HIV Infection in Injecting Drug Users

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Abstract

Injecting drug users (IDUs) living with Human Immunodeficiency Virus (HIV) have been major vectors of HIV infection transmission. Rates of HIV seropositivity are higher in communities with greater prevalence of IDUs, owing to unsafe injection and sex practices. Despite effective anti-retroviral therapy (ART) and behavioural interventions in reducing the transmission of HIV, the healthcare service utilization has been poor among IDUs. IDU population need to be encompassed in early testing for seropositivity and prompt inclusion in treatment process which includes provision of ART, substance abuse treatment, harm reduction measures, counselling and other behavioural interventions through outreach programmes.

Introduction

HIV infection continued to constitute a major health burden globally. Despite the decline in the number of new HIV infection cases, about 2 million people get infected by HIV around the world annually in the present days. India alone is estimated to have around 21.17 lakhs people living with HIV, as of year 2015; with more than 85 thousand newly emergent HIV infected cases annually [1]. Substance abuse disorders have a well-known association with higher prevalence of

HIV infection in population [2]. Moreover, injecting drug use has been implicated and is a major mode of transmission of HIV infection. IDUs along with men who have sex with men (MSM), transgenders, and female sex workers constitute the higher riskgroup (HRG) for acquiring the infection. Truckers and migrant workers are often considered as the bridge population who, by the virtue of their work condition, are prone to develop substance abuse and subsequent acquisition of HIV infection. Moreover, despite the declining trends of overall HIV prevalence, the estimates have been stable among IDUs.

Globally, the commonly injectable drugs of abuse include opioids, cocaine and methamphetamine etc. [3]. In India, opioids (heroin, buprenorphine, dextropropoxyphene, pentazocine) are the substance of abuse most commonly used through injection by IDUs [4]. These may be abused admixed with benzodiazepines (diazepam, lorazepam) or antihistaminics (chlorpheniramine or promethazine). Over the last few decades, the abuse of opioids by means of injection has escalated from its conventional usage through smoking or chasing. This accelerated the chances of HIV transmission through shared use of injecting equipment.

Epidemiology of HIV among IDUs

The World Drug Report (2014) reported HIV prevalence of 13.1% among IDUs which corresponds to a global figure of 1.7 million (range: 0.9-4.8 million) HIV infected IDUs [5]. There exist great variations worldwide in the prevalence rates of IDUs living with HIV. Estimated prevalence of HIV among IDUs in South-West Asia and Eastern Europe was over 20% [5]. HIV Sentinel Surveillance (HSS) conducted in India (2010-11) reported HIV infection in 7.14% of IDUs compared to 0.40% from ante-natal clinic attendees (crude representative of general population) [6]. North-eastern states of Manipur and Nagaland reported higher prevalence of IDUs with HIV infection, although the rates are declining with the intervention programmes coming into effect. However, new pockets of higher seroconversion among IDUs have emerged in various states and metropolitan cities in India [1].

Transmission of HIV in IDUs

HIV may get transmitted among IDUs due to shared use of needle, syringes and drug paraphernalia. Transmission risk through parenteral route is higher, as compared to sexual route [7]. Owing to unsafe sex practices, IDUs are often susceptible to acquire infection from individuals of HRGs. Moreover, IDUs with HIV infection may themselves be source of infection transmission through unprotected sex with their female or male sex partners. Unsafe sexual practices have been reported to be higher among IDUs. In comparison to opioids, cocaine and amphetamine abuse is associated with impulsivity, elevated levels of disinhibition and sexual risk taking [7]. Condom use by IDUs is also reportedly low, with higher rates of sexual relationship being established with sex workers. Moreover, the phenomenon of MSM may be higher among the IDUs [8].

Risk Factors and Barriers in Management

Various physical, social, economic, and political factors influence the spread of HIV infection among IDUs. Strathdee et al. (2010) in their review

enlisted an array of risk factors with an attempt to classify them in terms of micro-environmental and macro-environmental [9].

A review by Milloy et al. (2012) emphasized that natural history of HIV infection as well as treatment outcomes in illicit drug users have a strong association with endogenous host and viral characteristics. Lack of legal income among IDUs at baseline was reported as a strong predictor of reduced survival. Early exposure to highly active ART (HAART) and good adherence to treatment have been found to be strongly associated with illness outcomes [10]. Besides, Knowlton et al. (2006, 2007) reported good socio-emotional support, stable housing, and healthy interaction with healthcare providers as predictors of viral load suppression among IDUs on ART [11, 12].

Myriad of factors related to the patients, their social environment, and the care-providers have been identified that might act as barriers to HIV treatment in IDUs. These include stigma and marginalization, incarceration, criminalization, homelessness, economic deprivation, psychiatric and physical co-morbidity, poor ART service facilities and utilization as well as lack of trained healthcare professionals and complicated appointments [13].

Management

Evaluation and assessment

IDUs may not be revealing information about the substance use as well as other high-risk behaviours. Thus, an empathetic approach directed towards rapport building might be helpful in getting relevant information. Moreover, multiple needle marks, scarred blood vessels, abscesses, tattoo marks and bands over venous sites may be useful clues and should be looked for in patients using substance. A through assessment encompasses deriving information regarding the substance use disorder (SUD), high-risk behaviours, sexual activity, other co-morbidities, legal history, premorbid personality/temperament and support systems of the individual. IDUs might require being motivated regarding undergoing investigations for HIV infection as well as initiating and adhering to treatment for SUD and HIV infection as discussed below.

Treatment

Antiretroviral therapy has been used in treatment of HIV infection. The other proposed role of ART has been its use as an infection prevention strategy. ART reduces virus load among infected patients, thus, lowering the risk of infection transmission to others. Combination anti-retroviral treatment (cART) has been shown to lower the incidence of HIV among IDUs [14]. Moreover, Kato et al. (2013) proposed regular testing and early ART for IDUs as the most economical and effective measure to reduce new HIV infections and related deaths in the general population [15]. However, ART utilization among IDUs infected with HIV had consistently been lower as compared to the rest of the HIV infected population, and mortality rates being significantly higher [16]. Behavioural interventions reduce risk behaviour and have been associated with decline in drug use (injection as well as non-injection), increased drug treatment entry, heightened condom use and diminished sex trading. Thus, prompt testing for HIV and treatment initiation along with behavioural interventions, de-addiction strategies and other HIV preventive interventions among IDUs may be helpful in curbing HIV spread [17].

Harm reduction strategies employed among

IDUs unwilling to practice complete abstinence include among others the needle-syringe exchange programs. Sterile needle and syringes are provided to the IDUs through syringe-needle exchange programmes (SNEPs), so that repeated needle use could be prevented with no requirement to share contaminated needles. Since its first application in Amsterdam (1984), SNEPs has been effectively used in various countries worldwide, developed as well as in economically deprived nations. SNEPs have been shown to be efficacious in reducing risky injection behaviour and HIV infection transmission [18]. Similarly, condoms are distributed (free or at nominal price) and its use is encouraged among IDUs while establishing sexual contact with others, so as to prevent transmission of HIV and other sexually transmitted infections (STIs) [18].

Researches have demonstrated treatment of substance abuse in IUDs as a measure to reduce high-risk behaviour and the spread of HIV infection. Opioid substitution therapy (OST) using buprenorphine and methadone maintenance therapy is used with the objectives to treat opioid dependence; and reduce substance abuse, prevent use of needle and syringes and transmission of blood-borne infections [18]. Moreover, OST in IUDs is associated with enhanced adherence to ART.

IUDs are highly prone to contract other sexually transmitted infections (STIs) as well as blood-borne infections like hepatitis B and hepatitis C. Moreover, owing to unhygienic injection practices, chances of developing abscesses remain high in this population. Additionally, IUDs living with HIV/AIDS tend to develop opportunistic infections in due course of illness. These illnesses and co-morbidities should be addressed and adequately managed for the general well-being of the patient [19].

People vulnerable to transmission of HIV from IDUs should be identified and assessed for their serological status. Interventions in this population might help in preventing further spread of infection to other members of the group or family. Family members often endure an enormous physical, mental and economic burden besides encountering social discrimination [20]. Thus, support, care and education should be provided to the patients as well as their families. It further helps in maintaining treatment adherence in IDUs.

Targeted Prevention Strategies in India

National AIDS Control Programme launched by Government of India in 1992, which has entered currently its fourth phase (2012-17), focuses on strengthening and consolidating HIV prevention services in the country. Working objectives of the programme include prevention of new infection and treatment, comprehensive care as well as support to all people suffering from the infection [1]. Interventions are also targeted towards IDUs through an outreach-based service delivery model. Government had introduced needle-syringe exchange programme (NSEP) and opioid substitution therapy (OST) for IDUs apart from general HIV treatment services. Additional services include prevention and management of STIs and abscesses, promotion of condom and safe sex strategies, linkage to health care and rehabilitation agencies, schemes for reduction of stigma as well as building a supportive environment [1]. National AIDS Control Organisation has also developed guidelines specific to female sex partners of

IDUs, and outreach services are also undergoing to address needs specific to this subgroup.

Conclusion

IDUs living with HIV suffer from various health hazards and are a potential source of HIV transmission. Despite various efforts being made to limit the new HIV infections and transmission through IDUs, the outcomes are not entirely satisfactory and successful. Apart from availability and accessibility issues, utilization of healthcare services by IDUs also remains poor. IDUs often held themselves back due to the stigma and discrimination they face for their drug abuse behaviour. With known effectiveness of ART in reducing virus-load and diminishing HIV transmission, measures should be taken to strengthen the healthcare system and enhance service utilization by IDUs. Healthcare agencies need to sustain and enhance their efforts towards fulfilling the target set by United Nations Programme on HIV/AIDS (UNAIDS) for making accessible HIV combination prevention services to 90% of key populations including IDUs [21].

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