2950212](https://pubmed.ncbi.nlm.nih.gov/PMC2950212/)].
14. Comiskey CM, Cox G. Analysis of the impact of treatment setting on outcomes from methadone treatment. *J Subst Abuse Treat.* 2010;**39**(3):195-201. doi: [10.1016/j.jsat.2010.05.007](https://doi.org/10.1016/j.jsat.2010.05.007). [PubMed: [20619999](https://pubmed.ncbi.nlm.nih.gov/20619999/)].
15. Shirinbayan P, Rafiey H, Vejdani Roshan A, Narenjiha H, Farhoudian A. Predictors of retention in methadone maintenance therapy: A prospective multi-center study. *Sci Res Essays.* 2010;**5**(21):3231-6.
16. Ramo DE, Brown SA. Classes of substance abuse relapse situations: A comparison of adolescents and adults. *Psychol Addict Behav.* 2008;**22**(3):372-9. doi: [10.1037/0893-164X.22.3.372](https://doi.org/10.1037/0893-164X.22.3.372). [PubMed: [18778130](https://pubmed.ncbi.nlm.nih.gov/18778130/)]. [PubMed Central: [PMC3031179](https://pubmed.ncbi.nlm.nih.gov/PMC3031179/)].
17. Hao SQ, Zhao M, Zhang RW, Zhang JC, Zhang J, Feng XS. The effectiveness comparison of Jitai tablets versus methadone in community-based drug treatment: A 1-year follow-up study. *Addict Behav.* 2013;**38**(10):2596-600. doi: [10.1016/j.addbeh.2013.05.013](https://doi.org/10.1016/j.addbeh.2013.05.013). [PubMed: [23827820](https://pubmed.ncbi.nlm.nih.gov/23827820/)].
18. Khammarnia M, Amani Z, Hajmohammadi M, Ansari-Moghadam A, Eslahi M. A survey of iron supplementation consumption and its related factors in high school students in southeast Iran, 2015. *Malays J Med Sci.* 2016;**23**(5):57-64. doi: [10.21315/mjms2016.23.5.8](https://doi.org/10.21315/mjms2016.23.5.8). [PubMed: [27904426](https://pubmed.ncbi.nlm.nih.gov/27904426/)]. [PubMed Central: [PMC5101969](https://pubmed.ncbi.nlm.nih.gov/PMC5101969/)].
19. Barati O, Sadeghi A, Khammarnia M, Siavashi E, Oskrochi G. A qualitative study to identify skills and competency required for hospital managers. *Electron Physician.* 2016;**8**(6):2458-65. doi: [10.19082/2458](https://doi.org/10.19082/2458). [PubMed: [27504159](https://pubmed.ncbi.nlm.nih.gov/27504159/)]. [PubMed Central: [PMC4965194](https://pubmed.ncbi.nlm.nih.gov/PMC4965194/)].
20. Kassani A, Niazi M, Hassanzadeh J, Menati R. Survival analysis of drug abuse relapse in addiction treatment centers. *Int J High Risk Behav Addict.* 2015;**4**(3). e23402. doi: [10.5812/ijhrba.23402](https://doi.org/10.5812/ijhrba.23402). [PubMed: [26495256](https://pubmed.ncbi.nlm.nih.gov/26495256/)]. [PubMed Central: [PMC4609495](https://pubmed.ncbi.nlm.nih.gov/PMC4609495/)].
21. Bennett LW, Cardone S, Jarczyk J. Effects of a therapeutic camping program on addiction recovery. The Algonquin Haymarket Relapse Prevention Program. *J Subst Abuse Treat.* 1998;**15**(5):469-74. doi: [10.1016/S0740-5472\(97\)00222-5](https://doi.org/10.1016/S0740-5472(97)00222-5). [PubMed: [9751006](https://pubmed.ncbi.nlm.nih.gov/9751006/)].
22. Hajian K, Khirkehah F, Falatoni M. Epidemiology of addiction among volunteered addicts attending in detoxification centers. *J Guilan Univ Med Sci.* 2013;**22**(87):22-30.
23. Koohestani Z, Shoja M, Nabavi SH, Shoja M. Survey of affecting factors the lapse among the Patients referring voluntarily to addiction-abandoning centers in Esfaryen. *J North Khorasan Univ Med Sci.* 2014;**5**(5):1145-51. doi: [10.29252/jnkums.5.5.1145](https://doi.org/10.29252/jnkums.5.5.1145).
24. Mirzaei T, Ravary A, Hanifi N, Miri S, Oskouie F, Mirzaei Khalil Abadi S. Addicts' perspectives about factors associated with substance abuse relapse. *Iran J Nurs.* 2010;**23**(67):49-58.
25. Giri OP, Bharadwaj R, Misra AK, Kulhara P. Impact of drug awareness and treatment camps on attendance at a community outreach de-addiction clinic. *Ind Psychiatry J.* 2015;**24**(2):202-5. doi: [10.4103/0972-6748.181712](https://doi.org/10.4103/0972-6748.181712). [PubMed: [27212830](https://pubmed.ncbi.nlm.nih.gov/27212830/)]. [PubMed Central: [PMC4866353](https://pubmed.ncbi.nlm.nih.gov/PMC4866353/)].
26. Raj H, Ray R, Prakash B. Relapse precipitants in opiate addiction: Assessment in community treatment setting. *Indian J Psychiatry.* 2000;**42**(3):253-7. [PubMed: [21407952](https://pubmed.ncbi.nlm.nih.gov/21407952/)]. [PubMed Central: [PMC2958347](https://pubmed.ncbi.nlm.nih.gov/PMC2958347/)].
27. Wang W. Illegal drug abuse and the community camp strategy in China. *J Drug Educ.* 1999;**29**(2):97-114. doi: [10.2190/J28R-FH8R-68A9-1288](https://doi.org/10.2190/J28R-FH8R-68A9-1288). [PubMed: [10429353](https://pubmed.ncbi.nlm.nih.gov/10429353/)].
28. Zhuang X, Wang Y, Chow EP, Liang Y, Wilson DP, Zhang L. Risk factors associated with HIV/HCV infection among entrants in methadone maintenance treatment clinics in China: A systematic review and meta-analysis. *Drug Alcohol Depend.* 2012;**126**(3):286-95. doi: [10.1016/j.drugalcdep.2012.05.028](https://doi.org/10.1016/j.drugalcdep.2012.05.028). [PubMed: [22726912](https://pubmed.ncbi.nlm.nih.gov/22726912/)].
29. Khammarnia M, Ravangard R, Asadi H. The relationship of psychological empowerment and readiness for organizational changes in health workers, Lorestan, Iran. *J Pak Med Assoc.* 2014;**64**(5):537-41. [PubMed: [25272539](https://pubmed.ncbi.nlm.nih.gov/25272539/)].
30. Li L, Sangthong R, Chongsuvivatwong V, McNeil E, Li J. Multiple substance use among heroin-dependent patients before and during attendance at methadone maintenance treatment program, Yunnan, China. *Drug Alcohol Depend.* 2011;**116**(1-3):246-9. doi: [10.1016/j.drugalcdep.2010.12.007](https://doi.org/10.1016/j.drugalcdep.2010.12.007). [PubMed: [21282020](https://pubmed.ncbi.nlm.nih.gov/21282020/)].
31. Garmendia ML, Alvarado ME, Montenegro M, Pino P. [Social support as a protective factor of recurrence after drug addiction treatment]. *Rev Med Chil.* 2008;**136**(2):169-78. Spanish. [PubMed: [18483670](https://pubmed.ncbi.nlm.nih.gov/18483670/)].
32. Khammarnia M, Kassani A, Amiresmaili M, Sadeghi A, Karimi Jaber Z, Kavosi Z. Study of patients absconding behavior in a general hospital at southern region of Iran. *Int J Health Policy Manag.* 2015;**4**(3):137-41. doi: [10.15171/ijhpm.2014.110](https://doi.org/10.15171/ijhpm.2014.110). [PubMed: [25774367](https://pubmed.ncbi.nlm.nih.gov/25774367/)]. [PubMed Central: [PMC4357980](https://pubmed.ncbi.nlm.nih.gov/PMC4357980/)].