

# UC San Diego

## UC San Diego Previously Published Works

### Title

Women, drugs and HIV

### Permalink

<https://escholarship.org/uc/item/5b39n872>

### Journal

International Journal of Drug Policy, 26(0 1)

### ISSN

0955-3959

### Authors

Azim, Tasnim  
Bontell, Irene  
Strathdee, Steffanie A

### Publication Date

2015-02-01

### DOI

10.1016/j.drugpo.2014.09.003

Peer reviewed



# HHS Public Access

Author manuscript

*Int J Drug Policy*. Author manuscript; available in PMC 2016 February 01.

Published in final edited form as:

*Int J Drug Policy*. 2015 February ; 26(0 1): S16–S21. doi:10.1016/j.drugpo.2014.09.003.

## Women, drugs and HIV

Tasnim Azim<sup>a,\*</sup>, Irene Bontell<sup>a,1</sup>, and Steffanie A. Strathdee<sup>b</sup>

<sup>a</sup>Centre for HIV and AIDS, International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b), Mohakhali, Dhaka, Bangladesh

<sup>b</sup>Division of Global Public Health, Department of Medicine, University of California, San Diego, La Jolla, CA 92093, USA

### Abstract

Women who inject drugs are among the most vulnerable to HIV through both unsafe injections and unprotected sex. They are also among the most hidden affected populations, as they are more stigmatized than their male counterparts. Many sell sex to finance their own and their partner's drug habit and often their partner exerts a significant amount of control over their sex work, condom use and injection practices. Women who use drugs all over the world face many different barriers to HIV service access including police harassment, judgmental health personnel and a fear of losing their children. In order to enable these women to access life-saving services including needle-syringe and condom programs, opioid substitution therapy and HIV testing and treatment, it is essential to create a conducive environment and provide tailor-made services that are adapted to their specific needs. In this commentary, we explore the risks and vulnerabilities of women who use drugs as well as the interventions that have been shown to reduce their susceptibility to HIV infection.

### Keywords

females; drug use; people who inject drugs; sex work; harm reduction; HIV

### Introduction

Globally, the number of people who inject drugs (PWID) is approximately 16 million, of whom 3 million are estimated to be HIV-infected (Mathers et al., 2008). Statistics for females who inject drugs (FWID) are scarce, but a recently published meta-analysis (Des Jarlais, Feelemyer, Modi, Arasteh, & Hagan, 2012) of 135 studies with data collected between 1982 and 2009, including over 125,000 PWID from four continents (excluding Africa and Oceania) had an overall proportion of 21.5% women, which would correspond to

\*Corresponding author. Dr. Tasnim Azim, Centre for HIV and AIDS, International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b), Mohakhali, Dhaka, Bangladesh. tasnim@icddr.org, telephone: +88028812240.

<sup>1</sup>Permanent address: Unit of Infectious Diseases, Department of Medicine Huddinge, Karolinska Institutet, 141 86 Stockholm, Sweden

**Publisher's Disclaimer:** This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

approximately 3.5 million FWID globally. The analysis revealed variation in the female:male odds ratios for HIV prevalence but overall there was a modest but significantly higher HIV prevalence among females with an overall odds ratio of 1.18. FWID had higher rates of infection than MWID in Eastern Europe (33.0% vs 27.9%), Western Europe (42.8% vs 40.3%), Latin America (38.5% vs 34.6%) and North America (34.5% vs 31.3%). A similar review from Central Asia, on data collected between 2002 and 2012, showed that FWID in Russia, Kazakhstan, Uzbekistan and Tajikistan also had higher HIV prevalence; 10.1% compared to 9.5% among MWID.

Non-injection drug use e.g. cocaine/crack, heroin, amphetamine-type stimulants (ATS), that are administered by snorting, smoking, inhaling, ingesting, and rectal insertion, are more common worldwide than injection drug use (Shoptaw et al., 2013). Available global estimates on the numbers of ATS and cocaine users show high burden (Degenhardt & Hall, 2012) and ATS use appears to be rising in many countries including some in South America, East and South East Asia (Dargan & Wood, 2012). HIV prevalence is also high among persons who use non-injection drugs (Strathdee & Stockman, 2010) and studies in New York City have shown that HIV prevalence among injecting and non-injecting heroin and cocaine users were similar (Des Jarlais et al., 2007). The principal risk for HIV transmission among non-injection substance users is from high risk sexual behaviours and both cocaine and ATS can increase sexual arousal and promote risky sex (N. El-Bassel, S. A. Shaw, A. Dasgupta, & S. A. Strathdee, 2014a; Shoptaw et al., 2013; Strathdee & Stockman, 2010). In women, non-injection drug use has been associated with high risk sexual behaviours including multiple concurrent partners (Adimora, Schoenbach, Taylor, Khan, & Schwartz, 2011) and not using condoms (Wechsberg et al., 2010).

Women who use drugs, irrespective of whether these are injected or not, are faced with multiple issues which enhance their vulnerability to HIV; these include concomitant sex work, sexually transmitted infections (STIs), viral hepatitis, mental health problems, reproductive health issues, child care, stigma, violence and lack of access to health services including for HIV prevention, care and treatment. In this commentary, we will provide an overview on some of these issues particularly those related to sex work, relationships with intimate partners, STIs, Hepatitis C, stigma and violence, reproductive health and child care, and availability and access to HIV prevention, care and treatment services.

## Women, drug use and sex work

Many women are driven to sell sex to support their own or their partner's drug use, which can put them at dual risk of HIV infection: through unsafe sex as well as unsafe injections. Overlap between sex work and injecting drug use is especially high in parts of Eastern Europe and Central Asia and is a growing concern in some Latin American countries, such as Mexico (El-Bassel et al., 2014a; Morris et al., 2013). Women engaging in both the sex trade and use of illicit drugs are more likely to share needles/syringes and other injection paraphernalia amongst themselves and their clients, have unprotected sex with their clients as well as their intimate partners, have higher rates of STIs and they are also more likely to experience sexual violence and incarceration (Azim et al., 2006; Des Jarlais, Feelemyer, Modi, Arasteh, & Hagan, 2012; N. El-Bassel, S. A. Shaw, A. Dasgupta, & S. A. Strathdee,

2014b). FWID-sex workers (FWID-SW) are more likely than sex workers who do not use drugs to engage in street-level sex work, which is associated with higher levels of violence and high-risk sex due to a different type of clientele and lack of safe places to take clients (Deering et al., 2013). However, sex work can also provide economic freedom for women. A study in Tanzania revealed that females using drugs who also sold sex were more likely to purchase and use drugs alone than males (Asher, Hahn, Couture, Maher, & Page, 2013; Williams et al., 2007). In general however, the combination of multiple high-risk behaviours, vulnerabilities and discrimination associated with FWID-SW has led to high HIV prevalence among this sub-population. Examples include:

- In Central Asia FWID-SW are up to 20 times more likely to acquire the infection compared to FSW who do not inject drugs (Baral et al., 2013)
- Along the US-Mexican border, HIV prevalence among FWID-SW is 12.3%, nearly 3 times higher compared to other FSW (Strathdee et al., 2008).
- In Tanzania, 85% of FWID are sex workers and their HIV prevalence is 62%, compared to 28% among MWID (Lambdin et al., 2013)
- In Nepal, over 50% of FWID sell sex and their HIV prevalence is 33%, compared to 6.3% among MWID (Ghimire, Suguimoto, Zamani, Ono-Kihara, & Kihara, 2013)

Since FWID-SW are at high risk of becoming infected with HIV through unprotected sexual intercourse and sharing injection equipment with intimate partners, clients and peers, this subgroup meets the criteria for a 'bridge' population that is associated with the transition from concentrated to generalized HIV epidemics (Des Jarlais, Feelemyer, Modi, Arasteh, Mathers, et al., 2012).

### **Women with intimate partners who inject drugs**

FWID are more likely to have MWID as sex partners (El-Bassel et al., 2014a). Women's relationships with their intimate male partners who also use drugs are complicated and dynamic. Generally these women work to sustain their own as well as their partner's drug habits. A study on women using drugs and selling sex in Canada (Shannon et al., 2008) found that men take control of women's lives through a process of building trust, supplying and controlling the supply of drugs, gaining control of their sex work environment and transactions with their clients. Violence - both physical and sexual- is common and the experience of and the threat of violence serves to marginalize women further. Moreover, the intimate partner often controls decisions on condom use (Des Jarlais, Feelemyer, Modi, Arasteh, Mathers, et al., 2012), and lower rates of condom use have been reported by women who use drugs with both clients and their intimate partners (El-Bassel et al., 2014a).

On the other hand, these relationships are also emotional and women rely on their intimate partners for companionship as well as for support to negotiate with clients and law enforcement. A qualitative study conducted among drug using couples revealed the complex relationships and the role that emotional considerations play such that in one case the woman was initiated into injecting drugs by her intimate partner on her insistence as she

wanted to be able to better share and understand his life (Simmons, Rajan, & McMahon, 2012).

Non-drug using women who are partners of MWID are also vulnerable to HIV as unprotected sex with intimate partners is common. Transmission of HIV to non-injecting wives of MWID has been documented in Manipur (Panda et al., 2000). In many cases, the female partner cannot change risky practices with her partner by herself, but harm reduction interventions aimed at couples can successfully decrease drug use and needle sharing and increase the use of condoms among drug-using couples (El-Bassel et al., 2014b). In addition, couple-based approaches often have positive effects on sexual communication skills and balancing power within the relationship (Roberts, Mathers, & Degenhardt, 2010). Evidence from a harm reduction program in Vietnam shows that reaching out to female partners of MWID is possible and may be effective in promoting condom use by the couple (Hammett et al., 2012).

### **Stigma, discrimination and violence**

FWID are more stigmatized and discriminated against than their male counterparts as reported from several countries (El-Bassel et al., 2014a). Stigma is prevalent through all strata of society starting with their own families, friends and neighbours to service providers and law enforcement. In Bangladesh, a woman who uses drugs said “*when I visit any house they assume I am a thief*”(UNODC, icddr, & 2010) and a similar opinion was expressed in a study conducted in Georgia – “*they (women who use drugs) are liars, big liars ...and they are ready to go as far as possible... they are ready to sell themselves...*” (Otiashvili et al., 2013). In the same study from Georgia, the attitude of law enforcement was reflected in the statement “*Generally the attitude of police towards a drug user is similar to their attitude towards criminals and not sick people... their attitude towards women is even worse than to men...*” The views held by society cause women who use drugs to suffer from extremely low esteem, feelings of guilt and self-blame.

Violence is commonly experienced by FWID (Braitstein et al., 2003) from their intimate partners and in the case of FWID-SW from their clients as well (Morris et al., 2013). There is a direct correlation between violence and increased HIV vulnerability as data show that women who have experienced intimate partner violence are less likely to use condoms and more likely to share needles, to have multiple sexual partners and to trade sex (Braitstein et al., 2003; Gilchrist, Blazquez, & Torrens, 2011). Women also report high rates of sexual violence from police and law enforcement agencies and experience high rates of incarceration. In some countries, the police confiscate condoms, sterile injection equipment and other paraphernalia thus compromising adoption of safe behaviours (El-Bassel et al., 2014a; UNODC et al., 2010). A sequelae of sexual violence is post-traumatic stress disorder which is common among women who use drugs (Braitstein et al., 2003).

### **Reproductive health care services and child care**

Reproductive health services that cater to the needs of women who use different types of drugs is essential and these include pregnancy related services, birth control, advice on birth spacing and abortion services. Offering these services is a way to reach out to women who

use drugs and integrating reproductive health services with harm reduction services or vice versa can reduce stigma.

For many women, pregnancy has been the main motivation to seek drug treatment services, and it was identified as a 'turning point' in their lives (Radcliffe, 2011) leading them to sometimes become drug free. In Bangladesh, relapse into drug use following drug treatment was more common among females than males; and women without children to support were more than three times likely to relapse (Maehira et al., 2013) which suggests that having children can be a strong motivating factor to reduce drugs. However, women who are identified as having a drug use problem, often have their children removed from under their care. In a study among mothers in opioid pharmacological treatment in Sydney, Australia many of the mothers interviewed said they had been reported prenatally by a hospital (Taplin & Mattick, 2014). Drug use during pregnancy is criminalized in some states in the US and in Russia and Ukraine laws allow abortion and termination of parental rights of drug using women (Pinkham & Malinowska-Sempruch, 2008). Such punitive policies can deter pregnant women and mothers from entering drug treatment and receiving services (El-Bassel, Terlikbaeva, & Pinkham, 2010).

Health care providers are often not trained to deal with the unique needs of women who use drugs and can have a hostile attitude towards the women which poses a significant deterrent for women to seek treatment (Simpson & McNulty, 2008). There is a need to recognise that pregnant women who use drugs and who seek help for their drug use are often motivated to act in the interests of their children and health care providers should be trained to offer them a range of opportunities both antenatally and postnatally (Marsh, D'Aunno, & Smith, 2000; Radcliffe, 2011). It is also an opportunity for providing prevention from mother to child transmission (PMTCT) of HIV so that children are born HIV free (El-Bassel et al., 2014a). More needs to be done to support these women around the issues that impact on their ability to parent and where children are under care of others, having contact with their children that is known to be helpful to all involved (Taplin & Mattick, 2014).

### **Co-infections and co-morbidities and the need for appropriate services**

Persons who use drugs can often experience multiple infections and other conditions such as mental disorders. Diagnosis, availability of treatment and access for these conditions vary depending on the context including geography and gender. Examples of infections include STIs, viral hepatitis, and tuberculosis. STIs are not uncommon among women who use drugs (Azim et al., 2006; Guerrero & Cederbaum, 2011). Herpes simplex type 2 was found at particularly high levels in PWID in the US as well as the carcinogenic strains of human papilloma virus (HPV16 and 18) (Belani et al., 2012). However, services provided for STI diagnosis and management falls short of the need (Guerrero & Cederbaum, 2011). Hepatitis C virus (HCV) infection is common among PWID (Bruggmann & Grebeley, 2014; Nelson et al., 2011) and treatment is not widely available (Altice, Kamarulzaman, Soriano, Schechter, & Friedland, 2010). An analysis of data among PWID attending the Australian Needle and Syringe Programs between 1999 and 2011 where treatment was available for HCV, showed that uptake of treatment was significantly lower in FWID than MWID

(Iversen et al., 2014). Tuberculosis is also prevalent among PWID especially among those who are HIV positive (Belani et al., 2012) but gender disaggregated data are not available.

People who use drugs are at higher risk of depression, anxiety, and severe mental illness, including attempted suicide compared with those who do not use illicit drugs (Belani et al., 2012; Degenhardt & Hall, 2012). The prevalence of depression among heroin smokers has been found to be higher in females than males (Sordo et al., 2012).

Addressing these multiple co-infections and co-morbidities is best done in an integrated manner. In the UK, a national mental health strategy emphasises the need for integrated care to enable diagnosis and management of the co-morbidities of drug use and mental illness in women (Simpson & McNulty, 2008). Similarly in the US, the guidance proposed by the Centers of Disease Control and Prevention recommends that uptake of services will be enhanced if they are provided in a single site (Belani et al., 2012). The guidance also recommends that health care professionals are trained to recognise, manage and treat conditions in a culturally and gender sensitive manner.

## Behavioural and structural interventions

Several interventions designed specifically for women using drugs have been implemented involving drug treatment along with education, counselling, reproductive health services, child care, female only drop in centres in different countries including Bangladesh, Canada, Russia, Ukraine, US (Pinkham, Stoicescu, & Myers, 2012; UNODC, 2013). Most of these services have not been validated by formal research but reports from the programs suggest that they have been successful in increasing the number of women accessing health services. However a few studies have been conducted and two examples are provided below:

A randomized trial was conducted in the US to test effectiveness of HIV/STI safer sex skills building (SSB) groups for women in community drug treatment versus standard HIV/STI Education (HE) (Tross et al., 2008). The SSB consisted of five 90-minute group sessions using problem-solving and skills rehearsal to increase HIV/STI risk awareness, condom use and partner negotiation skills. In HE, one 60-minute group covered HIV/STI disease, testing, treatment, and prevention information. The SSB resulted in significant improvement in safer sex practices that were maintained over a longer duration compared to the HE group.

Behavioural interventions combining motivational techniques were used to assess whether both safer sex and safer injection taking practices could be promoted among FWID-SW. Two brief 30-minute theory-based interventions based on motivational interviewing were found to reduce both injection and sexual risks among FWID-SW in two Mexico-US border cities (Strathdee et al., 2013). The results showed that FWID-SW can reduce sexual risks if given the right information and negotiation skills. The injection risk intervention has value in settings with sub-optimal syringe access but sterile needle-syringe coverage is essential.

A review on behavioural strategies to reduce injecting and sexual risk suggested that brief, standard, educational approaches may be more cost-effective than widespread use of formal multisession psychosocial interventions (Meader, Li, Des Jarlais, & Pilling, 2010).



## HIV prevention and harm reduction for women who use drugs

Comprehensive packages for HIV prevention in people who use drugs as recommended by WHO, UNODC and UNAIDS consists of nine interventions including oral substitution therapy (OST), needle and syringe programs (NSPs), condoms and HIV testing and treatment (World Health Organization, 2012). Modelling has shown that simultaneous scale-up of NSPs, HIV testing, OST and antiretroviral treatment (ART) can reduce HIV incidence by up to 63% (Degenhardt et al., 2010). But despite the global commitment of universal access to HIV prevention, testing, treatment and care people who use drugs, especially women, are less likely to utilize these services (Malta, Ralil da Costa, & Bastos, 2014). Women who use drugs, just like any other person, want to lead healthy lives, but they are constrained in accessing services by social and structural factors including prejudiced health professionals, lack of gender appropriate services, costs, unsafe/indiscrete locations, fear of losing their children and partner violence (Olsen, Banwell, Dance, & Maher, 2012; Roberts et al., 2010). Structural interventions are therefore required to ensure benefits from the combination of services recommended (Strathdee et al., 2010).

With the recent interest and attention on biomedical prevention, female condoms have dropped out of the radar as an effective prevention technology. Female condoms, similar to male condoms, are not only effective for HIV prevention but also for birth control. Unfortunately they have not been used widely although it was found to be acceptable to many women and one of the factors that prevented the wide scale use of female condoms was cost but studies in Brazil, South Africa, and Washington, DC suggest that expanded distribution would be cost effective in preventing HIV infection in those settings (Adimora et al., 2013). Another factor is lack of knowledge on how to use female condoms on the part of healthcare providers who therefore do not promote this method (Mantell et al., 2011).

It is recommended that people who use drugs be tested for HIV annually (McNairy & El-Sadr, 2014) to enable early detection of infection. For this to happen it is recognised that HIV testing and counselling needs to be reconceptualised, simplified and normalised (Sidibé, Zuniga, & Montaner, 2014). The development of quick and reliable tests which can be used outside traditional health facilities has the potential to greatly increase coverage among FWID and other populations who are reluctant to visit health care facilities. Community-based testing has been successfully used in both high- and low resource settings, and reached uptakes as high as 99.7% among FSW and 94.5% for PWID, with good linkage to treatment and care (Suthar et al., 2013). Outreach services for FWID should be expanded to include point-of-care testing, with referral to appropriate care for those who are positive.

Pre-exposure prophylaxis (PrEP) with antiretroviral drugs used by uninfected people can protect them from becoming infected. Daily oral tenofovir has recently been shown to halve the number of new HIV-infections among PWID in Bangkok over a five year period, with even more pronounced effects (79%) in FWID due to better adherence (Choopanya et al., 2013). However, there are many issues related to PrEP which need to be considered before PrEP can become a reality especially among marginalised and stigmatised populations such as PWID and more so among women who use drugs. These issues have been presented in a



consensus statement formulated by a group of organizations and advocates, the Community Consensus Statement on the Use of Antiretroviral Therapy in Preventing HIV Transmission, that outlines a set of principles for the provision of PrEP (available at [www.hivt4p.org](http://www.hivt4p.org)) (Cairns, Baker, Dedes, Zakowicz, & West, 2014). A key issue highlighted in the consensus statement is the involvement of communities in conducting research and providing services and within a human rights framework.

It is now well established that effective ART minimizes the risk of further transmission of HIV by greatly reducing the number of free virus in the body. And for this reason WHO in its June 2013 ART guidelines recommends the use of treatment as a prevention method for people who are at increased risk of transmitting the infection, such as PWID and sex workers, as well as for couples where only one partner is infected. However, PWID are less likely than other patients with HIV infection to receive ART (Wolfe, Carrieri, & Shepard, 2010). Adherence to the ART regimen has been a key concern in people who use drugs (Altice et al., 2010; Binford, Kahana, & Altice, 2012). However, studies have shown that adherence to ART among HIV positive PWID is possible and a recent review of the international literature demonstrated that greater adherence can be achieved if ART is provided in structured settings such as with OST (Malta, Magnanini, Strathdee, & Bastos, 2010).

Thus the continuum of care and treatment for women who use drugs starting from early detection of HIV through acceptable testing strategies, using ART for prevention and treatment and assuring adherence requires a multifaceted approach with involvement of the communities for best results.

## Conclusions

Women who inject drugs often have higher rates of HIV than males using drugs which is because of the dual risk from unsafe injection practices and unprotected sex. Sex work is common among FWID, and FWID-SW are more likely to share needles/syringes and other injection paraphernalia, have unprotected sex with their clients as well as their intimate partners and have higher rates of STIs. For this reason, harm reduction should be included in all interventions for sex workers and services for safer sex should be part of all harm reduction programs for women who use drugs. The comprehensive package of harm reduction services needs to be made available with inclusion of reproductive health services.

Women are often reliant on their male partners for buying drugs and may require help in injecting. In the case of FWID-SW, men often control their clients. Such reliance on men, allow men control over their lives. Interventions must focus on strengthening the ability of women to achieve autonomy over HIV risk reduction practices, including freedom from pimps and police harassment and availability of safe places to take clients. Targeted interventions to empower women so that they are better able to seek and utilize services work and need to be adopted widely. Female condoms need to be made available and costs reduced.

As FWID are more stigmatized than their male counterparts, this can be a barrier for seeking services whether this is for harm reduction or drug treatment. Therefore, all health care personnel should be trained to provide a supportive, culturally sensitive and non-judgmental environment. Integration of harm reduction with reproductive health services as well as other services for the management of co-infections and co-morbidities must be considered. Child care service for women who use drugs can help promote adoption of safer behaviours and laws allowing forced abortions or removal of children from the care of mothers who take drugs must be removed. PMTCT services for pregnant drug using women must be made widely available.

Women who are sex partners of MWID but do not inject drugs themselves are vulnerable to HIV infection through their partners risk behaviours as condom use with intimate partners is very low. Couple-based interventions are effective for decreasing drug use and HIV risk behaviours. In addition, biomedical interventions such as ART and PrEP should be provided to women who use drugs and are affected and infected by HIV. More research on PrEP in women who use drugs are warranted to understand how to overcome barriers and special efforts that allow adherence to ART need to be undertaken with the involvement of communities. Furthermore, there is need for greater access to HIV testing that is acceptable to women in different settings.

The contents and conclusions of this paper reflect a broad consensus among social and clinical scientists participating in a UNODC Scientific Consultation on HIV/AIDS (UNODC, 2014).

## Acknowledgment

Some of the data used in this manuscript were from grants to the University of California San Diego (UCSD) and icddr,b. For UCSD, the authors acknowledge the grant from NIDA, # R37 DA019829. For icddr,b, data from the Project RAS/H13 was used which was funded by United Nations Development Program (UNDP) and United Nations Office of Drugs and Crime (UNODC), grant number ADM/250/38/2007. icddr,b acknowledges with gratitude the commitment of UNDP and UNODC to its research efforts. icddr,b is also thankful to the Governments of Australia, Bangladesh, Canada, Sweden and the UK for providing core/unrestricted support.

## References

- Adimora AA, Ramirez C, Auerbach JD, Aral SO, Hodder S, Wingood G, et al. Preventing HIV infection in women. *J Acquir Immune Defic Syndr*. 2013; 63(Suppl 2):S168–S173. [PubMed: 23764631]
- Adimora AA, Schoenbach VJ, Taylor EM, Khan MR, Schwartz RJ. Concurrent partnerships, nonmonogamous partners, and substance use among women in the United States. *Am J Public Health*. 2011; 101(1):128–136. [PubMed: 20724694]
- Altice FL, Kamarulzaman A, Soriano VV, Schechter M, Friedland GH. Treatment of medical, psychiatric, and substance-use comorbidities in people infected with HIV who use drugs. *The Lancet*. 2010; 376(9738):367–387.
- Asher AK, Hahn JA, Couture M-C, Maher K, Page K. People Who Inject Drugs, HIV Risk, and HIV Testing Uptake in Sub-Saharan Africa. *Journal of the Association of Nurses in AIDS Care*. 2013; 24(6):e35–e44. [PubMed: 23164598]
- Azim T, Chowdhury EI, Reza M, Ahmed M, Uddin T, Khan R, et al. Vulnerability to HIV infection among sex worker and non-sex worker female injecting drug users in Dhaka, Bangladesh: evidence from the baseline survey of a cohort study. *Harm Reduction Journal*. 2006; 3:33. [PubMed: 17109763]

- Baral S, Todd CS, Aumakhan B, Lloyd J, Delegchoimbol A, Sabin K. HIV among female sex workers in the Central Asian Republics, Afghanistan, and Mongolia: Contexts and convergence with drug use. *Drug and Alcohol Dependence*. 2013; 132S:S13–S16. [PubMed: 23954072]
- Belani, H.; Chorba, T.; Fletcher, F.; Hennessey, K.; Kroeger, K.; Lansky, A., et al. Integrated prevention services for HIV infection, viral hepatitis, sexually transmitted diseases, and tuberculosis for persons who use drugs illicitly: summary guidance from CDC and the US Department of Health and Human Services. US Department of Health and Human Services, Centers for Disease Control and Prevention; 2012.
- Binford MC, Kahana SY, Altice FL. A Systematic Review of Antiretroviral Adherence Interventions for HIV-Infected People Who Use Drugs. *Current HIV/AIDS Reports*. 2012; 9(4):287–312. [PubMed: 22936463]
- Braitstein P, Li K, Tyndall M, Spittal P, O'Shaughnessy MV, Schilder A, et al. Sexual violence among a cohort of injection drug users. *Social Science & Medicine*. 2003; 57(3):561–569. [PubMed: 12791497]
- Bruggmann P, Grebeley J. Prevention, treatment and care of hepatitis C virus infection among people who inject drugs. *International Journal of Drug Policy*. 2014 in press.
- Cairns G, Baker AC, Dedes N, Zakowicz A, West B. Treatment as Prevention: Arriving at Community Consensus. *Clinical Infectious Diseases*. 2014; 59(suppl 1):S35–S40. [PubMed: 24926032]
- Choopanya K, Martin M, Suntharasamai P, Sangkum U, Mock PA, Leethochawalit M, et al. Antiretroviral prophylaxis for HIV infection in injecting drug users in Bangkok, Thailand (the Bangkok Tenofovir Study): A randomised, double-blind, placebo-controlled phase 3 trial. *The Lancet*. 2013; 381:2083–2090.
- Dargan PI, Wood DM. Recreational Drug Use in the Asia Pacific Region: Improvement in Our Understanding of the Problem Through the UNODC Programmes. *Journal of Medical Toxicology*. 2012; 8(3):295–299. [PubMed: 22569822]
- Deering KN, Lyons T, Feng CX, Nosyk B, Strathdee S, Montaner JSG, et al. Client demands for unsafe sex: the socioeconomic risk environment for HIV among street and off-street sex workers. *Journal of Acquired Immune Deficiency Syndrome*. 2013; 63:522–531.
- Degenhardt L, Hall W. Extent of illicit drug use and dependence, and their contribution to the global burden of disease. *The Lancet*. 2012; 379(9810):55–70.
- Degenhardt L, Mathers B, Vickerman P, Rhodes T, Latkin C, Hickman M. Prevention of HIV infection for people who inject drugs: why individual, structural, and combination approaches are needed. *The Lancet*. 2010; 376(9737):285–301.
- Des Jarlais DC, Arasteh K, Perlis T, Hagan H, Abdul-Quader A, Heckathorn DD, et al. Convergence of HIV seroprevalence among injecting and non-injecting drug users in New York City. *AIDS*. 2007; 21(2):231–235. [PubMed: 17197815]
- Des Jarlais DC, Feelemyer JP, Modi SN, Arasteh K, Hagan H. Are females who inject drugs at higher risk for HIV infection than males who inject drugs: An international systematic review of high seroprevalence areas. *Drug and Alcohol Dependence*. 2012; 124:95–107. [PubMed: 22257753]
- Des Jarlais DC, Feelemyer JP, Modi SN, Arasteh K, Mathers BM, Degenhardt L, et al. Transitions from Injection-Drug-Use-Concentrated to Self-Sustaining Heterosexual HIV Epidemics: Patterns in the International Data. *PLoS ONE*. 2012; 7:e31227. [PubMed: 22396729]
- El-Bassel N, Shaw SA, Dasgupta A, Strathdee SA. Drug use as a driver of HIV risks: re-emerging and emerging issues. *Current Opinion in HIV and AIDS*. 2014a; 9:150–155. [PubMed: 24406532]
- El-Bassel N, Shaw SA, Dasgupta A, Strathdee SA. People who inject drugs in intimate relationships: it takes two to combat HIV. *Current HIV/AIDS Reports*. 2014b; 11:45–51. [PubMed: 24477931]
- El-Bassel N, Terlikbaeva E, Pinkham S. HIV and women who use drugs: double neglect, double risk. *The Lancet*. 2010; 376:312–314.
- Ghimire B, Sugimoto SP, Zamani S, Ono-Kihara M, Kihara M. Vulnerability to HIV infection among female drug users in Kathmandu Valley, Nepal: a cross-sectional study. *BMC Public Health*. 2013; 13:1238. [PubMed: 24373529]
- Gilchrist G, Blazquez A, Torrens M. Psychiatric, Behavioural and Social Risk Factors for HIV Infection Among Female Drug Users. *AIDS and Behavior*. 2011; 15:1834–1843. [PubMed: 21748277]

- Guerrero EG, Cederbaum JA. Adoption and utilization of sexually transmitted infections testing in outpatient substance abuse treatment facilities serving high risk populations in the US. *International Journal of Drug Policy*. 2011; 22(1):41–48. [PubMed: 20970314]
- Hammett TM, Kling R, Van NTH, Son DH, Binh KT, Oanh KTH. HIV Prevention Interventions for Female Sexual Partners of Injection Drug Users in Hanoi, Vietnam: 24-Month Evaluation Results. *AIDS and Behavior*. 2012; 16(5):1164–1172. [PubMed: 22016330]
- Iversen J, Grebely J, Topp L, Wand H, Dore G, Maher L. Uptake of hepatitis C treatment among people who inject drugs attending Needle and Syringe Programs in Australia, 1999–2011. *Journal of Viral Hepatitis*. 2014; 21(3):198–207. [PubMed: 24438681]
- Lambdin BH, Bruce RD, Chang O, Nyandindi C, Sabuni N, Zamudio-Haas S, et al. Identifying Programmatic Gaps: Inequities in Harm Reduction Service Utilization among Male and Female Drug Users in Dar es Salaam, Tanzania. *PLoS ONE*. 2013; 8:e67062. [PubMed: 23825620]
- Maehira Y, Chowdhury EI, Reza M, Drahozal R, Gayen TK, Masud I, et al. Factors associated with relapse into drug use among male and female attendees of a three-month drug detoxification-rehabilitation programme in Dhaka, Bangladesh: a prospective cohort study. *Harm Reduction Journal*. 2013; 10:14. [PubMed: 24004685]
- Malta M, Magnanini MF, Strathdee S, Bastos F. Adherence to Antiretroviral Therapy Among HIV-Infected Drug Users: A Meta-Analysis. *AIDS and Behavior*. 2010; 14(4):731–747. [PubMed: 19020970]
- Malta M, Ralil da Costa M, Bastos F. The Paradigm of Universal Access to HIV-Treatment and Human Rights Violation: How Do We Treat HIV-Positive People Who Use Drugs? *Current HIV/AIDS Reports*. 2014; 11(1):52–62. [PubMed: 24369409]
- Mantell JE, West BS, Sue K, Hoffman S, Exner TM, Kelvin E, et al. Healthcare Providers: A Missing Link in Understanding Acceptability of the Female Condom. *AIDS education and prevention*. 2011; 23(1):65–77. [PubMed: 21341961]
- Marsh JC, D'Aunno TA, Smith BD. Increasing access and providing social services to improve drug abuse treatment for women with children. *Addiction*. 2000; 95(8):1237–1247. [PubMed: 11092071]
- McNairy ML, El-Sadr WM. A paradigm shift: focus on the HIV prevention continuum. *Clinical Infectious Diseases*. 2014; 59(suppl 1):S12–S15. [PubMed: 24926026]
- Meader N, Li R, Des Jarlais D, Pilling S. Psychosocial interventions for reducing injection and sexual risk behaviour for preventing HIV in drug users. *Cochrane Database Syst Rev*. 2010; 1 CD007192.
- Morris MD, Lemus H, Wagner KD, Martinez G, Lozada R, Gómez RMG, et al. Factors associated with pathways toward concurrent sex work and injection drug use among female sex workers who inject drugs in northern Mexico. *Addiction*. 2013; 108:161–170. [PubMed: 22775475]
- Nelson PK, Mathers BM, Cowie B, Hagan H, Des Jarlais D, Horyniak D, et al. Global epidemiology of hepatitis B and hepatitis C in people who inject drugs: results of systematic reviews. *The Lancet*. 2011; 378(9791):571–583.
- Olsen A, Banwell C, Dance P, Maher L. Positive health beliefs and behaviours in the midst of difficult lives: Women who inject drugs. *International Journal of Drug Policy*. 2012; 23(4):312–318. [PubMed: 22721571]
- Otiashvili D, Kirtadze I, O'Grady KE, Zule W, Krupitsky E, Wechsberg WM, et al. Access to treatment for substance-using women in the Republic of Georgia: Socio-cultural and structural barriers. *International Journal of Drug Policy*. 2013; 24:566–572. [PubMed: 23756037]
- Panda S, Chatterjee A, Bhattacharya S, Manna B, Singh P, Sarkar S, et al. Transmission of HIV from injecting drug users to their wives in India. *International journal of STD & AIDS*. 2000; 11(7):468–473. [PubMed: 10919490]
- Pinkham S, Malinowska-Sempruch K. Women, Harm Reduction and HIV. *Reproductive Health Matters*. 2008; 16(31):168–181. [PubMed: 18513618]
- Pinkham S, Stoicescu C, Myers B. Developing Effective Health Interventions for Women Who Inject Drugs: Key Areas and Recommendations for Program Development and Policy. *Advances in Preventive Medicine*. 2012; 2012:10.
- Radcliffe P. Motherhood, pregnancy, and the negotiation of identity: The moral career of drug treatment. *Social Science & Medicine*. 2011; 72(6):984–991. [PubMed: 21353360]

- Roberts, A.; Mathers, BM.; Degenhardt, L. Women who inject drugs: a review of their risks, experiences and needs. In: UNODC. , editor. Report by the Reference Group to the United Nations on HIV and Injecting Drug Use. University of New South Wales, Sydney, Australia: Secretariat of the Reference Group to the UN on HIV and Injecting, National Drug and Alcohol Research Centre (NDARC); 2010.
- Shannon K, Kerr T, Allinott S, Chettiar J, Shoveller J, Tyndall MW. Social and structural violence and power relations in mitigating HIV risk of drug-using women in survival sex work. *Social Science & Medicine*. 2008; 66:911–921. [PubMed: 18155336]
- Shoptaw S, Montgomery B, Williams CT, El-Bassel N, Aramrattana A, Metsch L, et al. Not Just the Needle: The State of HIV-Prevention Science Among Substance Users and Future Directions. *Journal of Acquired Immune Deficiency Syndromes*. 2013; 63:S174–S178. [PubMed: 23764632]
- Sidibé M, Zuniga JM, Montaner J. Leveraging HIV Treatment to End AIDS, Stop New HIV Infections, and Avoid the Cost of Inaction. *Clinical Infectious Diseases*. 2014; 59(suppl 1):S3–S6. [PubMed: 24926030]
- Simmons J, Rajan S, McMahon JM. Retrospective accounts of injection initiation in intimate partnerships. *International Journal of Drug Policy*. 2012; 23(4):303–311. [PubMed: 22398215]
- Simpson M, McNulty J. Different needs: Women's drug use and treatment in the UK. *International Journal of Drug Policy*. 2008; 19(2):169–175. [PubMed: 18155515]
- Sordo L, Chahua M, Bravo MJ, Barrio G, Brugal MT, Domingo-Salvany A, et al. Depression among regular heroin users: The influence of gender. *Addictive Behaviors*. 2012; 37(1):148–152. [PubMed: 21968230]
- Strathdee SA, Abramovitz D, Lozada R, Martinez G, Rangel MG, Vera A, et al. Reductions in HIV/STI Incidence and Sharing of Injection Equipment among Female Sex Workers Who Inject Drugs: Results from a Randomized Controlled Trial. *PLoS ONE*. 2013; 8:e65812. [PubMed: 23785451]
- Strathdee SA, Hallett TB, Bobrova N, Rhodes T, Booth RE, Abdool R, et al. HIV and risk environment for injecting drug users: the past, present, and future. *The Lancet*. 2010; 376(9737): 268–284.
- Strathdee SA, Philbin MM, Semple SJ, Pu M, Orozovich P, Martinez G, et al. Correlates of injection drug use among female sex workers in two Mexico - U.S. border cities. *Drug and Alcohol Dependence*. 2008; 92:132–140. [PubMed: 17714888]
- Strathdee SA, Stockman JK. Epidemiology of HIV Among Injecting and Non-injecting Drug Users: Current Trends and Implications for Interventions. *Current HIV/AIDS Reports*. 2010; 7(2):99–106. [PubMed: 20425564]
- Suthar AB, Ford N, J BP, J WV, Rajan JS, Saltzman AK, et al. Towards Universal Voluntary HIV Testing and Counselling: A Systematic Review and Meta-Analysis of Community-Based Approaches. *PLoS Medicine*. 2013; 10
- Taplin S, Mattick RP. Supervised contact visits: Results from a study of women in drug treatment with children in care. *Children and Youth Services Review*. 2014; 39(0):65–72.
- Tross S, Campbell ANC, Cohen LR, Calsyn D, Pavlicova M, Miele G, et al. Effectiveness of HIV/STD sexual risk reduction groups for women in substance abuse treatment programs: Results of a NIDA clinical trials network trial. *Journal of Acquired Immune Deficiency Syndrome*. 2008; 48(5):581–589.
- UNODC. UNODC; 2013. Women for women: gender sensitive programmes for highly vulnerable women and girls in Ukraine.
- UNODC. Vienna: UNODC; 2014. A Scientific Statement from the UNODC Scientific Consultation on Science addressing drugs and HIV: State of the Art of Harm Reduction.
- UNODC, icddr. UNODC and icddr,b; 2010. Female drug users and female regular partners of male drug users in Bangladesh - a report.
- Wechsberg WM, Jones HE, Zule WA, Myers BJ, Browne FA, Kaufman MR, et al. Methamphetamine (“tik”) Use and Its Association with Condom Use among Out-of-School Females in Cape Town, South Africa. *The American Journal of Drug and Alcohol Abuse*. 2010; 36(4):208–213. [PubMed: 20560840]

- Williams ML, McCurdy SA, Atkinson JS, Kilonzo GP, Leshabari MT, Ross MW. Differences in HIV Risk Behaviors by Gender in a Sample of Tanzanian Injection Drug Users. *AIDS and Behavior*. 2007; 11(1):137–144. [PubMed: 17004117]
- Wolfe D, Carrieri MP, Shepard D. Treatment and care for injecting drug users with HIV infection: a review of barriers and ways forward. *The Lancet*. 2010; 376(9738):355–366.
- World Health Organization. WHO, UNODC, UNAIDS technical guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users–2012 revision. 2012.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

1. Women who inject drugs often have higher rates of HIV than males using drugs. This is because of the dual risk from unsafe injection practices and unprotected sex. Since sex work is common among females who inject drugs (FWID), harm reduction should be included in all interventions for sex workers and safer sex messages should be part of all harm reduction programs for FWID.
2. Women who use drugs and sell sex are more likely to share needles/syringes and other injection paraphernalia, have unprotected sex with their clients as well as their intimate partners, have higher rates of STIs and they are also more likely to experience sexual and physical violence and incarceration.
3. Women are often reliant on their male partners for buying drugs and they also require help in injecting. In the case of those women who also trade sex, men often control their clients. Such reliance on men, allow men control over their lives. Interventions must focus on strengthening the ability of women to achieve autonomy over HIV risk reduction practices, including freedom from pimps and police harassment and availability of safe places to take clients.
4. Women who use drugs are more stigmatized than their male counterparts and this can be a barrier for seeking services whether this is for harm reduction or drug treatment. Targeted interventions to empower women so that they are better able to seek and utilize services work and need to be adopted widely. In addition, training of health and social workers to recognize signs of injecting drug use and offer referral to appropriate services can increase service uptake.
5. Services must be tailored for the needs of female drug users and include specialized care and support for pregnant women and women with children. This can be achieved through mobile services, home visits or female-only drop-in centres. All personnel should be trained to provide a supportive, culturally sensitive and non-judgmental environment. Integration of harm reduction with reproductive health services may be considered.
6. Women who are sex partners of MWID but do not inject drugs themselves are vulnerable to HIV infection through their partners risk behaviours as condom use with intimate partners is very low. Couple-based interventions are effective for decreasing drug use and HIV risk behaviours.
7. Interventions targeted to women to enable them to seek services, receive services that are non-judgemental and tailored to their specific needs work should be initiated and expanded. In addition, biomedical interventions such as ART and PreP are highly effective in reducing the incidence of HIV and should be provided to women who use drugs and are affected and infected by HIV.



### Highlights

This article reviews global data on the risks of and vulnerability to HIV of women who use drugs.

We review the prevalence of HIV among females who inject drugs (FWID) globally

The special vulnerabilities of females who use drugs to HIV are discussed

Importance of reproductive health care services and child care are highlighted

Services that work are referred to and recommendations are provided