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HIV infection among female drug users in Northern Thailand

Namtip Srirak[a], Surinda Kawichai[b], Tasanai Vongchak[a], Myat Htoo Razak[b], Jaroon Jittiwuttikarn[c], Sodsai Tovanabutra[a], Kittipong Rungruengthanakit[a], Rassamee Keawvichit[a], Chris Beyrer[b], Kanokporn Wiboonatakul[a], Teerada Sripaipan[b], Vinai Suriyanon[a], David D. Celentano[b,*]

[a] *Research Institute for Health Sciences, P.O. Box 80 CMU, Chiang Mai University, Chiang Mai, Amphur Muang, Thailand*
[b] *Department of Epidemiology, Bloomberg School of Public Health, Johns Hopkins University, 615 North Wolfe Street, Baltimore, MD 21205, USA*
[c] *Northern Drug Treatment Center, Amphur Mae Rim, Chiang Mai, Thailand*

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Abstract

Reports on HIV infection and risk behaviors among female drug users in developing countries, particularly in Asia, are limited. In this study, we investigated HIV prevalence and risk factors for HIV infection among 200 women admitted for 21-day inpatient drug detoxification in Chiang Mai, Thailand. Volunteers completed a face-to-face interview using a structured interview, HIV pre-test counseling, specimen collection for HIV and STD tests, and were provided test results and HIV post-test counseling 1 week later. Two-third of participants (68%) were ethnic minorities with no formal education. Overall, 14 (7%) were HIV positive: 25% among 28 heroin injectors and 4.1% among 172 opium or methamphetamine smokers ($p < 0.001$). History of drug injection and sexual abuse were associated with HIV infection. HIV prevention strategies for drug-using women in Thailand should consider both harm reduction strategies for drug use and promoting safer sex measures in a culturally appropriate context.

Keywords: HIV-1; Women; Injection drug use; Opiates; Methamphetamines; Sexual abuse; Thailand

1. Introduction

In 1988, an explosive increase in HIV infection was detected among injection drug users (IDU) in Bangkok, Thailand, with HIV prevalence rising from under 1% in January 1988 to over 40% in 6 months (Weniger et al., 1991). HIV surveillance data in the 1990s showed that IDU in Thailand were facing a major HIV epidemic, varying regionally from 30 to 50%, among the highest in Asia (Monitoring the AIDS Pandemic, 2001; Ruxrungtham et al., 2004). Estimated HIV incidence among IDU in Thailand is five to ten per 100 person years (PY) (UNAIDS, 1998; Celentano et al., 1999). Nevertheless, drug users have received little attention from the government (Celentano, 2003a,b), as the national prevention focus has been on the control of heterosexual and perinatal transmission (Hanenberg et al., 1994; Punpanich et al., 2004). Given the high prevalence and little emphasis on prevention, drug users with HIV will be a reservoir for transmission to the general population (World Bank, 2000a).

The situation of female drug users in many countries in Asia is less well documented than among males. In some countries, for example, Bangladesh (Hossain, 2000), China (World Bank, 2000b), Hong Kong (Lee and Hollinrake, 1998), India (Kumar et al., 1996; Tellis et al., 2000), Thailand (Razak et al., 2003) and other Southeast Asian countries, the size of the problem is generally unknown but the

* Corresponding author. Tel.: +1 410 955 1356; fax: +1 410 955 1383.
E-mail address: dcelenta@jhsph.edu (D.D. Celentano).

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composition of female drug users in reports ranges from 2.5 to 25% (Reid and Costigan, 2002). Drug use by women in Asia is culturally unacceptable and stigmatized. HIV prevalence among female drug users in Asia also varies widely. Prevalence rates vary from 14% in Malaysia (Wai et al., 1996), 16% in Kathmandu (Shrestha et al., 2003), 41% in Manipur, India (Panda et al., 2001), and 68–80% across provinces in China (Wu et al., 2004; Zhang et al., 2002). In Thailand, HIV prevalence was 56.9% among female IDU detoxification patients between 1993 and 1995 (Celentano et al., 1998); an incidence rate of 9.6 per 100 PY has been reported among Bangkok female IDU (Vanichseni et al., 2001).

Prevalence of HIV and associated risk behaviors among female drug users, where use is by inhalation, ingestion and injection, in Thailand are limited. This report investigates these factors among women inpatients in Northern Thailand.

2. Methods

2.1. Study participants and quantitative data collection

Recruitment occurred at the Northern Drug Treatment Center (NDTC), in Mae Rim, Chiang Mai province, Thailand. Patients were voluntarily admitted for short-term detoxification of heroin, opium, or methamphetamine dependence between 1 February 1999 and 31 January 2000. Written informed consent, a structured interview, and voluntary HIV counseling and testing were offered. Interviews and counseling were conducted in the participants' dialect, 40% of whom were ethnic minorities. The questionnaire determined demographics, drug and sexual histories, sexually transmitted diseases (STD), knowledge of HIV/AIDS and prevention measures. We assessed lifetime injection and usual route of drug administration in the prior 3 months. HIV and STD test results were given to participants and then treated following HIV post-test counseling.

Overall, 285 (of 303 female admissions) women met the study criteria (age > 12 years; admission for opioid dependence or methamphetamine abuse), of whom 223 (78.2%) agreed to participate; 23 women withdrew participation, for a final participation rate of 70.2%.

2.2. Laboratory testing

Serum specimens were tested for HIV antibodies by ELISA (Vironostica HIV Uni-form II plus 0; Organon Teknika) and GPA (Serodia-HIV; Fujirebio, Japan), confirmed by Western Blot (HIV blot 2.2; Genelabs Diagnostics, Singapore). Syphilis serology used RPR (SyphScreen; Shield Diagnostics, United Kingdom) and TPPA (Fujirebio, Japan) for confirmation; urine specimens were tested by PCR (Amplicor PCR Diagnostics; Roche Diagnostics Systems) for gonorrhea and chlamydia.

2.3. Data processing and analysis

SAS was used for data management and analysis. Univariate analyses were used, with interpretation of the significance of results using odds ratios (OR) and 95% confidence intervals (CI).

3. Results

3.1. Demographic characteristics and risk behaviors

The median age of study participants was 34 years (IQR = 21, 43), with 20% under 20 (Table 1). Two-third (68%) were ethnic minorities; 65% had no formal education; and most were employed (82.5%) prior to admission.

Most female drug users were not injectors (172 women or 86%), most of whom (125 women or 72%) were ethnic minorities who smoked opium (94 women or 75%). Lifetime use of most drugs showed higher risk of HIV infection, with heroin use clearly linked to HIV acquisition (Table 2). Only one-third of heroin users were injectors in the prior 3 months, but a history of injection was strongly associated with prevalent HIV infection. Only one opium user administered drug

Table 1
Demographic characteristics and HIV prevalence among Thai female drug users presenting for detoxification, Northern Thailand, 1999–2000

Characteristics	Number	HIV+ (%)	OR (95% CIs)
HIV infection	200	14 (7.0%)	
Ethnic			
Thai lowland	63	6 (9.5)	1.7 (0.56,5.12)
Ethnic minorities (combined)	137	8 (5.8)	1
Akha	80	6 (7.5)	
Lisu	8	1 (12.5)	
Lahu	13	1 (7.7)	
Others	36	0	
Age (years)			
<20	40	4 (10.0)	1.7 (0.35,9.19)
≥20	160	10 (6.2)	1
Civil status			
Never married	41	2 (4.9)	0.9 (0.08,5.30)
Married	111	6 (5.4)	1
Divorced or widowed	48	6 (12.5)	2.5 (0.63,9.87)
Education			
None	131	8 (6.1)	1
Primary or higher	69	6 (8.7)	1.5 (0.49,4.40)
Employment status			
Unemployed	33	4 (12.1)	2.2 (0.64, 7.37)
Employed	167	10 (6.0)	1
Employee or trader	14	2 (14.3)	
Farmer	82	3 (3.7)	
Day laborer	27	1 (3.7)	
Student	33	4 (12.1)	