

PATTERN OF DRUG USE AND ASSOCIATED FACTORS AMONG YOUNG MALES 15-24 YEARS OLD IN CAMTHINH COMMUNE, VIETNAM

Tran Viet Anh ^{1,2}, Jaranit Kaewkungwal ²

¹ Hanoi Medical University, Hanoi, Vietnam

² Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

ABSTRACT

Objective - To describe the pattern of drug use and associated factors among young male 15-24 year in Camthinh commune during the period 2003-2009.

Method - Three repeated cross-sectional surveys were conducted every three years among young males aged from 15-24 years old living in a commune. They were interviewed using audio questionnaire regarding their drug use behaviors. The prevalence of drug use and incidence of new drug users were estimated retrospectively. Z-test for proportions was used to measure absolute change between baseline and follow-up surveys. Logistic regression analysis was used to determine factors associated with drug use for each of the three surveys.

Results - Heroin was the major drug used in 2003 and 2006, but marijuana was the major drug use in 2009. The type of drug use changed from an injecting drug to a non-injecting drug over time. The current drug use showed declining and rising trend during the three surveys, the proportions of new drug users increased, from 1% (2003) to 3.5% (2009). Factors highly associated with drug use were: smoking, drinking, jobless and travel.

Conclusion - The finding of this study suggested that drug use was associated with the risky lifestyle behaviors of young adults. The healthcare sector should work together with the commune leaders launching campaigns to reduce such risky behaviors including drinking and smoking which were highly associated with drug use.

Keywords: Drug use, young male, Vietnam, survey

INTRODUCTION

As Vietnam has experienced rapid growth in terms of economic and social development, but on the other hand, the proportion of the population engaging in drug use has also increased. The number of drug addicts tripled in Vietnam from 55,445 in 1994 to 170,407 in 2004, giving an average annual increase of 11.9% (1). The study in 2003 also reported that approximately 73.6% of the respondents who were drug users aged 18–25

years self-reported heroin as their primary drug of choice (1)

Drug use among young male have had facilitative roles in the transmission of HIV in Vietnam (1). Stopping drug use among young males may help to control the growth of the HIV/AIDS epidemic in the country. Moreover if we can identify factors associated with using drug behavior, the health care sectors could plan the effective method to prevent or reduce drug use and HIV/AIDS problems. Drug users in Asia tend to remain a part of their families and their communities (2). This characteristic provides an opportunity to use the family and the community as an intervention tool to prevent initiation of drug use (3, 4).

The purpose of this study was to describe the

Correspondence to: Dr. Jaranit Kaewkungwal, Faculty of tropical Medicine, Mahidol University, Bangkok, Thailand

Tel: (66) 2354 9100; Fax: (66) 2354 9166

E-mail: jaranit.kae@mahidol.ac.th

pattern of drug use and associated factors among young male during the time 2003 to 2009.

MATERIALS AND METHODS

Research design: This study was part of the project which was the collaboration between Hanoi Medical University and University of California, Los Angeles (UCLA) entitled "Training & Community Intervention to Prevent Drug Use and HIV Transmission in Vietnam". The project conducted in two communes with similar estimated numbers of drug users, population size, geographic were selected in Halong city (Hatu commune) and Campha townships (Camthinh commune). Hatu was designated as the intervention site whereas Camthinh was the control site. This study focused only on the drug users in the Camthinh commune without intervention in order to explore the pattern of changes in drug use behaviors in natural setting. This study was thus employed a repeated cross-sectional design with three repeated surveys every three years (2003, 2006 and 2009) among young males aged from 15 to 24 years old in Camthinh commune.

Data collection procedures:

Before each survey, a campaign had established urging young male to participate in the survey. A meeting was held to inform the commune of the importance and purposes of the survey. The local government, the youth union were involved to motivate all young male from 15-24 years in the commune to participate into the study. An informed consent administered and only young male who agreed to participate were interviewed. As this survey contained sensitive issues (i.e. drug use behavior), the audio questionnaire then asked questions in the local dialect using a CD player and earphones. All three surveys used same questionnaire and the same procedure of data collection. Questionnaire was divided to many audio track and were read to the survey respondents who then filled the form on answers sheet.

Data analysis: Prevalence of drug use referred to number of young males who reported using drug

divided by all young males at the time of survey. Incidence of new drug users referred to total young males who reported using drug or had started drug within last 12 months divided by all young males responded at the time of survey. In analysis pattern of drug use at each survey, descriptive statistics were performed. In analysis of repeated cross-sectional surveys, z-test for proportions between two independent groups were used to measure changing of percentage of categorical data,

Ethical consideration: Database with all data elements was kept confidentially at the central study site and only those authorized persons could retrieve that data. All sensitive information was coded during statistical analysis and publication. The main project was approved the Ethics committee of UCLA & Hanoi Medical University; and this study was also approved by the Ethics committee of Faculty of Tropical Medicine, Mahidol University

RESULTS

Study population

From Sep 2003 thought December 2009, there were 3 repeated cross sectional surveys in Camthinh commune among males aged from 15-24 year olds. There were 582, 575 and 574 males participated in the three surveys in 2003, 2006, 2009, respectively. As shown in Table 1, the proportions of male classified as teen-agers (15-19 years) and young adults (20-24 years) in the three surveys were different. The proportions of respondents who reported jobless and traveling in the last month prior to the survey time were also different across the three surveys. Smoking and drinking also varied over the three years.

Pattern of drug use among young males over three surveys

The proportion of male reported having used drug was 5.7% in 2003 and decreased to 3.8 % in 2006 but increased again to 12.7% in 2009. Regarding the currently injected drug use, there were 5 respondents who injected drug in 2003 and there was none in 2009. In general, there were significant differences in prevalence of substance

Table 1 General characteristic of young male over three surveys

| Characteristics | | 2003 (n=582) | | 2006 (n=575) | | 2009 (n=574) | |
|-------------------|-------|---------------|------|---------------|------|---------------|------|
| | | n | % | n | % | n | % |
| Age group | 15-19 | 224 | 38.5 | 262 | 45.6 | 300 | 52.3 |
| | 20-24 | 358 | 61.5 | 313 | 54.4 | 274 | 47.7 |
| Jobless | Yes | 93 | 16.0 | 77 | 13.4 | 65 | 11.3 |
| | No | 489 | 84.0 | 498 | 86.6 | 509 | 88.7 |
| Travel last month | Yes | 108 | 18.6 | 95 | 16.5 | 80 | 13.9 |
| | No | 474 | 81.4 | 480 | 83.5 | 494 | 86.1 |
| Current smoking | Yes | 282 | 48.5 | 253 | 44.0 | 234 | 40.8 |
| | No | 300 | 51.5 | 322 | 56.0 | 340 | 59.2 |
| Current drinking | Yes | 62 | 10.7 | 89 | 15.5 | 72 | 12.5 |
| | No | 520 | 89.3 | 486 | 84.5 | 502 | 87.5 |

Table 2 Drug use and injected drug use over three surveys

| Drug use | | Year of survey | | | | | | Difference | | |
|-------------------|-----------|-------------------|-----|-------------------|-----|-------------------|------|------------|-------|-------|
| | | 2003 (1) N=582 | | 2006 (2) N=575 | | 2009 (3) N=574 | | (1,2) | (2,3) | (1,3) |
| | | n | % | n | % | n | % | | | |
| Drug use | have used | 33 | 5.7 | 22 | 3.8 | 73 | 12.7 | 1.8 | -8.9* | -7.0* |
| | currently | 7 | 1.2 | 5 | 0.9 | 3 | 0.5 | 0.3 | 0.4 | 0.7 |
| Injected drug use | have used | 22 | 3.8 | 8 | 1.4 | 1 | 0.2 | 2.4 | 1.2 | 3.6 |
| | currently | 5 | 0.9 | 3 | 0.5 | 0 | 0.0 | 0.4 | 0.5 | 0.9 |

* *p*-value < 0.05 based on z-test for proportions between two independent groups

use between baseline survey and follow-up surveys (Table 2).

The proportions of respondents reported new drug use in last 12 months increased from 1% in 2003 to 3.5% in 2009. Regarding incidence of drug use, there were 2 new IDU in 2003, one new IDU in 2006 and no new IDU in 2009. (Table 3)

Factors associated with proportion reported used drug over three surveys

The analyses to identify factors associated with drug use were performed following 2 steps. Bivariate analysis was performed to examine the association between drug use and each of

the explanatory variables. Multiple logistic regressions was used to assess the adjusted effects of explanatory variables

Based on binary logistic regression, it was found that current smoking and current drinking were significantly associated with drug use for all three surveys with different odds ratios (ORs). Other factors with highly and statistically significant association with drug used were: jobless (OR= 4.4) in survey 2003 and age group 20-24 years (OR= 4.3) in survey 2006. (Table 5). From multiple logistic regressions, in 2003 and 2006, statistically significant associations were found among several factors. The factors with

Table 3 New drug use, new injecting drug use (last 12 months) over three surveys

| Drug use last 12 months | Year of survey | | | | | | Difference | | |
|-------------------------|-------------------|-----|-------------------|-----|-------------------|-----|------------|-------|-------|
| | 2003 (1) N=582 | | 2006 (2) N=575 | | 2009 (3) N=574 | | (1,2) | (2,3) | (1,3) |
| | n | % | n | % | n | % | | | |
| New drug use | 6 | 1.0 | 5 | 0.9 | 20 | 3.5 | 0.1 | -2.6 | -2.5 |
| New Injected drug use | 2 | 0.3 | 1 | 0.2 | 0 | 0.0 | 0.1 | 0.2 | 0.3 |

* *p*-value < 0.05 based on *z*-test for proportions between two independent groups

Table 4 Type of drug use over three over three surveys

| Type of drug | Year of survey | | | | | | Difference | | |
|--------------|-------------------|-----|-------------------|-----|-------------------|------|------------|--------|--------|
| | 2003 (1) N=582 | | 2006 (2) N=575 | | 2009 (3) N=574 | | (1,2) | (2,3) | (1,3) |
| | n | % | n | % | n | % | | | |
| Marijuana | 2 | 0.3 | 5 | 0.9 | 68 | 11.8 | -0.6 | -10.9* | -11.5* |
| Opium | 3 | 0.5 | 2 | 0.3 | 0 | 0.0 | 0.2 | 0.3 | 0.5 |
| Heroin | 25 | 4.3 | 13 | 2.3 | 4 | 0.7 | 2.0 | 1.6 | 3.6* |
| Amphetamine | 4 | 0.7 | 7 | 1.2 | 40 | 7.0 | -0.5 | -5.8 | -6.3 |
| Others drugs | 8 | 1.4 | 12 | 2.1 | 8 | 1.4 | -0.7 | 0.7 | 0.0 |

* *p*-value < 0.05 based on *z*-test for proportions

Table 5 Analysis factors associated with proportion of male reported had used drug

| Factors | | Year of surveys | | | | | |
|------------------|-------|-----------------|-----------------------|--------|-----------------------|--------|----------------------|
| | | 2003 | | 2006 | | 2009 | |
| | | n / N | OR (CI 95%) | n / N | OR (CI 95%) | n / N | OR (CI 95%) |
| Age group | 15-19 | 7/358 | 1 | 5/313 | 1 | 30/274 | 1 |
| | 20-24 | 26/224 | 6.6 (2.9-15.1) | 17/262 | 4.3 (1.6-11.3) | 43/300 | 1.4 (0.8-2.3) |
| Jobless | No | 19/489 | 1 | 18/498 | 1 | 61/509 | 1 |
| | Yes | 14/93 | 4.4 (2.1-9.0) | 4/77 | 1.5 (0.5-4.2) | 12/65 | 1.7 (0.8-3.4) |
| Current smoking | No | 5/300 | 1 | 4/322 | 1 | 19/340 | 1 |
| | Yes | 28/282 | 6.5 (2.6-16.5) | 18/253 | 6.1 (2.1-17.4) | 54/234 | 5.1 (2.9-8.8) |
| Current drinking | No | 21/520 | 1 | 12/486 | 1 | 55/502 | 1 |
| | Yes | 12/62 | 5.7 (2.7-12.1) | 10/89 | 5.0 (2.1-11.7) | 18/72 | 2.7 (1.5-4.9) |

Table 6 Multivariate logistic analysis factors associated with proportion of male reported had used drug

| Factors | OR (95% CI) | | |
|------------------|--------------------------|--------------------------|---------------------------|
| | 2003 | 2006 | 2009 |
| Current drinking | 1.21(0.76 – 3.76) | 2.53(1.41 – 5.65) | 3.04(1.23 – 7.71) |
| Current smoking | 2.34(1.44– 6.21) | 2.67(1.01 – 4.21) | 2.51(0.89 – 4.21) |
| Travel | 2.25(1.22 – 4.73) | 3.08(1.04 – 5.73) | 3.19(1.17 – 4.73) |
| Jobless | 4.28(1.34 – 9.53) | 3.81(1.34 – 9.53) | 5.01(1.19 – 10.28) |

high association with drug use included: current smoking and jobless. For the results in 2009, the factor with high association level were jobless (OR=5.01) and travel (OR=3.19) (Table 6).

DISCUSSION

In general, the proportions of respondents engaging in substance use (smoking, drinking, and drug use) remained relatively stable. There were significant differences in prevalence of substance use between baseline survey and follow-up surveys. In 2003 and 2006 the most popular drug was heroin but in 2009 Marijuana was the most popular drug. The trends showed increasing using marijuana and amphetamine during 3 surveys. Marijuana use raised from 0,3% in 2003 to 11.8% in 2009. In contrast, the decreased trend of heroin and opium use was shown. Heroin use decreased from 4.3% in 2003 to 0.7% in 2009. This is consistent with another study of drug users under the 25 years in some areas in Vietnam, which found that 90% of the participants used heroin (5). That study reported that peer pressure had a very strong effect on the behavior of young people; young people felt embarrassment from being teased for not using drugs and for not being fashionable. According to a study carried out by MOLISA and UNDCP in 2001, approximately 2.2% of drug-users who were unemployed young adults aged 18–25 reported that they had used ecstasy and approximately 2.0% had used amphetamines (6,9).

Smoking was found as one of the main factors related to drug used status. Drug users tended to

smoke more than non-drug users. This reflects inter-relationship between drug use and smoking. Behaviors of smoking also related to drinking. Drug users usually were those who had risky behaviors, they usually involved in activities among their peers including simultaneously drinking, smoking and using drug. These behaviors were thus common and inter-related among male teenagers and young adults especially those who are drug users.

Moreover, drug use was found associated with jobless and travelling. This could be explained such that drug users were more likely to have travel outside their home town to find the money to buy drug. This might be due to the fact that drug users could not find permanent or stable jobs within the commune.

CONCLUSION

The current drug use showed declining and rising trend during the three surveys, the proportions of new drug users increased, from 1% (2003) to 3.5% (2009). Factors highly associated with drug use were: smoking, drinking, jobless and travel. The finding of this study suggested that drug use was associated with risky lifestyle behaviors of young males. It could be concluded that this age group is the transition period from teenagers to young adults with significant changes in physical development, social situations, and peer pressure; they thus are considered as a very vulnerability and risky group (7,9). As the country is moving forward with rapid economic growth,

the jobless situation could be reducing; though it could not guarantee that having stable job would reduce drug use behavior. However, the healthcare sector should work together with the commune leaders by launching campaigns to reduce such risky behaviors including drinking and smoking which were highly associated with drug use.

REFERENCES

- Des Jarlais DC, Kling R, Hammett TM, *et al.* Reducing HIV infection among new injecting drug users in the China-Vietnam Cross Border Project. *AIDS* 2007;21 Suppl 8:S109-14.
- Mensch BS, Clark WH, Anh DN. Adolescents in Vietnam: looking beyond reproductive health. *Stud Fam Plann* 2003;34(4):249-62.
- MOLISA, UNESCAP. Report on Drug Use Among Youth in Vietnam. Hanoi, Vietnam: 2003.
- MOLISA, UNDCP. Report on Drug Use Among Unemployed Youth in Viet Nam. Hanoi, Vietnam: 2001.
- Newcomb MD. Identifying high-risk youth: prevalence and patterns of adolescent drug abuse. *NIDA Res Monogr* 1995;156:7-38.
- Nguyen VT, Scannapieco M. Drug abuse in Vietnam: a critical review of the literature and implications for future research. *Addiction* 2008;103(4):535-43.
- Scheier LM, Newcomb MD. Differentiation of early adolescent predictors of drug use versus abuse: A developmental risk-factor model. *J Subst Abuse* 1991;3(3):277-99.
- Wu Z, Detels R, Zhang J, *et al.* Risk factors for intravenous drug use and sharing equipment among young male drug users in Longchuan County, south-west China. *AIDS* 1996;10(9):1017-24.
- Wu Z, Detels R, Zhang J, Li V, Li J. Community-based trial to prevent drug use among youths in Yunnan, China. *Am J Public Health* 2002;92(12):1952-7.5.