

## Factors Associated with the Involvement of Women Drug Users in Risky Sexual Behaviors: A Narrative Review

### Abstract

**Background:** Drug use is known as an important underlying factor in the occurrence of risky sexual behaviors. The present study was conducted to identify the factors associated with the involvement of women drug users in risky sexual behaviors. **Materials and Methods:** This review was conducted by searching databases of ISI Web of Science, Scopus, Science Direct, Cochrane, PubMed, Scientific Information Database (SID), the Iranian Magazine Database (Magiran), the Iranian Research Institute for Information Science and Technology (IranDoc), and the Iranian Medical Articles Database (IranMedex) and searching through the Google Scholar engine. All the articles published in English and Persian using the keywords including substance use, drug users, addiction, substance use disorders, substance-related disorders, sexual risks, high-risk sexual behavior, HIV risk behavior, unsafe sex, unprotected sex, and risky sex were searched from January 2000 to December 2020. After reviewing the articles, out of 110 articles, 21 articles were selected for final evaluation. **Results:** Factors related to the involvement of women drug users in risky sexual behaviors were divided into five categories: individual factors, factors related to drug use, inter-personal relationships, gender discrimination, and socio-economic factors. **Conclusions:** The results can be used in the field of women's social harms in finding strategies and designing the necessary interventions to prevent risky sexual behaviors in women drug users in different societies and cultural contexts. Also, the results can be used by all researchers who want to study the relationship between these factors and the involvement of women drug users in risky sexual behaviors.

**Keywords:** Drug users, sexual behavior, substance-related disorders, unsafe sex, women

### Introduction

Drug use is a major problem and is considered one of the most complex and important human phenomena.<sup>[1]</sup> This imposes enormous social and economic costs on the society through its devastating effects on human health and increased rates of crime and mortality.<sup>[2]</sup> According to the latest United Nations (UN) report, about 280 million people worldwide use drugs.<sup>[3]</sup> In Iran, there are 2.8 million regular drug users<sup>[4]</sup> and 9.6% of consumers are women.<sup>[5-7]</sup>

Risky sexual behaviors are defined by the increased risk of a negative outcome, which can take two pathways: A) increasing the chance of contacting Sexually Transmitted Infections (STIs) such as chlamydia, syphilis, and gonorrhea as well as human immuno-deficiency virus/acquired immuno-deficiency syndrome (HIV/AIDS) and B) raising the likelihood of

unwanted (unplanned) pregnancy. These negative outcomes can threaten people's sexual and reproductive health and increase the rate of morbidity and mortality.<sup>[8]</sup> Based on the studies, risky sexual behaviors are more common among drug users compared to the general population.<sup>[8-12]</sup> The destructive consequences of risky sexual behaviors are more focused on women because of its nature as well as the existence of gender inequality and gender-based violence.<sup>[13-15]</sup> Over the past years, various studies have examined the factors associated with the involvement of women drug users in risky sexual behaviors, and psychological, social, cultural, economic, organizational, and political factors have been identified.<sup>[16-18]</sup> Also, a number of studies have reported the role of family factors in the involvement of women drug users in risky sexual behaviors.<sup>[19,20]</sup> Jamshidi Manesh showed that most women with drug use disorders

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Access this article online

Website: [www.ijnmrjournal.net](http://www.ijnmrjournal.net)

DOI: 10.4103/ijnmr.ijnmr\_318\_21

Quick Response Code:



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**How to cite this article:** Sourinejad H, Noroozi M, Taleghani F, Kheirabadi GR. Factors associated with the involvement of women drug users in risky sexual behaviors: A narrative review. Iran J Nurs Midwifery Res 2022;27:353-62.

**Submitted:** 21-Sep-2021. **Revised:** 12-Dec-2021.

**Accepted:** 09-Apr-2022. **Published:** 14-Sep-2022.

had certain family characteristics such as communication problems in childhood and the experience of living in an insecure home.<sup>[21]</sup> Furthermore, Hamzeh *et al.*<sup>[12]</sup> showed that having a history of imprisonment and violence by a sexual partner are among the most common risk factors associated with the involvement of women drug users in risky sexual behaviors.

Rapid changes in social structures can change drug users, women involvement in risky sexual behaviors, and understanding the determinants of risky sexual behaviors in women drug users can help to identify high-risk women as the target group and provide information about how to change the level of risk and consider preventive measures and careful planning.<sup>[9]</sup> The harm reduction programs include interventions whose primary goal is to reduce the health, social, and economic consequences of drug use. In this regard, healthcare providers have an important role in the diagnosis, care, and rehabilitation of women drug users. They should be familiar with the factors associated with the involvement of women drug users in risky sexual behaviors and have the knowledge and skills to provide necessary services.<sup>[8,21]</sup> Given that various studies have been conducted in recent years on the factors associated with the involvement of women drug users in risky sexual behaviors,<sup>[8,12-14]</sup> it seems necessary to collect the results of these studies and integrate them. Therefore, the present review study was carried out to identify the factors associated with the involvement of women drug users in risky sexual behaviors.

## Materials and Methods

This narrative review was conducted in May 2021, and studies from January 2000 to December 2020 were reviewed from the Persian databases including Scientific Information Database (SID), the Iranian Magazine Database (Magiran), Iranian Medical Articles Database (Iran Medex), and the Iranian Research Institute for Information Science and Technology (IranDoc). Also, English databases including PubMed, Cochrane, Science Direct, Scopus, ISI Web of Science and the Google Scholar search engine were searched using the keywords including substance use, drug users, addiction, substance use disorders, substance-related disorders, sexual risks, high-risk sexual behavior, HIV risk behavior, unsafe sex, unprotected sex, and risky sex; the “and” and “or” operators were used for combined searching in abstracts, titles, and keywords. A list of all the articles in the implied databases was first prepared based on the search strategy and the considered keywords. The main inclusion criteria included articles published in Persian and English, which surveyed risky sexual behaviors in women drug users. Exclusion criteria were papers presented in conferences, case reports, letters to the editor, articles with insufficient data, and the inability to access the full text of related articles. We obtained 93 published articles in Cochrane Library, 180 articles in Scopus and Science

Direct, 87 articles in PubMed, 85 articles in the ISI Web of Science, and 235 articles in the Google Scholar and Iranian databases. Therefore, after the primary search of different databases, 680 full texts and abstracts of articles were found.

The extracted articles were evaluated according to the inclusion criteria in two steps. During the first step, 570 articles were eliminated because of being a duplicate. During the second step, 89 articles were eliminated for having different (irrelevant) titles and goals ( $n = 75$ ) and the lack of a full text ( $n = 14$ ). Therefore, 21 articles (including 13 quantitative studies and eight qualitative studies) were finally reviewed [Figure 1]. To avoid possible bias, all the steps related to extraction and reviews of sources were studied by two independent researchers. In case of any disagreement between the two researchers, the article was reviewed by a third party. The study articles were extracted by a pre-prepared checklist including the name of the author or authors, year of study, study design, number of participants, place of study, data collection tools, and the results of the study.

## Ethical considerations

Research ethics confirmation (ethical approval code: IR.MUI.REC.1398.667) was received from the Ethics Committee of Isfahan University of Medical Sciences. In the present review study, the gathered information was only used regarding the scientific goals and commitment to protect the intellectual property in reporting and publication of the results.

## Results

After reviewing the results of various studies, factors associated with the involvement of women drug users in risky sexual behaviors were divided into five categories: individual factors, factors related to drug use, inter-personal relationships, gender discrimination, and socio-economic factors.

### Individual factors

This category includes the level of education, marital status, awareness of STIs and HIV/AIDS, self-efficacy, and psychiatric problems.

- A. Level of education:** The results of some studies showed that there was a significant relationship between educational status and awareness about HIV, concerns about the risk of contracting HIV through unprotected sex, and the lack of sustained use of condoms.<sup>[22,23]</sup> Jones *et al.*<sup>[10]</sup> showed that there was a significant relationship between a low level of education and involvement in exchange sex (the exchange of monetary or non-monetary items for sex).
- B. Marital status:** Only two studies have surveyed the relationship between marital status and the involvement of women drug users in risky sexual behaviors

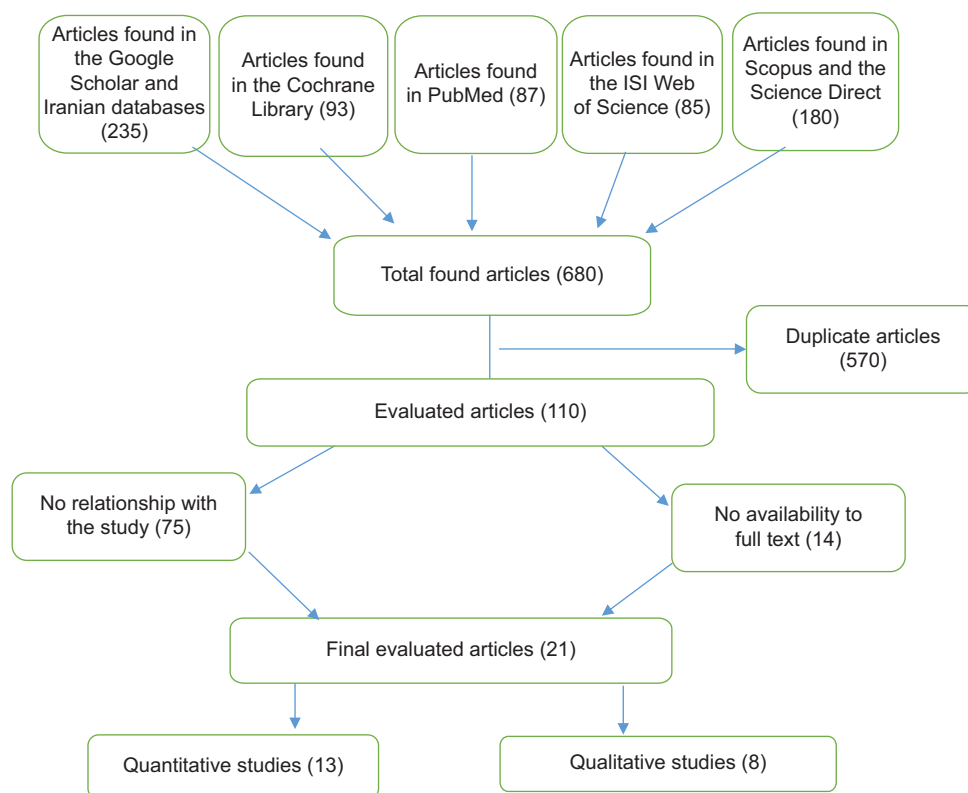


Figure 1: The flowchart for the selection process of the articles

whose findings are somewhat contradictory. Gaines *et al.*<sup>[24]</sup> showed that there was no significant relationship between marital status and persistent use of a condom, but Wang and Lin showed that sex with multiple sexual partners is more common among married women drug users than among other women.<sup>[25]</sup>

- C. Awareness of STIs and HIV/AIDS:** Some studies have examined the role of the lack of knowledge about STIs and HIV/AIDS in the involvement of women drug users in risky sexual behaviors.<sup>[21-23,26,27]</sup> Lee *et al.*<sup>[27]</sup> also found that women drug users had misconceptions about HIV transmission ways, did not consider susceptibility to HIV, and rarely used condoms. Farman Farmae *et al.*<sup>[22]</sup> showed a significant negative relationship between unprotected sex and awareness about HIV transmission in women drug users.
- D. Self-efficacy:** The results of studies showed that low self-efficacy was significantly predictive of unprotected sex, and there was a significant negative correlation between high self-efficacy and multiple sexual partners.<sup>[22,26,28]</sup>
- E. Psychiatric problems:** Morrill *et al.*<sup>[28]</sup> showed that in women drug users, there was a significant relationship between psychological problems (such as depression) and involvement in risky sexual behaviors. Furthermore, women drug users with more severe psychiatric problems are more likely to engage in risky sexual behaviors than men.<sup>[29]</sup>

### Factors related to drug use

Drug use is an independent predictor of exchange sex for drugs. It seems that exchange sex is the only practical way to provide drugs/money, especially among unemployed women.<sup>[25]</sup> In this regard, some important determinants are the type of drug, the intensity of drug use, and the way of drug use.

- A. Type of drug and intensity of drug use:** Some studies have reported that higher levels of drug use and the use of stimulants (such as methamphetamine and cocaine) lead to greater involvement of women drug users in HIV-related sexual behaviors.<sup>[10,29,30]</sup> Gore-Felton *et al.*<sup>[31]</sup> showed that as the intensity of drug use by women increases, the likelihood of having multiple sexual partners rises.
- B. The way of drug use:** Based on earlier research, in women who use non-injectable heroin, using the injectable heroin is associated with higher likelihood of having a sexual partner who injects drugs. Also, the use of injectable drugs increases the likelihood of exchange sex.<sup>[32]</sup> Syringe sharing and unprotected sex have been reported to be more prevalent among women who have engaged in exchange sex.<sup>[30]</sup>

### Inter-personal relationships

This category includes family support as well as the experience of intimacy, trust, and love with a regular sexual partner.

- A. Family support:** In the report of two qualitative studies, the lack of family support (financial or psycho-social) is considered an important factor in the involvement of women drug users in risky sexual behaviors.<sup>[21,26]</sup>
- B. Experiencing intimacy, trust, and love in relationships with regular sexual partners:** According to studies, women drug users are more likely to report unprotected sex with regular sexual partners than with casual partners. Having a long-term and continuous relationship with a sexual partner is the main reason for not using a condom.<sup>[23,33,34]</sup> The results of a study showed that although women drug users and their sexual partners may be aware of the HIV-related risks, they face many barriers. For example, women may have sex without condom use to prove their loyalty to their sexual partner.<sup>[35]</sup> Furthermore, women drug users tend to have sex with people who are drug users. Thus, most women and their regular partners share sexual and drug interactions with each other.<sup>[14]</sup> Trust is associated with sex without condom use and sharing a syringe, and paradoxically, these kinds of behaviors were seen as reinforcing feelings of love and trust.<sup>[35]</sup>

### Gender discrimination

Gender discrimination and unequal power in the relationship between men and women are among the factors associated with the involvement of women drug users in risky sexual behaviors.

- A. History of sexual abuse:** Brooks *et al.*<sup>[29]</sup> showed a significant relationship between a history of sexual abuse and HIV-related risk behaviors in women drug users. Also, if a woman has been sexually abused in childhood, she is more likely to engage in risky sexual behaviors and choose a high-risk sexual partner. In fact, drug use may be a mediator between a history of previous sexual abuse and involvement in risky sexual behaviors.<sup>[28]</sup> Jones *et al.*<sup>[10]</sup> showed that women drug users who have experienced sexual abuse before the age of 15 will be more significantly involved in the exchange sex.
- B. Inability to negotiate for safer sex:** Power inequality in relationships between women drug users involved in exchange sex significantly affects their negotiating power for safe sex. Non-continuous use of condoms has been reported for reasons such as fear of violence, the lack of customers, and offering extra money.<sup>[14]</sup>
- C. Violence by sexual partners:** In some cases, women usually had a husband or partner who did not support them but also committed violence.<sup>[12,23]</sup> If a woman experiences violence in her relationship with an intimate sexual partner, she may lose the ability to negotiate the use of condoms.<sup>[28]</sup>

### Socio-economic factors

Various studies have considered socio-economic factors as the most important associated with the involvement

of women drug users in risky sexual behaviors. This category includes housing situation, criminal record, and financial (economic) and employment status.

- A. Housing situation:** Several studies have focused on the role of the housing situation in the involvement of women drug users in risky sexual behaviors<sup>[10,12,25,26,29,32]</sup>; women with temporary housing are significantly involved in exchange sex.<sup>[10]</sup> Homelessness has also been cited as a prominent risk factor associated with women's involvement in exchange sex.<sup>[12]</sup> Mackesy-Amiti *et al.*<sup>[32]</sup> showed that women co-habiting with a regular sexual partner were less likely to have multiple partners. However, they were more likely to have vaginal/anal sex without using a condom. In this regard, Brooks *et al.*<sup>[29]</sup> showed that there was no significant association between housing and involvement in HIV-related sexual risk behaviors in women drug users.
- B. Criminal record:** There are conflicting results on the relationship between having a criminal record and the involvement of women drug users in risky sexual behaviors. According to a study, having a history of imprisonment is one of the most common risk factors for risky sexual behaviors in women drug users,<sup>[12]</sup> whereas this was not consistent with the results of Brooks and his colleagues.<sup>[29]</sup>
- C. Financial (economic) and employment status:** Based on the studies, employment and income are among major factors associated with a higher risk of the involvement of women drug users in risky sexual behaviors.<sup>[10,22,24,25,30,32]</sup> Gaines *et al.*<sup>[24]</sup> reported that there was a significant relationship between low income and irregular use of condoms and drug/alcohol use before sex. Women drug users who have multiple sexual partners are more likely to be unemployed. In fact, drug use has been cited as an independent predictor of exchange sex for money.<sup>[25]</sup> This can curb safer sexual considerations and increase the likelihood of having unprotected sex.<sup>[36]</sup> However, the motivations of the majority of women drug users are to gain money and drug/alcohol.<sup>[10,18]</sup> A summary of the results is shown in Table 1.

### Discussion

This present review study was carried out to identify the factors related to the involvement of women drug users in risky sexual behaviors. According to studies, factors related to the involvement of women drug users in risky sexual behaviors could be categorized into individual factors, factors related to drug use, inter-personal relationships, gender discrimination, and socio-economic factors. Although most of these factors seem to be inter-related and impossible to separate, the impact of some of these factors is more pronounced and should be given more attention.

Reviewing previous studies showed that education level, self-efficacy, knowledge about STIs and HIV/AIDS, marital

**Table 1: Studies in the field of factors related to involvement of women drug users in risky sexual behaviors from 2000 to 2020**

Authors and publication year	Type of the study	Sample size	Location of the study	Data collection tools	Results
Morrill <i>et al.</i> (2001) <sup>[28]</sup>	Cross-sectional study	528 women and men with a history of substance drug abuse (202 women)	USA***	Structured interview	Women drug users who had a history of physical or sexual abuse were at a higher risk for HIV/AIDS* or other STIs**. Also, if the women drug users experience violence in relationships with an intimate sex partner, the ability to debate and negotiate the use of condoms in sex may be lost. Higher intensity of drug use, psychiatric problems such as depression, and low self-efficacy also significantly predict risky sexual behaviors.
Gore-Felton <i>et al.</i> (2003) <sup>[31]</sup>	Cross-sectional study	188 young women drug users	Russia	72-item survey assessment and interviews	As the severity and frequency of drug use increase in women, the likelihood of having multiple sexual partners will increase.
Wang <i>et al.</i> (2003) <sup>[25]</sup>	Cross-sectional study	171 female sex workers and heroin users	China	77-item self-reported questionnaire	Unemployment and injecting drug use were independently associated with sexual exchange with drugs or money. Extra-marital sex with multiple sexual partners is more common among married women who use drugs than among other women.
Razzaghi <i>et al.</i> (2004) <sup>[18]</sup>	Qualitative	23 women injecting drug users	Iran	In-depth interviews, focus groups, and ethnographic observations	Most women who use injecting drugs have reported multiple sex in exchange for money or drugs.
Lee <i>et al.</i> (2005) <sup>[27]</sup>	Qualitative, phenomenological approach	40 women injecting drug users	Taiwan	Focus groups	Women drug users have misconceptions about ways to prevent STIs** and HIV/AIDS*, and many do not consider themselves susceptible to HIV.
Gu <i>et al.</i> (2008) <sup>[30]</sup>	Quantitative, longitudinal	281 female sex workers and injecting drug users	China	Questionnaire, face-to-face interviews	Factors such as financial aspect and employment status and higher intensity of substance use as well as stimulant use were associated with more involvement of women drug users in risky sexual behaviors.
Lam (2008) <sup>[35]</sup>	Qualitative	75 women and men (53 in-depth interviewees, three case studies, and 19 people participating in four focus group discussions) (31 women injecting drug users)	Vietnam	Focused ethnographic interviews, focus groups, and participant observation	Intimate relationships with a regular sexual partner play an important role in managing HIV*-related risks among injecting drug users. In fact, many women drug users may have sex without using a condom and sharing a syringe with their partner to prove their loyalty and gain their trust.
Brooks <i>et al.</i> (2010) <sup>[29]</sup>	Quantitative, Descriptive (secondary analyses of five randomized controlled clinical trials)	1429 Participants (639 women drug abusers)	USA***	Questionnaire	Factors such as psychiatric problems, a history of sexual abuse, and physical abuse were associated with HIV*-related sexual behaviors in women drug users. However, there was no association between housing situation and having a history of imprisonment with the involvement of women drug users in risky sexual behaviors.

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**Table 1: Contd...**

Authors and publication year	Type of the study	Sample size	Location of the study	Data collection tools	Results
Gaines <i>et al.</i> (2013) <sup>[24]</sup>	Quantitative, longitudinal	584 female sex workers and drug users	Mexico	Face-to-face interviews, biological testing for HIV*/STIs**	There is a significant relationship among poor economic status with non-continuous use of condoms, substance or alcohol use before having sex, daily substance use, monthly methamphetamine use, and weekly alcohol consumption.
Goldenberg <i>et al.</i> (2013) <sup>[15]</sup>	Cross-sectional study	214 female sex workers and drug users	Mexico	Questionnaire, blood specimens (for HIV*/STIs** testing)	The destructive consequences of risky sexual behaviors, because of their nature as well as the existence of gender inequalities and gender-based violence, are more focused on women.
Mackesy-Amiti <i>et al.</i> (2013) <sup>[32]</sup>	Quantitative, longitudinal	561 (209 women non-injecting drug users)	USA***	Audio-Computer-Assisted Self-Interview (ACASI)	In women who use non-injectable heroin, change of the method of consumption to the injection method is associated with increasing the likelihood of having a sexual partner using injecting drugs and increases the likelihood of risky sexual behaviors. Also, employment situation and financial status and instability in housing situation are among the most important factors related to increasing the risk of women drug users in risky sexual behaviors.
Syvertsen <i>et al.</i> (2015) <sup>[33]</sup>	Cross-sectional study	214 female sex workers and drug users	Mexico	Questionnaire	Women drug users report more likely unprotected sex with regular sexual partners than with casual partners or exchange sex. Love and trust in regular sexual partners are related to relationship quality, sexual risk, and drug use patterns in women users.
Syvertsen <i>et al.</i> (2015) <sup>[34]</sup>	Qualitative, case study	One female sex worker, injecting the drug user and her sexual partner	Mexico	Ethnographic observation, field notes	Many women injecting drug users cited emotional need and trust (rather than financial gain) as the main reasons for risk-taking and mutual agreement to share syringes and have sex without a condom. Love and trust are also linked to drug use patterns that may put a person at risk for HIV* from an intimate sexual partner.
Jamshidi manesh <i>et al.</i> (2016) <sup>[21]</sup>	Qualitative, content analysis	32 drug-abusing women	Iran	Semi-structured face-to-face interviews	Although women drug users are somewhat familiar with the routes of transmission of STIs**, they do not have a comprehensive knowledge of the subject. In this study, cases such as the lack of knowledge of women using drugs about the methods of prevention of STIs**, the lack of skills in suggesting the use of condoms, and also the lack of knowledge about safe sex are mentioned. Having family support is an important factor in preventing women drug users from engaging in risky sexual behaviors. Women's limited power to discuss safe sex with their sexual partners also increases the risk of HIV* and STIs**.

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**Table 1: Contd...**

Authors and publication year	Type of the study	Sample size	Location of the study	Data collection tools	Results
Sharma <i>et al.</i> (2017) <sup>[14]</sup>	Qualitative study	20 women who injected drugs and 28 women who used drugs through non-injecting routes	India	Semi-structured in-depth interviews	Factors that have influenced safe sexual behaviors include gender power imbalances, limited decision-making powers, the lack of accurate information to properly assess risk, and exposure to substances. Violence was a determining factor in sexual and reproductive health outcomes. In many cases, women say that they do not have enough power to negotiate. Also, the feeling of intimacy in relationships with regular sexual partners and financial motivation have been mentioned as factors related to the formation of risky sexual behaviors in women drug users.
Farmanfarmaee <i>et al.</i> (2017) <sup>[22]</sup>	Quantitative, Descriptive study	150 women with drug use	Iran	Questionnaire	Employment status as well as financial aspect, level of education, lack of knowledge about STI** and HIV/AIDS* prevention methods, self-efficacy, and psychiatric problems such as depression are among the most important factors associated with the increased risk of involvement of women drug users in risky sexual behaviors.
Merghati Khoei <i>et al.</i> (2018) <sup>[26]</sup>	Qualitative, ethnography	25 women with substance use disorders	Iran	Observation, semi-structured interviews, and field notes	Having family support is an important factor in preventing women drug users from engaging in risky sexual behaviors. Housing situation and self-efficacy are also other factors related to the involvement of women drug users in risky sexual behaviors.
Larijani <i>et al.</i> (2019) <sup>[13]</sup>	Qualitative, grounded theory	17 women sex workers with drug use	Iran	In-depth interviews	Factors such as livelihood problems and poverty as well as homelessness are among the most important factors associated with the involvement of women drug users in risky sexual behaviors.
Jones <i>et al.</i> (2019) <sup>[10]</sup>	Cross-sectional study	266 women sex workers and drug users	USA***	Washington University–Risk Behavior Assessment (WU-RBA); structured interview	Alcohol and cocaine addiction were most strongly associated with the involvement of women drug users in the sex trade. Other important factors related to sex exchange include injecting drug use, low education, a history of sexual abuse before 15 years, unstable housing and employment status, and financial aspects.
Hamzeh <i>et al.</i> (2019) <sup>[12]</sup>	Cross-sectional study	138 addicted women	Iran	Interviews and questionnaire	Having a history of imprisonment, homelessness, and violence by a sexual partner are among the most common risk factors associated with the involvement of women drug users in risky sexual behaviors.

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**Table 1: Contd...**

Authors and publication year	Type of the study	Sample size	Location of the study	Data collection tools	Results
Chambers <i>et al.</i> (2020) <sup>[23]</sup>	Randomized controlled trial	93 addicted women	USA <sup>***</sup>	Self-report assessment	Women who use drugs usually do not have enough knowledge about ways to prevent STIs <sup>**</sup> and HIV/AIDS <sup>*</sup> . These groups of women are also more likely to report unprotected sex with regular sexual partners than casual partners or exchange sex and are more likely to report a history of physical/sexual violence and violence by their sexual partner.

\*HIV/AIDS: human immuno-deficiency virus/acquired immuno-deficiency syndrome. \*\* STIs: sexually transmitted infections. \*\*\*USA: United States of America

status, and psychiatric problems are among individual factors related to the involvement of women drug users in risky sexual behaviors. Previous studies revealed that a low level of education and self-efficacy as well as the lack of knowledge about STIs and HIV/AIDS can be considered important individual factors. In fact, these factors are inter-related and inter-twined in a chain and increase the likelihood of having multiple sexual partners, unprotected sex, and exchange sex.<sup>[10,21-23,26,27]</sup> Studies on the relationship between marital status and the involvement of women drug users in risky sexual behaviors are scanty. Although it is expected that married women who use drugs will be less likely to engage in risky sexual behaviors, more comprehensive studies are needed. Based on the studies, the presence of psychological disorders in women drug users may have a significant effect on their decision-making and negotiation skills, and as a result, they are more likely to involve in risky sexual behaviors.<sup>[28,37]</sup> Therefore, in preventing or reducing the negative consequences associated with risky sexual behaviors in women drug users, the role of individual factors should be considered. Reviewing previous studies indicated that factors related to drug use (including the type of drug, the intensity of drug use, and the way of drug use) are other determinants of the involvement of women drug users in risky sexual behaviors. According to one study, the use of stimulants such as methamphetamine increases the likelihood of engaging in unprotected sex.<sup>[36]</sup> Also, changing the way of drug use to injectable drugs increases the likelihood of having a sexual partner who injects drugs. According to Lam's study, in most cases, sharing a syringe as well as not using a condom is common in the relationship between a woman drug user and her sexual partner who injects drugs. Therefore, it is necessary to pay attention to the method and the pattern of drug use in women through periodic surveys. Based on this, evidence-based prevention programs can be designed.

Reviewing previous studies showed that inter-personal relationships (family support as well as the experience of intimacy, trust, and love in the relationships with a regular

sexual partner) is another determinant of the involvement of women drug users in risky sexual behaviors.<sup>[21,26,38]</sup> In this regard, if women drug users do not have family support, they are more likely to engage in risky sexual behaviors.<sup>[21]</sup> Also, the experience of intimacy, trust, and love in the relationship with a regular sexual partner seems to discourage condom use. Many of these women, despite being aware of the risk of transmitting the infection and unwanted pregnancy, rarely suggest using a condom because using a condom is considered a barrier to intimacy and trust.<sup>[38]</sup> This finding emphasizes the key role of the family and its function as well as inter-personal relationship skills in reducing women's social harm and their involvement in risky sexual behaviors. Reviewing previous studies showed that gender discrimination and unequal power in male-female relationships are among the factors associated with the involvement of women drug users in risky sexual behaviors. In this regard, a history of sexual abuse, inability to negotiate safer sex, and violence by sexual partners are notable.<sup>[39]</sup> Based on the studies, violence against women or coercive interactions prevents the negotiation about condom use, and in this situation, women are often forced to have unprotected sex.<sup>[10,14,40,41]</sup> Therefore, changing undesirable gender beliefs and gender roles should be considered a way to reduce its negative effects on the involvement of women drug users in risky sexual behaviors. This will improve their sexual and reproductive health.

Reviewing previous studies showed that socio-economic factors including housing situation, criminal record, financial status, and employment were important factors in the involvement of women drug users in risky sexual behaviors.<sup>[10,22,24,25,30,32]</sup> The results of several studies showed that there is a significant relationship between homelessness and temporary housing with a number of HIV-related sexual behaviors.<sup>[10,12]</sup> Wang and Lin showed that women drug users who were involved in exchange sex were usually unemployed and exchange sex appears to be a practical way to obtain drugs/money.<sup>[25]</sup> Therefore, the role of socio-economic factors in interventions to prevent and



control risky sexual behaviors in women drug users should be considered.

The results of the present study about factors associated with the involvement of women drug users in risky sexual behaviors can be used to make decisions and find strategies to prevent the formation of risky sexual behaviors in women drug users and ultimately promote sexual and reproductive health of these women. Also, the results of this study can be the basis for conducting wider and more comprehensive studies about the involvement of women drug users in risky sexual behaviors. One of the limitations of the present study was the lack of access to some of the databases and the full texts of some of the articles.

## Conclusion

According to the present review study, individual factors, factors related to drug use, inter-personal relationships, gender discrimination, and socio-economic factors are associated with the involvement of women drug users in risky sexual behaviors. The results can be used in the field of women's social harms in finding strategies and designing the necessary interventions to prevent risky sexual behaviors in women drug users in different societies and cultural contexts. Also, the results can be used by all researchers who want to study the relationship between these factors and the involvement of women drug users in risky sexual behaviors.

## Acknowledgements

We should thank the Vice-chancellor for Research of Isfahan University of Medical Sciences for its support. This article was derived from a Ph.D. thesis in reproductive health with project number 398871.

## Financial support and sponsorship

Isfahan University of Medical Sciences

## Conflicts of interest

Nothing to declare.

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