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Current status of drug use and HIV/AIDS prevention in drug users in China

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ABSTRACT

Keywords:

Drug use

HIV/AIDS

Prevention and control

The objective of this paper is to review the current status of drug use and HIV/AIDS prevention for drug users in China and to provide scientific evidence for HIV/AIDS prevention and control in drug users. This paper reviews literature and articles related to drug abuse in China, and reviews the results of prevention efforts and successful cases regarding human immunodeficiency virus (HIV)/AIDS prevention in drug users. Lessons learned are discussed for the future improvement of work and the sustainable development of treatment programs. The number of drug users in China is increasing. Even though the number of opioid-type drug users is growing more slowly than in the past, the number of amphetamine-type stimulant users has increased sharply. It has been proven that methadone maintenance treatment and syringe exchange programs gradually and successfully control HIV/AIDS transmission in drug users. However, it is necessary to enhance these prevention methods and expand their coverage. In addition, the strengthening of antiretroviral therapy (ART) treatment for HIV-infected drug users is crucial for HIV/AIDS prevention and control. In the near future, the rapidly growing number of amphetamine-type stimulant users and their high-risk behavior pose a hidden danger of greater HIV/AIDS transmission through sexual intercourse.

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1. Introduction

Since the reporting of the prevalence of AIDS in injecting drug users began in China in 1989, the injection of drugs has become a primary channel of human immunodeficiency virus (HIV) infection in China. China has approximately 2 million drug users. Government departments and some organizations are taking various measures to prevent and control the transmission of AIDS within this group. There have been positive results from these measures, although a series of challenges have also arisen.

To provide scientific evidence and recommendations for future work in the prevention of HIV/AIDS in drug users, this article reviews the current status of drug use in China and the HIV/AIDS prevention work within the drug user community.

2. Methods

Through a review of the current status of drug use in China and by referring to the literature related to HIV/AIDS

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prevention work and the summarizing of successful experiences, we will make recommendations for facilitating future HIV/AIDS prevention work and its sustainable development.

3. Results

3.1. Current status of drug use in China

From the late 1970s to the early 1980s, with the development of the “reform and opening” economic policy of China, international drug trade groups transported large amounts of drugs by road, by crossing the border area of Yunnan and Myanmar to Hong Kong, Europe, and America, and have made exorbitant profits. Some drugs were sold along the drug trafficking routes and further flowed into broader regions, thereby developing an internal drug consumption market in China. In 1988, the Chinese government declared that drug users were present in the border area of the southwestern part of China. The number of drug-dependent users increased to 250,000 in 1992. The drug demand market gradually expanded from the border area to the inland and coastal cities, and then from urban areas to rural areas. In 10 years, China evolved from a transit country for illegal drugs to a big drug consumption market (Table 1). The Narcotic Control Report of China in 2003 showed that the amount of opium and heroin captured and the number of drug users continued to grow and that there were drug users in 2148 counties all over the country [1].

In addition, with the quickly developing process of urbanization and modernization, the number of drug users continues to increase and the types of drugs being used are becoming more diverse. Besides opium and heroin, other stimulant drugs such as “ice,” 3,4-methylenedioxy-N-methylamphetamine (MDMA), and ketamine have appeared in the

market, and their use has increased sharply. The present status of drug use in China is as follows: (1) the overseas growing and dealing of illegal drugs remains a serious problem and is an arduous task for narcotics control; (2) the number of opioid-type drug users continues to grow and there is an increasing trend for the use of amphetamine-type stimulants; (3) the number of male opioid users is greater than female users; (4) most opioid-dependent individuals are injecting the drug and increasingly more people are using multiple drugs; and (5) the relative proportion of opioid-dependent individuals is decreasing, but their absolute number is still growing. By the end of 2011, the number of registered drug users was 1.794 million, with 1.156 million (64.5%) dependent on heroin. There were 587,000 users of chemical synthetic drugs, accounting for 32.7% of the total number of drug users, which is an increase of 35.9%. The number of new users of chemical synthetic drugs was 146,000, which is an increase of 22%. Among the chemical synthetic drug users, individuals who are under 35 years old account for 67.8%, which shows a distinct trend toward younger use. In addition, chemical synthetic drugs have further flowed into middle-sized cities, towns, and rural areas [1].

3.2. HIV/AIDS in drug users

In 1988, the Chinese government declared a drug use problem in the border area of the southwestern part of China. In 1992, the number of drug-dependent people increased to 250,000. There were 1.794 million registered drug users in 2011, among which 1.065 million were using heroin [2]. Some research has showed that 72.5% of individuals dependent on heroin in China were injecting, and their syringe sharing rate was up to 69.5% [3]. By the end of 2011, an estimated 780,000 people were living with HIV/AIDS in China and 28.4% of HIV infection cases were attributable to injecting drugs [4]. Of the estimated 14.0 million (range, 11.2–22.0 million) people who inject drugs worldwide, The United Nations Office on Drugs and Crime estimates that 1.6 million (range, 1.2–3.9 million) people are living with HIV. The Russian Federation (21%), the United States (15%), and China (10%) overall account for one-half (46%) of the global number of people who inject drugs that are living with HIV [5].

3.3. HIV/AIDS prevention and control in drug users in China

3.3.1. Methadone maintenance treatment

In March 2004, China's methadone maintenance treatment (MMT) program began with the launching of eight pilot clinics in five provinces. By June 2006, 100 MMT clinics had been established that covered 21 provinces (including autonomous regions and municipalities) and treated 15,678 patients in total. Every day approximately 8397 patients are treated with each clinic treating an average of 84 people each day. By the end of 2012, 756 community-based MMT clinics offered treatment in 28 provinces (including the autonomous regions and municipalities). Thirty treatment vehicles also offer care. In total, 384,479 people have been treated with 208,388 people currently undergoing treatment. It is reported that 353,513 people currently in the treatment have been tested for HIV with the result of 7.7%

Table 1 – Data of registered drug users in China.

Year	Registered drug users	ATS users
1990	70,000	
1991	148,000	
1992	250,000	
1994	380,000	
1995	520,000	
1997	540,000	
1998	596,000	
1999	681,000	
2000	860,000	
2001	901,000	
2002	1,000,000	
2003	1,050,000	
2004	1,140,000	
2005	1,160,000	
2008	1,132,000	216,526
2009	1,335,900	314,072
2010	1,545,000	432,000
2011	1,794,000	587,000

Note. From Narcotics Control Report of China (1990–2011), by Office of Narcotics Control Committee of China, 1990–2011. Copyright 1990–2011, Narcotics Control Committee of China. Adapted with permission.

ATS = amphetamine type stimulants

positive. In the first screening for the hepatitis C virus (HCV) antibody, 58.6% individuals tested positive. Out of 298,298 people screened for syphilis, 4.0% tested positive.

Data show that during the 9 years of developing China's MMT program, the pilot phase of the program has been completed, its scope has been widened, and it has become the conventional AIDS prevention work. The daily average drug dosage of patients has risen from 50.5 mg in 2008 to 60 mg by December 2012. New HIV infection rates in clients treated in MMT clinics fell from 0.41% in 2008 to 0.30% in 2011. Research in the Yunnan Province shows that by the end of 2012, the MMT program had treated 35,993 people with 14,951 people currently undergoing treatment. To expand MMT coverage and increase its accessibility, an additional 73 medication-dispensing points have been opened and 3058 clients have been served. Forty-two people on average are treated in these medication points, which accounts for 20.5% of the total number of patients in Yunnan. Data from 2008 to 2012 show that the rate of new HIV infections for people treated in MMT clinics fell from 2.46% to 0.46%. According to National HIV/AIDS comprehensive response information management system of China, the scale of drug injection in the previous month had fallen from 24.6% to 2.3%; the needle-sharing rate had fallen from 98.2% to 10.9%; and the drug users' social and familial functions had been gradually restored. According to the Annual Report (2005 and 2009) of Narcotics Control Commission of Yunnan's Dehong Prefecture, the crime related to drug use has dropped from 42% to 23.6% and the scale of drug use-related public security cases fell from 62.7% (in 2005) to 32.1% (in 2009). In 2008, the new HIV infection rate in Dehong's drug users stood at 4.3 per 100 person-years, although the morbidity of clients treated in Dehong's MMT clinic in 2008, 2009, and 2010 stood at 0.60, 0.18, and 0.28 (per 100 person-years), respectively; this showed a downward trend [6–9,19].

3.3.2. Needle exchange program

In 1998, China began its first clean needle exchange pilot program. After starting the China-UK HIV/AIDS Prevention and Care Project and the Asia Regional HIV/AIDS Project, the provinces Yunnan, Sichuan, and Xinjiang developed large-scale clean needle exchange programs. A harm-reduction program for injecting drug users (IDUs) that was implemented in Yining City and in three districts in Urumqi City provided services to 4041 IDUs (40% of the estimated drug users in these areas). Of these, 3.2% of individuals were unregistered drug users and 11.3% were women. Sharing of needles and syringes dropped by 51.7%, and condom use increased by 44.9% with spouses and 56% with sex workers. Referral services were also provided. Of people using methadone maintenance programs, 20% were referred from the Needle Exchange Program (NEP). In total, 177 people (45% of the total number of people on antiretroviral therapy in these areas) were referred for antiretroviral therapy (ART) [10].

By July 2007, the four project counties of the Asia Regional HIV/AIDS Project (ARHP), which was implemented in Yunnan Province, supplied service 21,850 times and covered 2135 IDUs. The services included distributing 500,663 clean needles/syringes; collecting 323,368 used needles (a collection rate of 65%); distributing 11,980 condoms; and supplying abscess treatment service. The project also built a connection with

other services by referring patients to MMT programs, HIV Voluntary Counseling Testing Service, ART, and tuberculosis treatment and HIV/AIDS care services (the total referrals numbered 1879 person-times). Through these services, the behavior of the IDUs in the four counties of Yunnan province changed, as shown by an increase in new needle/syringe use with each injection (from 40% in the baseline research to 61% in the follow-up research). There has also been obvious improvement in condom use in the last incidence of sex, which changed from 1% at baseline to 35% at follow-up. In the follow-up research, more than three-quarters (79%) of the drug users acquired needles and syringes from outreach workers.

The implementation of the ARHP did not lead to more individuals initiating the use of drugs, which was a concern of some people prior to when the program began; it instead promoted positive behavioral changes among drug users and reduced the harm related to injecting drugs. The feasibility of this strategy has been shown through real-world practice [11].

In 2007, China set up 775 needle and syringe exchange sites in 405 counties, which covered 45,000 IDUs. These projects actively reduced the HIV infection high-risk behaviors among IDUs [3]. By the end of 2011, an average of 1052 needle exchange sites across the country conducted clean needle exchange work, with a monthly average of 52,600 IDUs participating. The widespread coverage of needle exchange programs, in conjunction with MMT, contributes to the prevention of HIV/AIDS among drug users.

3.3.3. Naloxone First Aid Project

Research shows that the mortality rate is 48 times higher in injecting heroin users than in people in the general population of the same age. Heroin overdoses account for 68% of the deaths. In Gejiu City alone in Yunnan province, approximately 60% of the 3000 heroin users died of a heroin overdose [12]. In a drug overdose, the heroin user for a variety of reasons cannot be saved in time and therefore death can occur. With harm reduction measures as one part of an intervention plan, the Yunnan province began the Naloxone First Aid Project as a pilot project in Gejiu in 2008. This later gradually expanded to pilot projects in Kunming, Mengzi, Kaiyuan, and Yuxi. At the same time, similar pilot projects were developed in Ningbo, Guangxi, and Beijing in Zhejiang province [12,13]. Since the start of the Naloxone First Aid Project pilot project in Yunnan, 769 people have successfully been saved from potential overdoses.

4. Challenges

By the end of 2011, public security bodies across the country took in 92,000 drug users for drug detoxification and there were 227,000 people in compulsory detoxification centers [1]. By the end of 2011, China's 28 provinces (including the autonomous regions and municipalities) had a total of 738 MMT clinics with a total of 344,254 treated people and 140,102 people who were being treated. There is an average of 1052 needle exchange dispensing points performing this work with a monthly average of 52,600 people taking part in the program.

In 2011, drug users who received AIDS prevention and control services numbered 496,000 individuals, which

included 227,000 drug users who were in compulsory detoxification centers, 36,000 drug users in community-based detoxification programs, 40,000 drug users in community-based rehabilitation, 140,000 drug users receiving MMT services, and 53,000 drug users in needle exchange programs. This number accounts for 42.91% of the 1,156,000 opioid-type drug users in the country, which leaves a considerable number of drug users who are still not receiving AIDS prevention and control services.

Scientific research from across the world in the past 30 years shows that addiction to drugs (e.g., heroin, cocaine, amphetamine, cannabis, nicotine, and alcohol) is a chronic, relapsing brain disease. Because of psychoactive substance use over an extended period, the basic structure and function of the brains of drug addicts are seriously damaged, leading to their deviant behavior that they are unable to control. For a long time, heroin users have been viewed by society as “morally ruined,” “criminal” and “incurable” people, and they are often subject to discrimination, humiliation, marginalization, and criminalization; some are even cast out by their families. The Naloxone First Aid Project pilot program produced good results; however, some barriers remain in the widespread running of the program.

Several domestic studies indicate that drug users often have multiple sexual partners and/or concurrent sexual partners, that their use of condoms is relatively low [14,15], and that more drug users are mixing drugs—especially amphetamine-style drugs that stimulate the central nervous system [16,17]. These factors lead to the danger of the transmission of HIV and other sexually transmitted diseases in drug users.

The China AIDS Epidemic Assessment Report (2011) [4] shows that by September 2011, a total of 133,524 adults with AIDS received ART with 106,593 patients currently receiving treatment. Antiretroviral therapy coverage increased from 62.0% in 2009 to 73.5% in September 2011. However, the ART coverage for high-risk groups differs with studies showing that the coverage of drug users with HIV infection is the lowest at 42.7%. In China, treatment coverage was only one of the risk factors that was strongly correlated to mortality [18].

5. Suggestions

Improving knowledge in the community that drug addiction is a type of chronic relapsing brain disease, improving public education, strengthening residents' awareness of equal rights and justice, and reducing the discrimination and stigma by the community that is attached to drug users can lead to the foundation of expanding the coverage of harm reduction work. Drug users' communities should actively be encouraged to participate in harm reduction work, strengthen harm-reduction workers' social-psychological training, change law enforcement officers' misconceptions about drug users, and improve the coverage and quality of MMT and needle exchange programs. To change the attitudes of policymakers and accelerate the expansion of the work of the Naloxone First Aid Project, evidence gained through scientific research may be used for policy advocacy.

We suggest that HIV counseling and testing for drug users be expanded and that the process of telling people their test

results be improved. By strengthening the psychological care and social assistance for people living with HIV/AIDS and by encouraging them to join treatment projects as early as possible (for the goal of “early detection, early care, and early treatment”), it is possible to realize the goal of “reduce AIDS mortality and reduce HIV new infections” that was set by the State Council of China in the 12th 5-year development plan for HIV/AIDS control.

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REFERENCES

- [1] Office of China National Narcotic Control Commission (NNCC). 2002 annual report on drug control in China. NNCC; 2003.
- [2] National Institute on Drug Dependence National Drug Abuse Surveillance Center. Report of drug surveillance 2011[R]. [s. l.]: NIDD and NDASC; Beijing: China National Narcotic Control Commission; 2011.
- [3] Yang H, Zhao Y. HIV/AIDS programs for drug user population and detainees in China. 2nd informal inter-country consultation on HIV prevention and care among injecting drug users and in prison settings. Beijing, China: National Drug Abuse Surveillance Center; 19–21 February, 2008. Vienna.
- [4] MOH of the People's Republic of China UNAIDS WHO. Evaluation Report on China HIV/AIDS Epidemic 2011. *Chin J AIDS STD* 2012;18:1–5.
- [5] United Nations Office on Drugs and Crime (UNODC). World drug report. Vienna: UNODC; 2013.
- [6] Li J, Wang C, McGoogan JM, et al. Human resource development and capacity-building during China's rapid scale-up of methadone maintenance treatment services. *Bull World Health Organ* 2013;91:130–5.
- [7] Xiang L-F, Liu P, Gao J, et al. Evaluation of effectiveness of methadone maintenance treatment in Dehong Prefecture of Yunnan. *Chin J AIDS STD* 2011;4:426–9.
- [8] Duan S, Xiang L-F, Yang Y-C, et al. Incidence and risk factors on HIV infection among injection drug users in Dehong prefecture area of Yunnan province. *Chin J Epidemiol* 2009;30:1216–9.
- [9] Yang Y-C, Duan S, Xiang L-F, et al. Adherence related determinants on methadone maintenance treatment among heroin addicts in Dehong Prefecture, Yunnan Province. *Chin J Epidemiol* 2011;2:125–9.
- [10] Ni M, Wang JP, Lu L, et al. Summary report of expanded needle and syringe exchange program in Xinjiang Uyghur Autonomous Region.
- [11] Duo L, Zhang X. Summary report of ARHP policy advocacy and policy development; 2007.
- [12] Huang B, Bartlett N, Zhang H, et al. Feasibility of naloxone first-aid on the spot conducted by peers [J]. *Chin J Drug Depend* 2011;20:204–7.
- [13] Luo Z, Duo L, Lin Y, et al. Investigation about feasibility of naloxone first aid carry out by outreach workers. *Chin J Drug Depend* 2013;2:134–6.

-
- [14] Li J, Yang F, Zhang C, et al. Infection status of blood-borne diseases in drug users in China: with a focus on HIV, hepatitis B and C. *Chin J AIDS STD* 2009;5: 543–5.
- [15] Li J, Liu H, Li J, et al. Sexual transmissibility of HIV among opiate users with concurrent sexual partnerships: an egocentric network study in Yunnan, China. *Addiction* 2011;106:1780–7.
- [16] Liu Z, Cao J, Lu X, et al. Epidemiological study of central stimulants and other related psychoactive substance abuse. *Chin J Drug Depend* 2002;11:286–93.
- [17] Chu P, Jia Z, Bao Y, et al. The situation of amphetamine-type stimulants abuse and the related factors on HIV/STD in Yunnan Province. *Chin J Drug Depend* 2012;21:451–8.
- [18] Zhang F, Dou Z, Ma Y, et al. Effect of earlier initiation of antiretroviral treatment and increased treatment coverage on HIV-related mortality in China: a national observational cohort study. *Lancet Infect Dis* 2011;11:516–24.
- [19] Duan S, Yang Y-C, Han J, et al. Study on incidence of HIV infection among heroin addicts receiving methadone maintenance treatment in Dehong prefecture, Yunnan Province. *Chin J Epidemiology* 2011;32:1227–31.