

Knowledge and Attitude of Male Intravenous Drug Users on HIV/AIDS Associated High Risk Behaviors in Shiraz Pir-Banon Jail, Fars Province, Southern Iran

Dear Editor,

Most of the studies have shown that HIV positive is more prevalent among prisoners compared with the free-dwelling population.^{1,2} Usually, the people who are imprisoned have a history of drug abuse, shared syringes and high risk sexual behavior.³ The incarceration of intravenous drug users (IDU) is a potential lifestyle risk factor, increasing the rate of STI or related diseases such as *HIV/AIDS*; this is often a result of IDU and unsafe sexual relations in prisons.⁴ In the United States of America, the general prevalence of HIV positive among prisoners is four times as much as that of the general population.⁵ One study in the USA has reported that almost all of the drug addicted prisoners have had high risk behaviors, unprotected sexual activities and shared syringes in prison.⁶ A cohort study of IDU prison inmates in Mashhad, Iran demonstrated that HIV positive IDUs were more likely to report sharing of syringes or needles (100%) compared to HIV negative IDUs (44.7%) and 7% of incarcerated IDUs were found to be HIV positive.⁷ Mohtasham *et al.*'s study (2007) indicated that among 460 prisoners of Gilan jail, the average length of drug use has been 8.9 years. Among these subjects, 51.7% were opium users and 18.3% heroin users with high risk behaviors.³ In another study carried out in the central prison of Hamedan, Iran, the overall rate of HIV positive inmates was 0.9%.⁸ The result of a similar study among male drug users in Tehran, Iran indicated that the prevalence of HIV-1 infection was 23.2%.⁹ Due to the fact that high risk sexual behaviors among inmates can lead to the transmission of such devastating diseases in prisoners, this study was conducted to determine the prevalence of HIV among IDUs in Shiraz Pir-Banon jail and research about their high-risk behaviors and knowledge and attitude towards HIV/AIDS.

This cross-sectional study was conducted from March to July 2007 in Shiraz, Fars Province, the south of Iran. We randomly selected all possible IDU participants in two phases based on the criteria set for the study, i.e. those who had injected drugs during the previous month and also those who were willing to

sign the consent forms. At the first phase using the list of men inmates provided by the jail staff, the research team randomly selected those qualified for the study. The second phase involved a series of meetings with the selected subjects during which the objectives of the study and the expectations from the participation were explained and clarified.

We studied behavioral patterns of 363 IDU prisoners of Shiraz Pir-Banon Jail. Demographic and behavioral information, as well as the subjects' knowledge and attitude toward such issues were obtained by face to face interviews and completion of a standard structured behavioral questionnaire. This was carried out by experts and professional colleagues. After completion of the interview, each participant was invited to take an anonymous HIV test. After providing pre-test counseling, blood samples were obtained by the health personnel of the prison, and sent to the laboratory of the Blood Transfusion Organization (Blood Bank) to be tested by ELISA for the exposure of HIV. Voluntary informed consent was obtained for the interview and HIV testing; the data were analyzed descriptively, using SPSS software (version 11.5, Chicago, IL, USA).

All of the study subjects were male, with the average age of 33.2 ± 7.3 (ranging from 19 to 70 years). Almost 232 (63.9%) were 16 to 25 years old and 128 (35.2%) had spent one to three years of their life in jail. Approximately, 192 (53%) had a history of alcohol abuse and 267 (73.5%) had a history of drug injection for more than one year, with an average of 90 months (7.5 years). It was found that 312 (86%) had a history of illicit drug use for at least one of the narcotic drugs including opium, "*opium-extract*", heroin and marijuana, Tamjizak [11 (3.0%)], Benzodiazepine [12 (3.3%)], and ecstasy [4 (1.1%)]. Almost 22 (6.1%) subjects had shared syringes in their last injection, 20 (5.5%) had never shared syringe, and 272 (74.9%) did not know where to find a sterile syringes when necessary.

Fifty one (14.0%) participants were 16 years old or younger when they had their first sexual intercourse. 225 (62.1%) had not used any condoms in

their last intercourse. The major reasons for not using condoms were inaccessibility [78 (21.4%)], expensiveness [22 (6.1%)], partner unwillingness [29 (8.0%)], subject's dislike [78 (21.4%)], lack of interest and other excuses [19 (5.3 %)]. Approximately, 67 subjects (18.5%) had sex for money or drug (with at least 2 sexual partners), 38 (10.5%) had the business of sexual relation and had at least one intercourse in the last month which 63.5% had never used any condoms in addition, among them 18% had no interest in condoms, and 33.3% believed condoms were not needed.

The knowledge and the attitude of the subjects about sexually transmitted infection (STI) and HIV/AIDS were evaluated. 219 (60.3%) had heard something about these diseases, regarding the symptoms of STI; the study subjects reported the followings: secretion of genital tract [68 (18.7%)], pain or irritation during urination [154 (45.2%)], genital ulcer [49 (13.5%)], and complaints about anal inflammation [41 (11.3%)]. Finally, 94 (25.9%) had genital secretion and 6 (1.7%) had genital ulcer during the previous 12 months. Almost 97 (26.8%) subjects had never heard or read anything about HIV/AIDS. The subjects' attitude toward HIV exposure was sharing syringes [230 (63.4%)], sexual intercourse between men and women [266 (73.3%)], sexual intercourse between men and men [282 (78.8%)], anal sexual intercourse [267 (73.6%)], oral sex [66 (18.2%)], shaking hands [42 (11.6%)], kissing [47 (12.9%)] and shared drinking water glass [67 (18.5%)], insect sting [61 (16.8%)], and public toilets [31 (8.5%)]. To prevent HIV/AIDS disease, 117 participants (32.3%) mentioned vaccination, 250 (68.9%) using condoms, 238 (65.8%) using syringe without sharing with others, and 238 (65.7%) considered quitting sexual relation as effective. Most of the study participants [270

(74.4%)] were deeply worried about AIDS and 25 (6.9 %) were not.

Twenty four (6.6 %) out of the 363 IDUs in the study were HIV positive. An age increasing linear trend in HIV prevalence was seen among the subjects, ranging from 3 (12.5 %) for 19-26 year olds to 9 (37.5%) for 39 year olds and older. Figure 1 shows most of the HIV⁺ participants belongs to youth group with the age range of 19-39.

According to the results of this study, the most addicted prisoners were 25 years old; 51 (14.1%) reported having their first sexual relation at 16 or younger. Most study subjects [233 (64.1%)] were 16-25 years old and they were sexually active more frequently than others; moreover, the possibility of successful education related to healthy sexual behaviors was low among them. This study indicated that prevalence of HIV infection was comparable to that in the previous study in imprisoned populations in Mashhad, Iran.⁷ Furthermore, our results of HIV prevalence rate were consistent with those obtained in Hamadan,⁸ Tehran,⁹ and Canadian¹⁰ prisons.

The majority of the study subjects [225 (62%)] refused to use condom during sexual intercourse; consequently, with the appropriate education, there is a chance to prevent HIV/AIDS or other sexually transmitted infection. As indicated in the results of the study, sexual intercourse without using condoms and drug injection while sharing the needle are high risk behaviors which are very common among IDUs inmates. These results are comparable to those of the previous studies done by Buavirat (2003), Poulin (2007), and Sarang (2006).^{4,10,11}

Despite availability of disease prevention procedures and vast scientific knowledge on HIV/AIDS risk prevention, there has been little success in

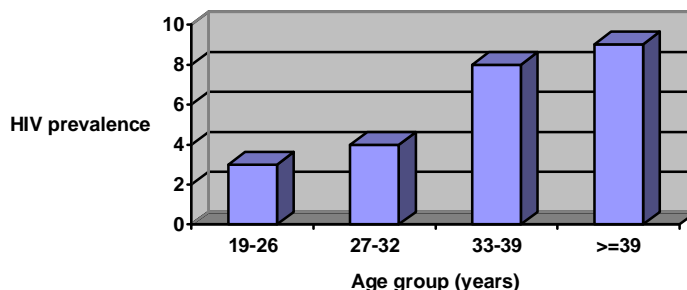


Fig. 1: HIV prevalence by age group among 363 injecting drug users in Pir-Banon jail, Shiraz, Iran.

preventing the transmission of STIs among the study population. The current research revealed that more than 218 subjects (60%) knew the mode of HIV transmission. However, about 14% of them assumed that kissing, shaking hands, and sharing the same glass while drinking water could be modes of HIV/AIDS transmission. On the other hand, their behavior regarding not using condoms, quitting injecting and or not using a shared syringe are not comparable with their awareness. Inappropriate information of IDUs about HIV/AIDS preventive methods such as vaccination [117 (32.2%)], etc. must be corrected with proper education. In this study, 250 (68.9%) subjects believed using a condom is an effective preventive method. The majority [270 (74.4%)] were deeply worried about AIDS. This can be an appropriate motivation for changing high-risk behavior into a healthy one. However, positive motivation by itself is not enough for moving toward effective behavior without the availability of enough facilities.

Among the study group, 78 participants (21.4%) claimed that the reason for not using condoms in their sexual intercourse was its inaccessibility and 6% believed that condoms were too expensive. Since the sexual relation business and sex for money and drugs

in this group is more common, it should be the focus of attention. The results of the current study should be used in different strategic health programs in order to prevent such high-risk behavior problems. Therefore, the prisoners' proper education about HIV and STI, availability of sterile syringes and condoms and accessibility of proper medications for quitting addiction and availability of free consultation outside the prison by special counseling centers will be effective.

Keywords: Attitude; HIV/AIDS; High risk behaviors; Intravenous drug users; Prison; Iran

Conflict of interest: None declared.

P Afsar Kazerooni, M Amini Lari*, H Joolaei, N Parsa

Shiraz HIV/AIDS Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

*Correspondence: Mahmood Amini Lari, MA, Shiraz HIV/AIDS Research Center, Shiraz University of Medical Sciences, Shiraz, Iran. Tel: +98-711-2303679, +98-9173029699, Fax: +98-711-2347315, e-mail: mamini1357@yahoo.com
Received: July 27, 2009 Accepted: October 6, 2009

References

- 1 Plunkett A, Fahlgren M, McLean B, Davarpanah MA, Rafiee GR, Allahyari S, Mehrabani D. High risk behaviours in HIV positive individuals in Shiraz. *Iranian Red Crescent Med J* 2008;**3**:209-213.
- 2 Rotily M, Weilandt C, Bird SM, Käll K, Van Haastrecht HJ, Iandolo E, Rousseau S. Surveillance of HIV infection and related risk behaviour in European prisons. A multicentre pilot study. *Eur J Public Health* 2001;**11**:243-50. [11582600] [doi:10.1093/eurpub/11.3.243]
- 3 Mohtasham Amiri Z, Rezvani M, Jafari Shakib R, Jafari Shakib A. Prevalence of hepatitis C virus infection and risk factors of drug using prisoners in Guilan province. *East Mediterr Health J* 2007;**13**:250-6. [17684845]
- 4 Buavirat A, Page-Shafer K, van Griensven GJ, Mandel JS, Evans J, Chuaratanaphong J, Chiamwongpat S, Sacks R, Moss A. Risk of prevalent HIV infection associated with incarceration among injecting drug users in Bangkok, Thailand: case-control study. *BMJ* 2003;**326**:308. [12574043] [doi:10.1136/bmj.326.7384.308]
- 5 Krebs CP, Simmons M. Intraprison HIV transmission: an assessment of whether it occurs, how it occurs, and who is at risk. *AIDS Educ Prev* 2002;**14**:53-64. [12413193] [doi:10.1521/aeap.14.7.53.23865]
- 6 Kang SY, Deren S, Andia J, Colón HM, Robles R, Oliver-Velez D. HIV transmission behaviors in jail/prison among puerto rican drug injectors in New York and Puerto Rico. *AIDS Behav* 2005;**9**:377-86. [16133901] [doi:10.1007/s10461-005-9011-4]
- 7 Rowhani Rahbar A, Rooholamini S, Khoshnood K. Prevalence of HIV infection and other blood-borne infections in incarcerated and non-incarcerated injection drug users (IDUs) in Mashhad, Iran. *Int J Drug Policy* 2004;**15**:151-5. [doi:10.1016/j.drugpo.2003.07.001]
- 8 Ghannad MS, Arab SM, Mirzaei M, Moinipur A. Epidemiologic study of human immunodeficiency virus (HIV) Infection in the patients referred to health centers in Hamadan province, Iran. *AIDS Res Hum Retroviruses* 2009;**25**:277-83. [19271971] [doi:10.1089/aid.2008.0143]
- 9 Zamani S, Kihara M, Gouya MM, Vazirian M, Nassirimanesh B, Ono-Kihara M, Ravari SM, Safaie A, Ichikawa S. High prevalence of HIV infection associated with incarceration among community-based injecting drug users in Tehran, Iran. *J Acquir Immune Defic Syndr* 2006;**42**:342-6. [16639351] [doi:10.1097/01.qai.0000219785.81163.67]
- 10 Poulin C, Alary M, Lambert G, Godin G, Landry S, Gagnon H, Demers E, Morescu E, Rochefort J, Claessens C. Prevalence of HIV and hepatitis C virus infections among inmates of Quebec provincial prisons. *CMAJ* 2007;**177**:252-6. [17664448] [doi:10.1503/cmaj.060760]
- 11 Sarang A, Rhodes T, Platt L, Kirzhanova V, Shelkovich O, Volnov V, Blagovo D, Rylkov A. Drug injecting and syringe use in the HIV risk environment of Russian penitentiary institutions: Qualitative study. *Addiction* 2006;**101**:1787-96. [17156178] [doi:10.1111/j.1360-0443.2006.01617.x]