

## ORIGINAL ARTICLE

# Women who Use Drugs: Pattern of Substance Use and Relapse

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## Main Points

- Drug addiction, abstinence, and relapse in women is related to demographic factors.
- Behavioral factors also affect drug addiction, quitting, and relapse among women who use drugs.
- Due to the fact that drug relapse is multifactorial, therapists should pay more attention to professional help and counseling for women who do not have recovery support networks and suffer from other problems concomitant with drug use.

## Abstract

Addiction is a chronic and recurrent disease, and many people return to substance abuse shortly after treatment. This study aimed to determine the prevalence of drug abuse relapse and to investigate its related factors among addicted women. This cross-sectional study was performed in 2020 on 200 women who used drugs, and who were seeking treatment in the outpatient addiction treatment centers in Sanandaj. The participants were selected by the convenience sampling method. Data were collected using a researcher-made questionnaire through face-to-face interviews, and analyzed by independent *t*-test, chi-square, and logistic regression procedures. The mean age of the respondents was  $37.75 \pm 10.49$ , and the mean age at the first drug use was  $24.21 \pm 8.96$  years. Age at first use, family history of addiction, type of drug used, attendance at the meetings of the Narcotics Anonymous Association (NA), history of childhood sexual abuse, and experience of physical violence were among the factors influencing the relapse of substance abuse in women ( $p < .05$ ). The results show that contextual, behavioral, and demographic factors affect the relapse of drug use in women. Therefore, designing and implementing interventions based on the results of the present study can be effective in preventing relapse in women.

**Keywords:** Substance use, female, relapse preventions, addiction, factors

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## Introduction

Addiction is a chronic recurrent disease and social damage, with an origin in psychosocial factors that have psychological, individual, and social consequences (McLellan et al., 2000; Salmabadi et al.,

2016). Studies show that in the last two decades, drug and alcohol use has seen an increasing trend among women (McHugh et al., 2014), which has led to a greater risk of addiction in women (Cotto et al., 2010). In the early 1980s, the ratio of substance use disorders between men and women was 5:1 (Robins,

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1991), while in 2015, this ratio changed to 1.4:1 (Lal et al., 2015). Regarding the rate of addiction among women compared to men in Iran, statistics show the similarity of the increasing trend of addiction in women. In 2001, this ratio was reported as 7:100 (Rahimi, 2004), and according to the latest statistics of the Drug Control Headquarters, this ratio has been announced as 9.6:100.

The role of gender differences in the risks before and after drug dependence and the treatment process is significant (Greenfield et al., 2007). Women's vulnerability to addiction, their treatment needs, and risk of relapse are different from those of men (Greenfield et al., 2007; McHugh et al., 2018; Slabbert et al., 2020; Zhou et al., 2016). They also experience more mental disorders and problems such as depression, anxiety, loss of appetite, and personality conflict than men (Campbell et al., 2018; Chambers et al., 2014).

Women show more unpleasant symptoms than men in substance withdrawal (Becker et al., 2017; Hogle & Curtin, 2006; Hudson & Stamp, 2011). The factors associated with relapse that occur without apparent intent and with negative effects, as well as previous physical and sexual abuse among women are the differentiators between men and women (Hyman et al., 2008).

Researchers suggest that individual factors (physical and mental factors and personality disorders), environmental factors (family and family disorders, inappropriate environments, and economic, social and cultural status), labeling, social satisfaction, positive attitude to addiction, and feelings of discrimination cause addiction recurrence and relapse (Rivas et al., 2016). Returning to active use of drugs after a period of abstinence is called relapse (Laudet, 2008). In the first year of treatment, more than 50% of patients experience addiction relapse (Friedmann et al., 1998).

While the association between social cognitive factors and therapeutic outcomes is well documented, the impact of background characteristics is less pronounced, especially among individuals seeking treatment for substance use disorders (Bashirian et al., 2021; Eslami et al., 2018). In this study, the predictive power of characteristics such as age, level of education, type of substance use, and history of violence and sexual abuse on relapse of drug use was investigated as the primary goal in the treatment of drug use problems, because being aware of the current situation and an understanding of the current state of substance use disorder and the risk factors associated with relapse is a prerequisite for any kind of planning. Examining these factors can help health care providers to create appropriate and structured interventions and appropriate policies according to the areas of occurrence and tendency to relapse of addiction in women.

This study aimed to determine the pattern of substance use and investigate the factors related to relapse among women who use drugs.

## Methods

### Participants

Patients were recruited for participation in the study from 41 outpatient centers of substance use treatment programs in Southern Kurdistan province. Eligibility to participate in the study was determined based on the diagnosis of substance-dependence

disorders, according to the diagnostic criteria of DSM-IV-TR (Association, 2013), and age over 18 years. The exclusion criteria were regular use of antipsychotic drugs (if participants were unable to answer questions due to acute psychological problems), pregnancy, and inability to answer questions due to physical problems.

### Procedure

Data collection was performed by the convenience sampling method. The response rate was 80.7% (200 of the 248 eligible patients agreed to participate in the study). The main reason for incomplete questionnaires was the unwillingness to participate. Relapse was associated with characteristics that participants had before admission to the treatment program (determined during admission interviews). All steps were approved by the ethics committee of Hamadan University of Medical Sciences (code IR.UMSHA.REC.1398.686).

The purpose of the study was explained to the participants, and they were assured that their participation was voluntary, and their information would be kept confidential. A written consent was obtained from all participants.

### Instruments

The questionnaire, based on previous studies (Amirabadizadeh et al., 2020; Eslami et al., 2018; Greenfield et al., 2002), consisted of three parts. Measures of demographic characteristics consisted of age (in years), marital status, educational level, and employment status. Substance use history included type of substance used, age at first use (in years), method of drug use, history of addiction in the family, history of relapse related to the relapse time, and behavioral factors (history of violence, history of childhood sexual abuse, participation in meetings of NA).

The Sexual and Physical Abuse Questionnaire (SPAQ) was used to evaluate child abuse (Kooiman et al., 2002). The SPAQ is expressly designed to be a screening instrument to assess the prevalence of sexual and physical abuse related to the age period in both men and women.

The Conflict Tactics Scale (CTS) was used to measure and evaluate violence (Straus et al., 1996). CTS is the most widely used instrument in research on family violence.

Completion of the questionnaire was done through a face-to-face self-report interview. The duration of the interview was between 45 and 60 minutes per person.

### Statistical Analysis

Statistical analysis was performed using SPSS software Version 21 (IBM SPSS Corp.; Armonk, NY, USA)

Descriptive analysis was used to determine the prevalence of drug use and relapse. Moreover, logistic regression, chi-square, and independent t-test were used to determine the factors predicting relapse. A significance level of .05 was considered for all statistical tests.

## Results

The mean age of the respondents was  $37.75 \pm 10.49$ . The mean age at first use was  $24.21 \pm 8.96$ , and 38% of participants had used

drugs for the first time when under the age of 18. Of the participants, 76% ( $n = 152$ ) were housewives, 40% were married, 31% were divorced, 15.5% were single, and 13.5% were widowed. Regarding the level of education, secondary education level was the highest (30.5%), and a high-school diploma was in second place (28%).

Figure 1 shows the type of drug used by the participants in the present study. Methamphetamine or crystal was found to be the most used form of drug (53.5%).

The route of administration in consumers was smoking (61.5%), swallowing (28.5%), and injection (10%). First-time experience of drug use was with friends (38%) or with spouse (35.5%).

In the study, 76% of women reported a history of addiction in the family (43.5% wife, 33% brother, 31.5% father, 14% mother, 12% sister, and 5.5% children).

The relapse rate among participants was 80% ( $n = 160$ ). Time to relapse in the first month, and at two to three months, four to six months, and over seven months were 41%, 28%, 17%, and 14%, respectively.

Based on Table 1, age at onset of drug use, family history of addiction, and type of drug used were the effective factors in relapse of drug addiction. For every 10 years of delay in starting drug use, the relapse rate decreased by a factor of 0.182 (OR, 0.182; 95% CI, 0.034 – 0.974). Women with a family history of addiction were more likely to have a relapse (OR, 4.38; 95% CI, 1.82 – 15.21) rather than women who did not report a family history of addiction.

Regarding behavioral factors (Table 2), the results showed that there was a significant difference in the variables of attendance at the meetings of the NA Association, a history of sexual abuse in childhood, and experience of physical violence among people who had a relapse after a period of abstinence and those who did not.

The chance of relapse of addiction in women who attended the meetings of the NA Association was lower by a factor of 0.09 (OR, 0.090; 95% CI, 0.033-247) than in the others. A history of childhood sexual abuse (OR, 3.02; 95% CI, 1.280-8.071) and a history of violence (OR, 3.43; 95% CI, 1.292-9.137) increased the chance of relapse in women ( $p \leq 0.05$ ). Consumption of modern and industrial drugs increased the chance of relapse (OR, 6.68; 95% CI, 1.78-24.98) compared to traditional drugs.

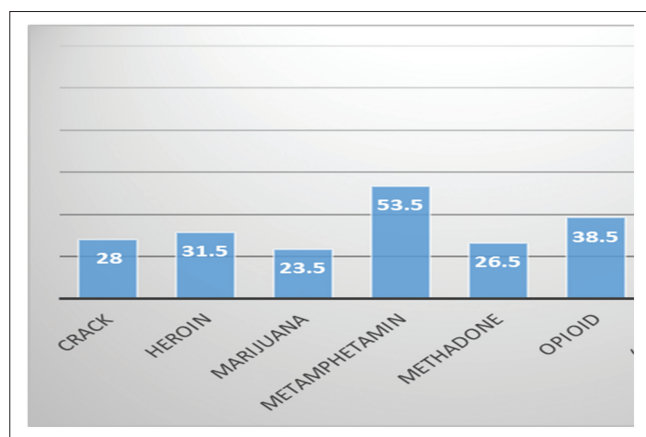


Figure 1. Type of consumption of the participants in the present study

## Discussion

This study aimed to investigate the relapse rate of substance use and its related factors in women, as a preliminary approach to design effective strategies to prevent relapse of substance use.

In this study, the relapse rate was found to be high, with a high percentage (38.5%) of participants having a relapse in less than one year after quitting drugs. These results were higher than the results of a study conducted by Thomas McLellan, which reported that 40 – 60% of women who received treatment had a relapse within a year (McLellan et al., 2000). The reason for this can be considered as physical complications of drug withdrawal, the psychological burden to quit, family atmosphere, socioeconomic conditions, and cultural factors (Khzaee-Pool et al., 2019). Counseling and relapse prevention services are an integral part of successful deaddiction (Chemuru & Srinivas, 2015; Rivas et al., 2016). Therefore, educating patients about coping skills in high-risk situations is essential to prevent relapse.

The results of this study, consistent with other articles (Barati et al., 2021), showed that the age at onset of substance use is low, which indicates the vulnerability of young people in the use of substances. The age at onset of drug use, in line with the findings of Eslami et al. (2018), is one of the effective factors in the relapse of drug use. Starting to use drugs at an early age can indicate that women have faced high-risk situations and abuse earlier in their lives, which has led to a decrease in self-confidence and difficulty in coping with high-risk situations. Therefore, training on coping skills in high-risk situations can be useful in reducing women's vulnerability.

The results of our study, in line with the results of other studies, show that age, marital status, and education, in general, do not predict the outcome of treatment and relapse (Adamson et al., 2009).

In the present study, the history of childhood sexual abuse and the history of reported physical violence were relatively high. Jiang DU has reported sexual and physical abuse in women compared to men as 70% versus 32% and 54% versus 15%, respectively (Jiang et al., 2013). In another study, the rate of physical or sexual abuse in childhood in women was 47.3% (Pirard et al., 2005). Other similar studies have shown high rates of violence in women with substance use disorders (Engstrom et al., 2012; Schneider et al., 2009). Regarding the relationship between sexual and physical abuse in children and substance use problems, researchers have concluded that child abuse is a factor in substance use problems, but this relationship is most likely caused by psychiatric conditions such as anxiety and depressive disorders (Simpson & Miller, 2002). This theory of self-medication suggests that people with mental disorders use substances to combat their symptoms (Haller & Chassin, 2014). Studies have shown that physical and sexual abuse of women has been associated with adverse treatment outcomes and relapse (Greenfield et al., 2002; Kopak et al., 2019). Seventy-two percent of abused women report substance use, and 90% of women who use drugs report violence. Therefore, the simultaneous occurrence of violence and substance use is an important public health issue that needs to be addressed by therapists (Rivera et al., 2015).

The findings of our study show that a family history of addiction is associated with relapse of drug use, which is similar to those of other studies (Athamneh et al., 2017; Rahmati et al., 2019).

Table 1.  
Behavioral Factors Related to Relapse in Women With Relapse and Women Without Relapse

Variables	Women With Relapse <sup>a</sup>	Women Without Relapse <sup>a</sup>	Odds Ratio (95% CI)	p <sup>b</sup>
Attendance at NA meetings				<.001
No	122 (76.3)	14 (35)	1 (Ref.)	
Yes	38 (23.7)	26 (65)	0.090 (0.033 – 0.247)	
Sexual abuse in childhood				<.001
No	55 (34.4)	38 (95)	1 (Ref.)	
Yes	105 (65.6)	2 (5)	3.02 (1.280 – 8.071)	
History of Violence				.013
No	40 (25)	23 (57.5)	1 (Ref.)	
Yes	120 (75)	17 (42.5)	3.43 (1.292 – 9.137)	
Type of substance used				.005
Traditional drugs*	31 (60.8)	20 (39.2)	1 (Ref.)	
Modern drugs**	129 (86.6)	20 (13.4)	6.68 (1.78 – 24.98)	

\*Traditional drugs (opium, shireh, heroin).

\*\*Modern drugs (psychotropic and hallucinogenic substances such as ecstasy, LSD, crystal, cannabis, bhang, grass, marijuana).

Therefore, to help women, it is necessary to plan to build network groups for recovery support after treatment.

Absence at NA meetings was another factor related to the treatment of substance use disorders, which has also been mentioned in the study on barriers for Iranian women to quit (Rahmati et al., 2019). Therefore, to achieve sustainable abstinence, it is necessary to encourage addicted women to participate in the meetings of the NA Association.

In this study, the increase of the relapse rate in women who use modern drugs was similar to other studies (Amirabadizadeh et al., 2020). The use of this type of substance may increase the chances of relapse due to greater harm, increased complications, and more severe psychological dependence.

#### Limitations of the Study

Only women who went to outpatient treatment centers for substance use disorders participated in the study, and addicted women who were currently using drugs were not included in the study, which reduces the generalizability of the results. Self-reporting of data is another limitation of the study. Regarding the study of violence, in the present study, only physical violence during early life was examined. However, it is suggested that all dimensions of violence be considered in future studies.

#### Conclusion

Early age of onset of drug use, family history of addiction, the experience of childhood sexual abuse, violence, and failure to attend treatment sessions are associated with an increased risk of relapse. These findings suggest that designing appropriate interventions to prevent drug use relapse will be useful.

**Ethics Committee Approval:** Ethics committee approval was received for this study from the Ethics Committee of Hamadan University of Medical Sciences (code IR.UMSHA.REC.1398.686).

**Informed Consent:** Written informed consent was obtained from each participant after explaining the purpose of research.

**Peer Review:** Externally peer-reviewed.

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