

The Necessity of Enhanced Harm Reduction Programs to Prevent Blood-Borne Infections Amongst Injection Drug Users

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Injection of illegal drugs has known as a global health problem, mainly because of its relationship with high level of HIV prevalence, blood-borne infections, overdoses, and death (1-4). People who inject drugs are at a higher risk of HIV and hepatitis C virus (HCV) transmission by sharing of injecting equipments (2-5). Injecting drug users now account for one in 10 new HIV infections worldwide (6). For example, the prevalence rate of HIV/AIDS was upwards of 75% - 89% among the Chinese injection drug users (3). Similarly, studies show that HIV/AIDS and HCV infection epidemics among people who inject drugs are high (3-5) with a range of 10% - 15% for HIV and 31% - 64% for HCV prevalence (4). Additionally, data come from the Middle East and North Africa suggest a high prevalence of sharing needles and syringes in the last injection (18% - 28%), low levels of condom that ever used with (20% - 54%), and sexual activities (15% - 30%) among injection drug users (4).

In response to this challenge, the prevention measurements such as harm reduction programs have been endorsed by some countries (2-4, 6-8). Harm reduction is a practical and non-judgmental set of resources and strategies to diminish the individual and community harms that caused by drug usage (3, 6). The harm reduction priority is lessening the negative consequences of drug use, rather than to diminish or eliminate the drug use itself as well as focusing on safer practices and patterns of drug use (3, 6). Indeed, these programs aimed to prevent spreading of the infections such as HIV/AIDS, hepatitis C and all blood-borne diseases, lessening the risk of drug-related fatalities, and reducing the adverse effects of drug use (2-5, 7).

There are sufficient evidences indicating the efficacy of harm reduction strategies on prevention of HIV and HCV transmission among people who inject drugs (2, 4, 5). A clear example for this is Taiwan cohort study (4) which demonstrated a significant reduction in HIV incidence

after introduction and implementation of harm reduction program. According to this study, HIV incidence decreased from 18.2% in 2005 to 0.3% in 2010 among injection drug users. Additionally, data suggest the lowest incidence of HIV infection among those used cleaned needle and syringe.

Several other studies have also showed an association between implementation of harm reduction programs and reduction in HIV incidence (2, 4, 6-8). China has begun its first needle exchange programs in 2000 as a trial effort to find out an effective way for prevention of HIV/AIDS acquisition and transmission of other blood-borne infections. Their finding was significantly successful in reducing the needle sharing and the rates of hepatitis C transmission (3). Likewise, combined high coverage of needles/syringes and opiate substitution therapy in Scotland demonstrated a reduction in HCV incidence from 13.6 in 2008 - 2009 to 7.3 per 100 person-years in 2011 - 2012 (2). Therefore, HIV/AIDS, HCV and other blood-born infection could spread more rapidly among injecting drug users without any preventive measurements compared to those receiving harm reduction programs (6).

On the other hand, the drug use cannot be completely eliminated, so the health policy makers and related authorities should find useful strategies and resources to reduce the injecting drug consequences efficiently. Some of the harm reduction strategies that have been carried out as interventional measurements in various areas to lower the harmful effects of drug use and to reduce the risk of blood-born infection include health education, peer education, methadone maintenance treatment, condom promotion to prevent the spread of infections, clean needles and syringe exchange, provision of rooms for drug consumption, and antiretroviral therapy for HIV-positive (3, 4, 7).

Increasing coverage of the harm reduction programs through opiate substitution therapy might also decline

the frequency of injecting and/or sharing of injecting equipments (2, 4, 6, 8). For instance, changes in the pattern of drug use from injection to another opiate substitute such as methadone maintenance treatment recognize as a benefit of harm reduction strategy (1, 7). Methadone maintenance treatment is prescribing for people who attempt to deal with an addiction to opioids and it assists them to eliminate the injection. These people can return to their normal life like anybody else and this treatment can help the people to control their addiction (7).

Provision of cleaned needles and syringes ensures that any injections that take place are safe (2) and they learn to always use a new and cleaned needle and syringe every time to inject (1, 7). The aim of needle exchange programs through using the cleaned needle and syringes is reduction of blood-borne infections (2-4, 6). Based on a study in Spain, 62.8% of natives and 45.3% of immigrants' first injection drug users were at the age of 11-20 years which are in need of receiving educational package as well as hygienic needles. Moreover, this study revealed that 57.5% of natives and 42.9% of immigrants have ever used injection with a used syringe (1). Correspondingly, nearly 50% of Chinese drug injectors reported needle sharing (3). Additionally, people who participate in harm reduction programs should get support for physical and mental health and related concerns such as housing and employment concerns, and linking them to support groups (2, 6, 7).

Furthermore, harm reduction strategy is evidence-based and it can be effective when accepted as a community wide process (2, 7). These programs have been widely evaluated and their effectiveness in lowering the morbidity and mortality related to drug consumption has been approved (1). The cost-effectiveness of the harm reduction programs could be also seen. In a Ukraine study where offering of the methadone substitution therapy reduced considerably the health care costs by lowering the prevalence of HIV infections. Comparably, this program increased the quality-adjusted life years in people who inject drugs (8).

Importantly, HIV epidemics in Asia have been primarily driven by shared needles and syringes use and utilization of injecting drugs (9). Iran has also been threatened by an HIV/AIDS epidemic among injection drug users. Then introduction and continuation of methadone maintenance treatment can be a good response but its implementation should be improved by using experiences come from other countries. Approximately, most of the injection drug users are unemployed and methadone maintenance treatment is not absolutely free; so, they cannot afford to take part into this program efficiently. Moreover, free referrals to rehabilitation and methadone clinics and HIV testing should be implemented. Lack of rehabilitation and methadone clinics, confidentiality concern, and lack of awareness about the programs are the other challenges that must be considered for planning towards scaling up utilization and acceptance of

harm reduction programs including methadone maintenance treatment.

In conclusion, implementation of harm reduction programs in the community has several advantages consist of lowering the incidence rate of blood-borne diseases such as HIV and hepatitis C in the whole community, lowering the incidence rate of overdose deaths, returning injection drug users into the community, reducing drug-related criminal activity as a negative consequence of drug usage as well as savings the burden of extra costs for family and community (2-4, 6-8). On the other hand, the success of harm reduction programs depends upon the quantity and quality of the programs. Therefore, strengthening and improving the extent and quality of the current harm reduction measurements should be given more attention.

Footnote

Authors' Contribution: Mahmoodreza Miri-Bonjar participated in the manuscript writing and drafted the manuscript; Alireza Khorram researched and wrote the manuscript; and Alireza Ansari-Moghaddam participated in the manuscript writing and revised the manuscript.

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