

Sexual violence victimization and condom use in relation to exchange of sexual services by female methamphetamine prisoners: an exploratory study of HIV prevention

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Objectives: In Taiwan, the street term “sugar girl” refers to an individual who performs a sex act in exchange for drugs or money. This study aimed to determine factors associated with exchange of sexual services by female methamphetamine offenders in Taiwan. **Methods:** Given the personal nature of the collected data, eligible participants were asked to indicate their willingness to participate by signing consent forms. Surveys were conducted on 270 literate female prisoners aged over 18 with a history of methamphetamine offense. **Results:** Of the 270 participants, 86 (32%) had previously exchanged sex for drugs or money. Only 15% had used a condom during their last sexual intercourse. The results showed that women who exchanged sex were more likely to be older, have used illicit substances at an earlier age, have multiple partners, and have been raped. **Conclusions:** The findings provide evidence that exchanging sex and sexual violence were common, and condom use rates are low enough to encourage transmission of HIV and other STDs. Intervention programs need to not only promote condom use but also need to provide counseling to victims of rape. (*Taiwan J Public Health*. 2006;25(3):214-222)

Key Words: Condom, Female Drug Users, HIV Prevention, Sugar Girl, Victims of Rape

INTRODUCTION

Human Immunodeficiency Virus (HIV) infection rates related to intravenous drug use (IDU) has increased dramatically within a relatively brief period in many countries [1]. Similar trends in HIV infection have recently been found in Taiwan. From 1984 to 2003,

there were 157 HIV infections in relation to IDU in Taiwan. However, in 2004 the number of cases of HIV infection among IDUs escalated to 491 persons, accounting for 32.3% of the 1,521 newly found cases [2].

The majority of drug users are sexually active, especially the amphetamine users. Methamphetamine is a very addictive stimulant. It comes in the form of a white powder that can be snorted, smoked, injected, or taken orally. Short-term, low-to-moderate doses of methamphetamine generally provide a feeling of euphoria, increase energy and psychomotor agitation, decrease appetite, and for many, initiate a sense of heightened sexuality and

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interest in pursuing sexual activities [3]. A study by Strathdee et al. followed 1,800 IDUs for 10 years in Baltimore and found that high-risk sexual behavior was a better predictor of HIV infection than was sharing needles while injecting drugs. They found a gender difference in the type of sexual activity that predicted greatest risk, however. Among women, high-risk heterosexual activity was the most important factor [4].

In Taiwan, the street term “sugar girl” refers to an individual who performs a sex act in exchange for drugs or money [5]. The real prevalence of prostitution among drug users is difficult to estimate, as findings vary widely between study sites and study populations.

In the literature, trading sex for drugs or money has been identified as a crucial risk factor for HIV infection for female drug users [6-8]. Researchers have also noted that these women have a history of exchanging sex for drugs or money, which probably led them to become HIV-positive [9]. In addition, because these female drug users frequently have unprotected sex with many different sexual partners, they are also at risk of becoming pregnant. The fetus is then exposed to the dual risk of contracting HIV and/or being drug addicted [10]. As a result, women who exchange sex for drugs or money act as a bridge between HIV infected individuals and the rest of the community. After they have sold sex to someone who is HIV infected, they may become infected themselves and transmit HIV to their other sexual partners.

Women at highest risk of domestic violence are demographically similar to women at risk of HIV infection [11]. Previous studies have concluded that the prevalence of violence among women at risk is high because drug use is associated with both partner abuse and HIV infection [12,13]. However, there is little appropriate research regarding the

relationships between condom use, exchange of sexual services and history of victimization from violence. Understanding the drug use subculture among women who have exchanged sex for drugs or those who have been victims of violence is important in terms of prevention and control of HIV transmission. In this article, the aims were to investigate the prevalence and associated factors of trading sex for drugs or money among female methamphetamine users.

METHODS

Respondents

Because 70% of HIV cases related to IDU were tested positive in the prison system [2], the biggest female prison in northern Taiwan was selected as the research setting. To recruit female methamphetamine users, a social worker from this female prison was approached and asked to identify women who would be interested in participating in a HIV-related survey study. Potential participants were checked by the social worker with the selection criteria being: age over 18, literate, and a history of methamphetamine offense. Of 292 contacted women, 270 (92.5%) participants completed the questionnaire. This study did not include illiterate women because it is presumed that they would be incapable of completing the questionnaire.

Given the sensitivity of the subject matter and the vulnerability of the study population, approval for the study was obtained from Ministry of Justice Taiwan, and informed consent was obtained from each participant before the study was conducted. No incentive was rendered to the participants.

Measures

The contents of the questionnaire included: background information, beliefs about condom

use, and sex-related risk practices. Background information collected included age, education, age of first use of illicit drugs, history of methamphetamine and heroin use, partner violence, and experiences of sexual coercion. Respondents selected one of four choices to describe their educational level: primary school, junior high school, senior high school, or college and above. In the analysis, education was categorized as less than 9 years and at least 9 years; a minimum of nine years education is compulsory in Taiwan. Methamphetamine and heroin use at the time of interview were enquired about using closed questions (yes/no). Lifetime frequency of primary partner violence was rated as never, once, and twice or more. Experience of rape was assessed by asking respondents whether they had been coerced to have sex by anyone in their lifetime, and was rated as never, once, and twice or more.

Beliefs about condom use consisted of 6 items and were rated on a six-point Likert scale, from totally agree to totally disagree. Participants were asked whether using a condom will (1) reduce sensation; (2) decrease feelings of intimacy; (3) reduce enjoyment; (4) indicate distrust in the relationship; (5) interrupt the smooth process of intercourse; and (6) anger the sexual partner. Belief items about condom use were performed using the principal component analysis, and the results with the scree test [14,15] indicated that one factor explaining 50.6% of the variance is a better solution. The factor loadings are all greater than .395 and the highest was related to the belief that using condoms decrease feelings of intimacy. The reliability coefficient of internal consistency (Alpha) was 0.80.

All participants were asked to report if they were sexually experienced prior to the survey. Participants who reported sexual experience were asked to answer other questions concerning their sex-related practices.

Sex-related questions included the number of sexual partners in the prior 6 months before being detained, condom use, and history of exchanging sexual services. In the analysis, the number of sexual partners was recoded as no sexual partner, one, and two or more. Two aspects of information concerning condom use were collected: used a condom during the last sexual encounter and frequency of lifetime condom use. All respondents were asked if they had been involved in exchanging sexual services (yes/no). Exchange of sex was defined as previously trading sexual intercourse for drugs or money.

RESULTS

Table 1 presents the background information of the respondents in this study. The prevalence rate of selling sex for drugs or money was 32%. Female methamphetamine offenders who exchanged sex and those who did not exchange sex for drugs were approximately the same age, had similar educational backgrounds, scored similarly on condom usage beliefs, had no difference in percentage of heroin use, and had a similar frequency of lifetime condom use. Compared with participants who did not sell sex for drugs or money, respondents who exchanged sex were more likely to have first used illicit drugs at a younger age, had multiple sexual partners in the prior six months, used a condom during the last sexual encounter, and had experienced partner violence and coerced sex in their lifetime. With regard to sex-related behaviors, out of the study participants about 25% reported having multiple sexual partners, 15% used a condom during the last sexual encounter, 26% indicated that they never used a condom while having intercourse and 38% self-reported that they were coerced into having vaginal sex at least once in their lifetime.

Table 1. Background information of women who exchanged sex and who did not exchange sex for methamphetamines

Variables	SG	Non SG	Total
	Mean(SD)	Mean(SD)	Mean(SD)
Age	27.96 (6.17)	28.61 (6.17)	28.41 (6.17)
Age at first drug use	18.24 (6.13)	20.12 (6.07)	19.52 (6.15)*
Belief about condom use (0-30)	22.87 (5.69)	23.47 (4.05)	23.28 (4.63)
	N(%)	N(%)	N(%)
Heroin use	67 (78)	139 (76)	206 (76)
Education in years			
Less than 9 years	38 (45)	77 (42)	115 (43)
At least 9 years	47 (55)	107 (58)	154 (57)
Have had sexual intercourse	86 (100)	182 (99)	268 (99)
Multiple sexual partners in the past six months			
One partner	43 (50)	155 (87)	198 (75)***
Two or more	43 (50)	23 (13)	66 (25)
Used a condom during last sexual encounter	20 (24)	19 (10)	39 (15)**
Frequency of condom use			
Never	19 (22)	50 (29)	69 (26)
Few or Sometimes	51 (59)	116 (63)	167 (62)
Often	16 (19)	17 (9)	33 (12)
Physically abused by primary partner			
No	23 (27)	94 (51)	117 (44)***
Once	25 (29)	38 (21)	63 (23)
Twice or more	38 (44)	51 (28)	89 (33)
Have been raped			
No	24 (29)	142 (76)	166 (62)***
Once	11 (13)	15 (8)	26 (10)
Twice or more	49 (58)	24 (13)	73 (28)

Note: SG = Sugar Girl. *P<0.05, ** P<0.01, *** P<0.001.

All variables were entered into the logistic regression model and the results are presented in Table 2. Age, age at first use of illicit drugs, multiple sexual partners in the prior six months, and being a victim of sexual coercion were associated with exchanging sex for drugs or money in this study. Respondents who had two or more sexual partners in the prior six months were 12.53 times more likely to exchange sex for drugs or money, and adjusted ratios for age and age at first use of drugs were 1.12 and 0.89, respectively. Women who had experienced sexual coercion once or two or more times were

8.42 and 24.42 times more likely to trade sex for drugs or money, respectively.

DISCUSSION

The findings on risk-taking behaviors were consistent with previous studies which have shown that sex in exchange for drugs or money is a common practice among female drug users [12,13,16,17]. The prevalence of exchanging sex for drugs in this study was 32%. "Sugar girls", a slang term in the drug using community for a woman who is mobile and exchanges sex for drugs as a short term solution to their addiction,

Table 2. Risk factors of women who have traded sex for methamphetamines using logistic regression analysis

Variable	β (SE)	Odds Ratio
Age	.11 (.05)	1.12 *
Age at first use of drugs	-.12 (.05)	0.89 *
Education in years	-.15 (.38)	0.86
Heroin use	.00 (.44)	1.00
Multiple sexual partners	2.53 (.45)	12.53 ***
Frequency of condom use		
Never	-.95 (.77)	0.39
Sometimes	-1.17 (.67)	0.31
Often	Referent	
Used condom at last intercourse	.70 (.64)	2.02
Beliefs about condom use (0-30)	-.04 (.04)	0.96
Physically abused by primary partner		
Twice or more	.30 (.45)	1.35
Once	-.43 (.47)	0.65
No	Referent	
Have been raped		
Twice or more	3.20 (.50)	24.42 ***
Once	2.13 (.56)	8.41 ***
No	Referent	

Note: * p<0.05, ** p<0.01, *** p<0.001.

is a common phenomenon in Taiwanese society. This particular group in Taiwan has not yet been adequately studied, but the fact that they are at high risk of HIV infection cannot be ignored.

Among sex-related behaviors, the number of sexual partners in the prior six months was a significant predictor of exchanging sex for methamphetamines. No differences in lifetime condom use and use in the last sexual encounter were found between the two groups in this study. This finding is consistent with another study[8], regarding comparability between those engaged and not engaged in the exchange of sex for drugs in terms of condom use for vaginal sex. Unfortunately, like the results of the study by Weatherby and colleagues, neither those involved nor those not involved in the exchange of sexual services reported condom use of a sufficient level to effectively reduce the

transmission of HIV infection and other STDs [18].

In Taiwan, heroin and methamphetamines are unaffordable for the majority of female addicts without other sources of income. Selling sex is a practical way for them to obtain drugs or raise enough money for drugs. In addition, people exchanging sex may be an important subculture that may hinder safer sex practices. Studies suggest that drug users who pay for sex may have more control over condom use than drug users who sell sex [5, 19]. In other words, strong cultural norms within the sex work culture may make it difficult for the seller to make requests of the buyer. Engaging in unprotected sex is a cultural norm in the substance use subculture. The influence of norms may be especially strong when a woman is dependent on the exchange of sex to support herself or her drug habit.

Future studies may have to investigate how the interplay of sexual relations and control of money and drugs influence the development of safer HIV behaviors.

The findings of this study have shown that female drug users who exchanged sex for drugs or money were more likely to be victims of coerced sex. One plausible hypothesis for the association of being a victim of sexual abuse and HIV risk behavior is that a history of sexual abuse is associated with subsequent physical and emotional pain which then leads to using substances as a coping or self-medication strategy. Research indicates that women who have drug problems are more likely to have been sexually abused and physically assaulted than women without drug problems [20]. High rates of sexual and physical abuse among women in drug abuse treatment programs have also been found with several studies reporting as many as two out of three women entering treatment have a history of sexual and/or physical abuse [21-23]. Furthermore, another study found a cyclical relationship between victimization and substance use, with victimization increasing the risk of substance use and substance use increasing the risk of future victimization [20]. Substance use, in turn, is associated with riskier sexual behaviors [20-22]. More research is needed to investigate the male perspectives on both safer sexual behavior and violence, since physical assault of women and the use of condoms are largely male behaviors.

Because the respondents were not randomly sampled from all possible female drug users who constitute a predominantly hidden population, this study has several limitations. One challenge lies in the fact that there is no effective way to identify the drug using population. Thus, respondents in this study are not a representative sample of female drug users. In addition, this study did not

provide any reimbursement for participation, making it different from other previous studies in which monetary incentives were rendered. Nevertheless, respondents in this study were informed about the anonymity and confidentiality of the data collection to help prevent bias towards more socially desirable answers.

Findings from this study have several policy implications. First, only about one-tenth of female drug offenders in this study had used condoms often while having sex and 15% used a condom during their last sexual encounter. This suggests that more work needs to be done to promote condom use. In Taiwan, health education in prisons provides an important opportunity for HIV harm reduction for drug users. About 20,000 drug users were detained in prisons in 2004 [24]. The development of an effective harm reduction program on safer sex and safe injection could make a substantial contribution to HIV prevention and control in Taiwan. Unfortunately, most health professionals in prisons currently are not well trained in HIV prevention and services. Consequently, training in HIV/AIDS knowledge, skills for communication, counseling and testing for health professionals in prisons is an essential first step for promoting HIV risk reduction.

Second, decreasing HIV seropositivity in female drug users who exchange sex is a cost-effective way of postponing HIV spread from drug users to other populations. Given the limited resources and funds available, methadone maintenance treatment which is not available in Taiwan may have to be reconsidered and serve as a primary prevention strategy for HIV transmission. For example, a study found that participants who remained in treatment over 12 months had significantly fewer sexual partners without using condoms than those who left the treatment program

[25]. Third, safer sex should be regarded as important as safe injection in pursuing HIV harm reduction for drug users. Before maintenance treatment is available, it is difficult to stop the exchange of sex for drugs among female drug users, but it may be easier to promote condom use. Fourth, additional qualitative research is needed to clarify factors that may make risk reduction for “sugar girls” more feasible. For example, interviewing the sexual partners of “sugar girls” could be a more effective means of stopping sexual violence and controlling the spread of HIV and other STDs than current efforts. Research conducted on the basis of qualitative work would contribute to understanding the cognitive and affective mediators of economic, and behavioral factors. Finally, on the basis of our findings, targeting gender and subcultural norms is an important strategy that needs to be combined with other intervention components. It is likely that negotiating condom use and reducing multiple sexual partners are two separate overlapping behaviors and need to be addressed as such.

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女性安非他命使用者之強暴受害經驗、保險套使用與以性換藥或金錢之行為：愛滋病防治初探性研究

李思賢

目標：在台灣街頭，「糖果妹」指的是女性藥癮者以性換藥或金錢的術語。本研究目的是探討台灣地區女性安非他命戒治者以性換取藥物或金錢的行為及其相關因子。**方法：**因為本研究調查的行為相當敏感，所以在說明研究並詢問女性藥物戒治者參與研究的意願後，請研究參與者簽署研究同意書。最後有270位18歲以上、識字、曾經使用過安非他命的女性戒治者填寫問卷。**結果：**在270位參與者中，有86位(32%)曾經以性換藥或金錢；只有15%在最後一次性交時有使用保險套。分析結果發現以性換藥或金錢的參與者的平均年齡較大、第一次使用非法藥物時年齡較小、較可能有多重性伴侶、以及有被強暴的經驗。**結論：**本研究結果發現女性藥物戒治者以性換藥或金錢的狀況是存在的，而且整體參與者的保險套使用率相當低，足以讓愛滋及其他性傳染病有感染與擴散機會。本研究建議針對女性安非他命使用者的愛滋防治計畫不僅需要促進保險套的使用，同時亦需要提供強暴受害經驗的心理諮商。(台灣衛誌 2006；25(3)：214-222)

關鍵詞：保險套、女性藥物使用者、愛滋防治、糖果妹、強暴受害經驗

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