論文題目 Initiation of methamphetamine use and high-risk sexual behaviors of methamphetamine users in Northern Shan State, Myanmar

(ミャンマー連邦北シャン州におけるメタンフェタミン覚醒剤の使用開始年齢と使用者のハイリスク性行動)

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ソー　ユ　モン

Saw Yu Mon

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Background

Globally, methamphetamine (MA) use is a significant public health concern due to unprecedented health effects of its use. However, many MA users consider MA to be a lifestyle drug and often use it for recreational and work-related purposes. The risks of MA use are frequently underestimated due to the limited understanding and awareness of methamphetamine-related effects. Evidence showed that drug initiation at a young age is often associated with a variety of negative outcomes in adulthood including drug addiction and health related problems. In addition, individuals who start using drug in their adolescence may continue using it through their adulthood. Even when they stop, they might revert into using it later in adulthood. Thus delaying the initiation of MA use, in addition to preventing MA use, could be important in controlling adverse effects of MA use.

However, the age of initiation of MA use and its associated factors have been understudied in Asia. A study is necessary in Myanmar where MA use is recently a growing concern mainly among the youth population. It is important to know the age of initiation of MA and the associated factors in Myanmar, which could be useful information to establish a strategy to control MA use in this country. Likewise, some factors may be particularly relevant in the current Myanmar context. For instance, entertainment venues have become popular in many areas of Myanmar, such as dance club and karaoke, particularly for younger generations, which may increase the risk of early use of MA in Myanmar. Furthermore, the early initiation of substance use has also been associated with high-risk sexual behaviors. Many people use MA to enhance their sexual interactions. MA can cause loss of inhibitory control of sexually compulsive behavior among its users, thereby increasing their engagement in high-risk sexual behavior.

To date, no epidemiological research has examined the association between the early initiation of MA use and high-risk sexual behaviors (inconsistent condom use and having multiple

sexual partners in the preceding six months and having a history of STI) in Myanmar or other parts of the world. This topic is particularly important in Myanmar, which has been known as one of the key production countries for MA in Southeast Asia region and has the largest number of HIV-infected individuals among the adult population. Gender specific consideration of MA initiation and HIV risk taking behaviors are also important in Myanmar. Evidence has also shown that female MA users practice concomitant sexual risks such as having large number of sexual partners, engaging in unprotected and survival sex. Thus, it is necessary to take into account the possible gender difference in the association between early initiation of MA and high-risk sexual behaviors. This study examined factors associated with the early initiation of MA use and the high-risk sexual behaviors among MA users in Muse, Myanmar.

Methods

A cross-sectional study was conducted in Muse, Northern Shan State, Myanmar from January to March 2013.Using a respondent-driven sampling method, 1,385 self-reported MA users (782 males and 603 females) were recruited. An MA user was defined as a person who had used MA at least three times in the 90 days prior to the interview. Data were collected in private places using a computer-assisted self-administered (CASI) program. In this process, participants were requested to complete surveys on a laptop computer belonging to the investigator. Each CASI interview took about 30- 45 minutes to complete. A computer-based informed consent form mentioning the study objectives and purpose of research was obtained from all respondents for their voluntary participation. Multiple logistic regressions and generalized estimating equations models were performed to examine the factors associated with early initiation of MA use and high-risk sexual behaviors stratified by gender. To determine factors associated with the early initiation of MA use, two gender-stratified multiple logistic regression models (model I and model II) were performed. In the logistic regression models, the early initiation of MA use was the binary outcome variable, which was dichotomized by assigning "1" if the participants initiated MA use at age 17 years or younger and "0" if otherwise.

The generalized estimating equation models (GEE) were performed to observe association between early age of initiation and high-risk sexual behaviors among the MA users. The high-risk sexual behaviors were measured using "two direct measures" (inconsistent condom use and having multiple sexual partners in the preceding six months) and "one indirect measure" (having a history of STI). To overcome the risk compensation phenomenon, these three measures were used to construct an outcome variable for overall sexual risk. The variable was dichotomized into "0" (no risk) and "1" (engaged in high-risk sexual behaviors).

Results

The rate of the early age of MA initiation was 73.0 % among male participants (n=563), and 60.5% among female participants (n=355). Likewise, a high magnitude of MA users engaged in high-risk sexual behaviors. Two gender-stratified multiple logistic regression model (model I and model II) were performed. Among males, in model I, factors associated with an increased likelihood of MA initiation in early age included: having bi-/homosexual preferences (adjusted odds ratio [AOR] 1.57, 95% CI: 1.07-2.29), having used MA at the entertainment venues for the first time (AOR = 3.08; 95% CI: 2.03-4.65), and having used MA either to lose body weight or for work related purposes for the first time (AOR = 1.61; 95% CI: 1.02-2.54), or because of curiosity about its effects or for fun (AOR = 2.84; 95% CI: 1.74-4.65). In model II, the socio-demographic factors and the first time MA use characteristics remained statistically significant and suicidal attempts were positively associated with early MA initiation (AOR= 2.27; 95% CI: 1.27-4.07). Among females, in model I, participants who belonged to Kachin (AOR= 0.51; 95% CI: 0.31-0.85) ethnic groups were less likely to report early MA initiation. On the other hand, factors associated with an increased likelihood of MA initiation in early age included: having used MA at the entertainment venues for the first time (AOR = 4.06; 95% CI: 2.67-6.17), and having used MA either to lose body weight or for work related purposes for the first time (AOR = 1.89; 95% CI: 1.21-2.93), or because of curiosity about its effects or for fun (AOR = 3.30; 95% CI: 2.00-5.45). In model II, the first time MA use characteristics remained statistically significant and participants who ever exchanged sex for money and/or drugs (AOR = 2.04; 95% CI: 1.28-3.26) were more likely to have initiated MA use earlier.

GEE logistic regression findings revealed that the male (AOR=1.67; 95% CI=1.23-2.28), and female (AOR=3.39, 95% CI: 2.51-4.56) participants who used methamphetamine before and during sex, and the employed male (AOR=1.42; 95% CI=1.08-1.87), and female (AOR=1.57; 95% CI=1.13-2.18) MA users were more likely to use condoms inconsistently, to have had multiple sexual partners within the preceding six months, and to have an STI history. Among male users, those who visited sex workers in the past six months (AOR=1.41, 95% CI: 1.08-1.83), and who used more than two types of ATS (AOR=1.77; 95% CI=1.30-2.41) were more likely to engage in high-risk sexual behaviors. Migrant female users (AOR=2.70; 95% CI=1.86-3.39) were more likely to engage in high-risk sexual behaviors. On the other hand, the female participants who had high school or higher level of education (AOR= 0.42, 95% CI: 0.31-0.56) were less likely to engage in high-risk sexual behaviors.

Conclusions

The current study contributes valuable information about the age of initiation of MA use, high-risk sexual behaviors of MA users, and the risk factors surrounding these behaviors. The findings reveal that more than half of male and female users started using MA before 18 years old. Factors associated with early initiation of MA use included the first-time use of MA being in an entertainment venue, and the reason for first time use being to help with body weight loss or for work-related purposes. Both males and females who used MA before and during sex were more likely to engage in high-risk sexual behaviors.

Comprehensive and targeted MA prevention strategies and programs should give more attention to vulnerable populations such as migrants, clients of sex workers, and those who exchange sex for money and/or drugs. Such programs should also consider entertainment venues as priority places for preventing MA initiation. Simultaneously, such programs should also promote MA awareness and knowledge about the effects of MA, and should also address the early initiation of MA and high-risk sexual behaviors. Health education programs on MA misuse and awareness and prevention programs that address early age of MA initiation and high-risk sexual behaviors are urgently needed in Myanmar. For example, school-based drug education programs were found to be effective in preventing the early initiation of drug use. Such educational programs should also involve parents or caregivers, families, teachers, communities, and policy makers to discourage young people from experimenting with MA use at all. Government should also properly monitor various entertainment venues such as clubs, karaoke, and game centers. In order for this to happen, continued investment is vital for legislation, policies, law enforcement, research, trainings, establishment and expansion of treatment and rehabilitation centers.