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Anti-HIV prevalence and the comparison of some known riskbehaviors between male IDUs with and without anti-HIV,seeking for methadone treatment at 2 governmental hospitals

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Objectives : *To determine the anti-HIV prevalence among male injecting drug users (IDUs) seeking for methadone treatment at 2 governmental hospitals in Nonthaburi and to compare some known risk behaviors to HIV infection between those male IDUs with and without anti-HIV.*

Design : *A descriptive study*

Setting : *Drug addict treatment clinics of two government hospitals in Nonthaburi Province*

Subjects/ Methods : *115 male IDUs who sought methadone treatment were interviewed by a structured questionnaire consequently their blood specimens were collected for detecting anti- HIV by an enzyme immunoassay. The studied IDUs were then divided into two groups according to the presence of anti-HIV positive or negative and the comparison for difference of some known risk behaviors between these 2 groups of IDUs were done by using X^2-test.*

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Results : *43.48% of the studied IDUs were positive for the anti-HIV antibody. Most of anti-HIV positive (92 %) were 20-39 years of age. The prevalence of anti-HIV among IDUs seemed to be higher with longer durations of drug injection. The risk behaviors of HIV infection showed statistically different between IDUs who had positive anti-HIV and those who had negative anti-HIV in the following items: (a) place of drug injection (P = 0.0034) (b) alcohol consumption (P=0.0088),(c) extramarital sex relations without use of a condom (P=0.0114),(d) sharing needles or syringe (P=0.0179), and (e) a history of imprisonment (P=0.0296).*

Conclusion : *This prevalence of HIV infection in male IDUs was 43.48%,most of them (92 %) were 20-30 years of age and 5 known risk behaviors were disclosed significantly different between those with and without HIV infection.*

Key words : *Anti-HIV prevalence, Risk behaviors, Injecting drug users.*

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พิพัฒน์ ลักษมีจรัลกุล, สมพร พฤกษ์ทวีศักดิ์. ความชุกแอนติบอดีต่อเชื้อเอชไอวีและการเปรียบเทียบพฤติกรรมที่เสี่ยงต่อการติดเชื้อเอชไอวี ในผู้ติดยาเสพติดชนิดฉีดชายที่ตรวจพบและตรวจไม่พบการติดเชื้อเอชไอวี คลินิกรักษายาเสพติดของโรงพยาบาลรัฐ 2 แห่ง. จุฬาลงกรณ์เวชสาร 2539 ธ.ค;40(12): 989-97

วัตถุประสงค์ : *เพื่อหาความชุกแอนติบอดีต่อเชื้อเอชไอวี และเปรียบเทียบพฤติกรรมเสี่ยงต่อการติดเชื้อเอชไอวีบางประการ ในผู้ติดยาเสพติดชายที่ตรวจพบและตรวจไม่พบแอนติบอดีต่อเอชไอวีของโรงพยาบาลรัฐ 2 แห่ง*

รูปแบบการวิจัย : *การศึกษาเชิงพรรณนา*

สถานที่ : *คลินิกรักษายาเสพติดของโรงพยาบาลรัฐ 2 แห่ง จังหวัดนนทบุรี*

ผู้เข้าร่วมการศึกษาและวิธีการวิจัย : *ทำการสัมภาษณ์ในผู้ติดยาเสพติดชนิดฉีดชาย จำนวน 115 ราย พร้อมทั้งเก็บตัวอย่างเลือดตรวจหาแอนติบอดีต่อเชื้อเอชไอวี โดยวิธี Enzyme Immunoassay แล้วเปรียบเทียบพฤติกรรมเสี่ยงที่ได้จากการสัมภาษณ์วิเคราะห์ความแตกต่างระหว่างกลุ่มที่มีแอนติบอดีต่อเอชไอวี กับกลุ่มที่ไม่มีแอนติบอดีต่อเอชไอวี โดยใช้ X^2 -test*

ผลการศึกษา : *ความชุกแอนติบอดีต่อเชื้อเอชไอวี ในกลุ่มที่ศึกษา พบร้อยละ 43.48 โดยส่วนใหญ่ (ร้อยละ 92) อายุ 20-39 ปี ความชุกแอนติบอดีจะสูงขึ้นตามระยะเวลาของการฉีดยาเสพติด ในการเปรียบเทียบพฤติกรรมเสี่ยงต่อการติดเชื้อเอชไอวี ระหว่างผู้ติดยาเสพติดที่มีและไม่มีแอนติบอดีต่อเอชไอวี พบว่าพฤติกรรมเสี่ยงที่มีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติได้แก่ (ก)สถานที่ที่ฉีดยาเสพติด (P=0.0034), (ข) การดื่มสุรา-เหล้า (P=0.0088), (ค) การมีเพศสัมพันธ์กับหญิงอื่นโดยไม่ใช้ถุงยางอนามัย (P=0.0114), (ง) การใช้เข็มฉีดยาเสพติดร่วมกัน (P=0.0179) และ (จ) การมีประวัติเคยจำคุก (P=0.0296)*

สรุปผล : *ความชุกการติดเชื้อเอชไอวีในผู้ติดยาเสพติดชนิดฉีดเพศชายกลุ่มนี้ร้อยละ 43.48 ส่วนใหญ่ (ร้อยละ 92) อายุ 20-39 ปี และพบความแตกต่างอย่างมีนัยสำคัญทางสถิติของพฤติกรรมเสี่ยงในกลุ่มที่พบและไม่พบแอนติบอดีต่อเอชไอวี 5 พฤติกรรมเสี่ยงได้แก่ สถานที่ที่ฉีดยาเสพติด, การดื่มสุรา/เหล้า, การมีเพศสัมพันธ์กับหญิงอื่นโดยไม่ใช้ถุงยาง, การใช้เข็มฉีดยาเสพติดร่วมกัน และการมีประวัติเคยจำคุก*

In 1984, the first case of HIV infection in a homosexual male in Thailand was documented. Since then there has been a rapid increase in reported infection rates.[1,2] The first wave of infection in Thailand was reported among injecting drug users (IDUs). The infection rates in this group climbed from below 1% to about 23% from a sentinel serosurvey conducted in 1989.[3] After that the prevalence of infection stabilized in the 30-40% range.[4,5] However, with the increasing rate of drug addict clients who have sought methadone treatment in clinics and hospitals throughout the country[6] and their poor health behavior, especially sexual behavior,[7,8] the IDUs have become an important target group for HIV transmission. A previous study showed that about 75% of them had a history of extramarital relations without using condoms. Almost 70% believed that it was ordinary practice for men to have sex with prostitutes[8] who had high HIV prevalence.[5,9] The infection may be transmitted among IDUs, or between IDUs and prostitutes, or from IDUs to their girl friends and their wives. This study attempted to determine the anti-HIV prevalence and to compare some known risk behaviors between those with and without anti-HIV. It is valuable for developing AIDS education in order to reduce the transmission rate among IDUs or transmission from this group.

Materials and Methods

Studied population and study design

A descriptive study was conducted among 115 male IDUs who sought methadone treatment at two government hospitals in Nonthaburi Province during the period June to December, 1992. The subjects were included in the study with their permission. All studied IDUs were interviewed for general information, personal behavior, drug abuse behavior and sexual behaviors by use of a questionnaire and in-depth interview. Subject blood specimens were collected for detecting anti-HIV antibody by using enzyme immunoassay (EIA, ABBOTT).

Data analysis

From the EIA results, the IDUs were divided into two groups. The first group consisted of IDUs with anti-HIV positive and the second consisted of IDUs without anti-HIV. Some risk behaviors from interviewing of the two groups were compared by X^2-test. The critical level of $\alpha = 0.05$ was used for statistical significance.

Results

General characteristics of the studied IDUs

Most of studied IDUs (87.83%) were 20-39 years of age. The mean age was 31.24 years. Almost 50% were single and 76.52% had studied only in secondary school and lower level school. About 26% were unemployed with no income. Nearly 45% had low incomes ($\leq$5,000 baht per month). The mean income was 4011 baht per month (Table 1).

Table 1. General characteristics of studied male IDUs divided into the two groups according to the presence of anti-HIV.

General Characteristics		Studied male IDUs		
		Anti-HIV positive (N=50)	Anti-HIV negative (N=65)	Total No. (%) (N=115)
Age (years)	<20	0	3	3 (2.61)
	20-29	19	27	46 (40.00)
	30-39	27	28	55 (47.83)
	≥ 40	4	7	11 (9.56)
	$\bar{X}$±SD	31.39±6.48	31.06±6.27	31.24±6.43
Marital status	Married	19	29	48 (41.74)
	Single	26	31	57 (49.56)
	Separated	5	5	10 (8.70)
Education	Primary school	21	13	34 (29.56)
	Secondary school	23	31	54 (46.56)
	Vocational education	5	19	24 (20.87)
	Higher vocational education	1	2	3 (2.61)
Occupation	Unemployed	11	20	31 (26.96)
	Employee	21	27	48 (41.74)
	Private business	13	14	27 (23.48)
	Other	5	4	9 (7.83)
Income/month (Bahts)	No income	11	19	30 (26.09)
	≤ 5,000	21	30	51 (44.35)
	5,001-10,000	14	12	26 (22.61)
	≥ 10,000	4	4	8 (6.95)
	$\bar{X}$±SD (Among those who had income)	4,073±47.56	3,912±41.13	4,011±45.62

Prevalence of anti-HIV positivity among the studied IDUs

Among the 115 IDUs, 43.48% were positive for the anti-HIV antibody. Most of anti-HIVpositive IDUs (92%) were 20-39 years of age. The IDUs with ages of 30-39 years showed the highest percentage of anti-HIV positivity (49.09%). These are shown in Table 2. When classified by the duration of drug injection, the prevalence seemed to be higher with the longer durations of injection. The IDUs who injected drugs for less than two years had the lowest prevalence (30.00%), and the IDUs who had injected for more than five years had the highest prevalence (47.54%), as shown in Table 3.

Table 2. HIV antibody prevalence in 115 studied IDUs by age.

Age (years)	No.of tested	Prevalence of Anti-HIV	
		No.	%
< 20	3	0	0.00
20 - 29	46	19	41.30
30 - 39	55	27	49.09
≥ 40	11	4	36.36
Total	**115**	**50***	**43.48**

*Most of them (92.00 %) were 20 - 39 years of age.

Table 3. HIV antibody prevalence in 115 studied IDUs by duration of drug injection.

Duration of drug injection (years)	No.of tested	Prevalence of Anti-HIV*	
		No.	%
< 2	20	6	30.00
2 - 4	34	15	44.12
≥ 5	61	29	47.54
Total	**115**	**50**	**43.48**

*There was no statistically significant difference between the prevalence of anti-HIV in each group by proportional Z test ($P > 0.05$).

Comparison of some known risk behavior between IDUs with and without anti-HIV

Based on the EIA results, the studied IDUs were divided into two groups, the anti-HIV positive and the anti-HIV negative groups. Some known risk behaviors from interviews of the two groups were compared by X^2-test. The results revealed that the risk behaviors for HIV infection which were significantly different between 2 groups were: (a) location of drug injection (P=0.0034), (b) alcohol consumption (P=0.0088), (c) extramarital sex relation without condom (P=0.0114), (d) sharing used needle and syringe (P=0.0179), and (e) history of imprisonment (P=0.0296), respectively. These are shown in Table 4.

Table 4. The comparison of some known risk behaviors to HIV infection between studied IDUs with anti-HIV and IDUs without anti-HIV.

Known risk behaviors	IDUs with anti-HIV (N=50)	IDUs without anti-HIV(N=65)	P-value (X^2-test)
	No. (%)	No. (%)	
Place of drug injection			
His home only	21(42.00)	45(69.23)	0.0034*
Alcohol drinking			
Yes	36(72.00)	31(47.69)	0.0088*
Extramarital sex relation			
Without condom	37(74.00)	33(50.77)	0.0114*
Sharing used needle and syringe			
Yes	39(78.00)	37(56.92)	0.0179*
History of imprisonment			
Yes	31(62.00)	27(41.54)	0.0296*
Sharing blade			
Yes	10(20.00)	6(9.23)	0.0981
Tattoo			
Yes	33(66.00)	33(50.77)	0.1016
History of having sexually transmitted diseases			
Yes	24(48.00)	22(33.85)	0.1246
Duration of drug injection			
$\geq$ 5 years	29(58.00)	32(49.23)	0.3503

*Statistically significant difference at α = 0.05

Discussion

HIV infection among IDUs is a world-wide public health problem. In New York, almost 90% of heterosexual transmission AIDS to women, and 78% of all perinatal transmission cases have been from IDUs to non-injecting sexual partners and thus to the children of IDUs, respectively.[10] The prevalence of HIV infection in our study group was 43.48% and most of them (92% of infected cases) were 20-39 years who might be sexually active. This is a somewhat higher prevalence than rates reported in other studies.[4,10,11] We found five major risk behaviors for HIV infection, which were significantly different between IDUs with anti-HIV and IDUs without anti-HIV, included place of drug injection, alcohol consumption, sharing needles and syringes, extramarital relations without use of condoms and histories of imprisonment. Most of these were direct risk factors for HIV infection due to being routes of HIV transmission. The other factor of alcohol consumption is an indirect risk behavior for HIV infection because, after consumption, the subject was more prone to have extramarital relations without use of a condom.

It has proven much more difficult to change the sexual risk behaviors of the IDUs than to change their drug injecting risk behavior. Many countries have introduced policies and programmes designed to reduce HIV transmission resulting from the sharing of injecting equipment by needle and syringe exchanges and the sale of needle and syringes over the counter at pharmacies.[12] In Thailand, we do not have such policies. Thailand has only methadone programmes and health education for changing the IDU's injecting behavior. Previous studies have shown that retention in methadone maintenance programmes is associated with reducing the risk of HIV infection.[13,14]

The changing of the IDU's sexual behavior is very difficult, and health education by face-to-face discussion is nescessary for changing their attitudes toward female sex workers. Information and education about HIV/AIDS by use of posters or leaflets or group health education might be not enough to change their attitudes. Individual health education should be provided and emphasized during methadone treatment in drug addict treatment clinics because of the better attitude changing sucess than from group health education.[15]

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