

**Knowledge and Attitudes of
Prisons in Mukalla City,
Republic of Yemen
Towards HIV/AIDS**



Dr. Ahlam Saleh Bin Briek,
Assistant Professor,
Department of Community Medicine,
College Of Medicine, Hadhramout University

Knowledge and Attitudes of Prisons in Mukalla City, Republic of Yemen Towards HIV/AIDS

ABSTRACT

Objectives: To assess the knowledge of and attitudes towards HIV/AIDS among the inmates in Mukalla Prison, Hadhramout governorate.

Methods: A cross – sectional study. Involving 327 respondents .The study based on the interviewing the prisoners.

The questioners consist of 4 sections: Knowledge of HIV. It's mode of transmission, Prevention and Attitude & Behaviors towards HIV/AIDS patient.

The data were collated and analyzed quantitatively using excel.

Results: Seventy -three per cent of the respondents were in the age group 21–40 years, while 58.7% were single and had never married. Knowledge about HIV/AIDS was found to be high, as 97.5% of the prisoners knew that sexual intercourse with infected person is the most common mode of transmission and their Knowledge of how HIV/AIDS is not transmitted and prevented was limited, only 72.17% of the inmates knew avoid extra-marital sex could be prevented HIV/AIDS. A majority of the respondents (91.29%) agreed that people with the disease should be isolated (evidence of unfavorable attitudes);

CONCLUSION: The respondents have good knowledge about modes of transmission of HIV infection and AIDS .area of weakness were identified in knowledge of

preventive measures. Negative attitude towards AIDS patients

Conclusion: implementation of educational programs regard

HIV/AIDS is highly recommended for this group.

Introduction

Today, HIV and the AIDS are among the most complex health problems. Since HIV/AIDS was discovered in the early 1980s, enormous efforts to control its spread were made. Despite progress made toward prevention and treatment, HIV/AIDS is still one of the major problems that threaten human life. [1]

Although the virus had initially emerged among certain high risk groups in developed countries, it quickly gained momentum in developing countries threatening most population .Nowadays, it is almost impossible to find a country that has not reported HIV or AIDS cases to the World Health Organization (WHO).The main response world wide to the HIV/AIDS epidemic has been preventive intervention.

Globally, there were an estimated 33 million [range 30 million–36 million] people living with HIV in 2007. Overall, 2.0 million [range 1.8 million–2.3 million] people died due to AIDS in 2007. [2]

In the Eastern Mediterranean region and North Africa it is estimate that 55,000 people acquired HIV in 2007, bringing the total number of people living with HIV/AIDS to 600,000. [3].

Generally, the status of the HIV/AIDS epidemic in the Yemen, as well as in other Islamic countries, is not yet clearly defined. This is probably due to the lack of reliable

data and the absence of published surveillance data on such a sensitive issue. Islam forbids risky behaviors such homosexuality, intravenous drug use and sexual intercourse outside marriage, which are considered the main routes to the disease. Therefore, the prevalence and incidence of HIV/AIDS are expected to be low in Islamic communities.

[4]

HIV trend continue to rise in Yemen from one case in 1987 to 2431 reported cases as at end of June 2008 (according to NAP/MOPH).

[5]

There are various activities that are known to occur among prisoners [6]. These activities have been identified as constituting risk for HIV infection [7, 8]. Several studies have identified transmission of HIV in prison, based on testing for HIV antibody, identifying sero-conversion in inmates after more than five years of continuous incarceration [8, 9]. Sexual activity between male inmates is not uncommon in prisons [8].

The main response worldwide to HIV/AIDS epidemic has been preventive intervention. Knowledge and attitudes studies are generally used in design health promotion and health education interventions that would be used to impact knowledge, alter attitudes and behaviour that are risky to health. [10].

This study is aimed at assessing the level of knowledge of prisoners about HIV/AIDS and the attitudes of these prisoners towards HIV/AIDS.

SUBJECTS AND METHODS

Unlike the general population, the prison has peculiar characteristics such as gender composition and exertion of rights. All these characteristics were taken into consideration in designing this study. The study was a descriptive survey where quantitative data were gathered to address the objectives of the study. It was carried out at Mukalla District Prison; this serves as a correctional and punitive facility for males. Mukalla prison is the only prison in Hadhramout governorate

Participation in the study was voluntary and required informed consent, with the guarantee of anonymity. The collected data is securely maintained by the researchers.

The inclusion criteria were participants who were registered inmates of Mukalla prison at the time of the study, all age groups in the prison were eligible for the study; all nationalities that were inmates in this prison were eligible to participate in this study. The exclusion criteria were refusal to participate or too ill to participate.

Data collection instrument:

The study was carried out during the period August 2007 to October 2007.

Structured face-to – face interview were conducted among prisoners after obtained their verbal consent. The first section elicited questions on the personal data and demographic characteristics, while the second section dwelt

on the knowledge about HIV/AIDS regarding its modes of transmission, methods of prevention. The third section assessed the attitudes regarding HIV/AIDS patient.

Procedure:

Field workers were recruited and received one-day training on how to use the questionnaire. These field workers were undergraduate students of fourth year level College of Medicine University of Hadhramout. This team of fieldworkers consisted of ten males. Written permission to interview the prisoners was obtained from the prison authorities before the interview. Prior to the interview, a half -hour session was spent with the prisoners to explain to them the nature of the study. Informed consent was obtained from the prisoners by signing of the consent forms after the contents of the form had been explained to them.

Confidentiality of the respondents was maintained. No names were recorded as part of the personal data. Personal data included the age, marital status, educational level and previous home address. The data were collated and analyzed quantitatively by the use of Excel computer software

Statistical analysis:

Data collected was analyzed statistically using of Excel computer software.

Limitations of the study

The study was limited by the paucity of literature regarding knowledge and attitudes on HIV/AIDS in prisons in Mukalla since this is the first study carried out among prison inmates in Mukalla.

One drawback of the study is non-coverage of females so as to have a gender comparison. Out of the 332 inmates in the prison, only 327 were satisfactorily interviewed. The reasons cited for non-participation is unwillingness to discuss sex and sexually transmitted diseases.

As mentioned, a limitation of our research methodology is our use of a cross-sectional design.

RESULTS

This result is based on the complete information collected by interviewing the 327 inmates of the Mukalla Prison. A descriptive analysis of the quantitative data collated was done as presented below.

The age distribution is shown in Table 1.

Seventy three per cent of prisoners were in the age group 21–40 years, while the age group 21–30 years alone accounted for more than a half of respondents (53.5%). The inmates between the age of 15–20 years and those above 50 years accounted for 17% and 3% respectively. The mean age of the inmates was 27 years

Table I: Age distribution of prisoners

Age Group in years	Frequency	Percent
15 - 20	58	17.73 %
21 - 30	175	53.51 %
31 - 40	66	20.18 %
41 - 50	17	5.19 %
50 >	11	3.39 %
Total	327	100 %

Most of the prisoners had read and write: those who had illiterate 45(13%); while secondary school and higher school education were 72 (22%) and 6(1.8 %) respectively

The marital status of the prison inmates as follow: 192 (58.7%) of the inmates were single and had never being married, 106 (32.41%) were married. 29 (8.88%) of the inmates were divorced.

Knowledge of HIV/AIDS

Almost all of the prisoners had heard of HIV/AIDS (98%), only 7 (2.14%) prisoners had never heard of AIDS.

Most of the respondents who had heard about HIV/AIDS knew most risk factors for the transmission of HIV from one person to another. For instance, most of them knew that sexual intercourse with an infected person (97.5%),

transfusion of infected blood and blood products (95.4%), sharing/exchanging used needles with an infected person (70.94%), transmission from an infected mother to an unborn baby during pregnancy (10.4%) were, transmission from an infected mother to a child through breast feeding (16.21%).

Table 2: Number and percentage distribution of respondents according to their knowledge regarding risky action exposing an individual to HIV infection.

Action	Yes		No	
	n	(%)	n	%
Sexual intercourse with infected heterosexuals	319	(97.55%)	8	2.45
Transfusion of infected blood	311	(95%)	16	5%
By sharing used needles with an infected person	232	(70.94%)	95	(29.05%)
Intercourse with infected homosexuals	296	(90.5%)	31	(9.48%)
From an infected mother to an unborn baby during pregnancy	34	(10.4%)	293	(89.6%)
During breast feeding	35	(16.21%)	274	(83.79%)

Table (3):

Number and percentage distribution of respondents about Behaviors not transmitting HIV/AIDS

Mukalla 2007, Hadhramout, Yemen

No.	Items	Frequency	percent
1	Hand shaking with HIV/AIDS a patient	37	11.31 %
2	By sharing cups and plates HIV/AIDS patient	77	23.54 %
3	By sharing bathroom with an infected person	73	22.32 %
4	From mosquito Bites	155	47.40 %
5	Don't know	3	0.91 %

The data shows that about (22%) of respondents believed that the infection might be transmitted by sharing bathroom with infected persons. Twenty three percent of respondents had misconception that AIDS can be transmitted by sharing cups and plates and (47%) believed that AIDS can be transmitted by mosquito bites.

Table 5:

Number and percentage distribution of respondents according to Action that can prevent the transmission of HIV/AIDS

Action	Yes	No
Avoid extra-marital sex	72.17%	27.83% 91
Avoid intravenous drugs abuser	19 (5.81%)	218 (94.19%)
Single use of needles for injection	28 (13.45%)	299 (86.55%)
Screening of blood and blood products before transmission	26.3%	73.7%

Table 3 illustrated that the best known methods for preventing of HIV among respondents were avoid extra-marital sex with (72.17%), and most of respondents did not think that spread of HIV infection could be prevented by single use of needles for injection . Seventy four percent of the respondents did not believe screening of blood for HIV prior to transmission as an effective AIDS prevention strategy.

**Table (6): Knowledge of Respondents about Condoms
Mukalla 2006, Hadhramout, Yemen**

N o.	Items	YES		No		Don't know		Total	
		Fr eq	%	Fr e q	%	Fr eq	%	Freq	%
1	Ever heard about male condoms	19 7	60. 24	1 0 7	32. 72	23	7.0 3	327	100
2	Condoms are effective preventive measure against AIDS	69	27. 94	1 4 6	38. 46	11 2	33. 86	327	100

Table (6) showed that 33% do not heard about. It was interesting to note that almost three quarter of prisoners did not think that condom use is an effective method for AIDS prevention

Table 7: shows the attitude of respondents towards the patients with HIV/AIDS.

Mukalla 2006, Hadhramout, Yemen

No.	Items	Agree		Not agree		Not sure	
		Fre q	%	Fr eq	%	Fr eq.	%
1	Willing to take meal With patient with HIV/AIDS	13 4	40.9 8	18 2	55.66	1	0.3
2	Willing to care of relative patient with HIV/AIDS	11 2	34.2 5	19 9	60.86	2	0.61
3	Willing to buy food from a shopkeeper infected with HIV/AIDS	13 4	40.9 8	18 1	55.53	0	0
4	Willing to keep secret if family member infected with HIV/AIDS	15 2	46.4 8	15 9	48.62	3	0.92
5	Do you think that HIV/AIDS patient must be isolated in AIDS specialized hospital?	29 9	91.4 3	26	8.56	2	0.61

Attitude

Most of the respondents 91% who claimed that they had heard about HIV/AIDS believed that people living with HIV/AIDS should be isolated, while about 46.48% of the respondents showed attitude towards keep secret if family member infected with HIV/AIDS. Only 34% of respondents willing to take care of relative patients with HIV/AIDS. It is significant to note that 41% willing to buy food from shopkeeper infected with HIV/AIDS.

Discussion: A significant number of factors have contributed to spread of HIV/AIDS, not only the challenges of illiteracy, poverty, unemployment and status of women which Yemen faces but also increase mobility and globalization .This study provides descriptive information on knowledge and attitude about HIV /AIDS among Prisoners in Mukalla city, Republic of Yemen. In Mukalla, prevention of HIV in prisons is neglected area and so a review of the literature showed no published report about HIV/AIDS in prisons in Mukalla.

The majority of prisoners in our study were knowledgeable about how HIV is transmitted. Their Knowledge of how HIV/AIDS is not transmitted and prevented was limited.

There were many misconceptions about HIV/AIDS transmission such as by sharing bathroom with infected persons, shaking hands and insect bites. This problem has also been found by many other investigators in the Islamic Republic of Iran and other countries [11, 12]. These misconceptions are dangerous and could foul stigmatization and discrimination against persons living with HIV/AIDS.

The human immunodeficiency virus could not spread unless there is a sexual contact or an exchange of blood with an infected person. It does not spread by daily and routine activities, sharing public transportation, cups or glasses, food, eating utensils, water or air, through toilets or clothes. It also could not spread by insect bites [13].

Most of HIV infections in women in childbearing age are transmitted sexually; hence the prevention of sexual transmission of HIV to women is by far the best strategy for preventing transmission from mother to child. [14] The 2 most recent important interventions to reduce the likelihood

that a woman will pass HIV to her baby are the provision of anti-retroviral drugs and avoidance of breastfeeding.

Avoiding breast-feeding can cut the risk of transmission to 20-25% and the provision of antiretroviral drugs for the last 2 weeks of pregnancy and during delivery can further cut the risk of transmission to fewer than 10%, if women also avoid breastfeeding. [15]

In the present study high proportion of respondents stated that HIV could not be transmitted from infected mother to her infant during pregnancy and through breast feeding with (89.6%) and (83.795) respectively

During the early phases of the HIV/AIDS epidemic, homosexual transmission was the predominant mode in developed countries. However, during the last years, there has been evidence of increasing trends for heterosexual transmission [16]. Majority of prisoners in our study were knowledgeable about that intercourse with homosexual infected persons could transmit HIV/AIDS.

Study from South Africa, show5 the prison environment creates many situations of high-risk behaviour for HIV transmission and the most common examples of such behaviour are homosexual activities, tattooing and scarring, gang related violence and intravenous drug use [17]. Majority of prisoners in our study were knowledgeable about that intercourse with homosexual infected persons could transmit HIV/AIDS.

Study carried out among prisoners has shown that although many of them knew that homosexual behaviour

carries a risk for HIV infection ,many still indulged in high risk behaviour [18]. Since higher levels of knowledge and attitudes do not necessarily result in behavioural modification.

Injection drug use and high-risk sexual behaviors are key contributing factors to the transmission of the human immunodeficiency virus (HIV). These behaviours have been identified in international research as two of the most common modes of HIV transmission in the prison setting [19, 20]. In present study, although about (70.94%) of respondents knew that sharing syringes is one mode of HIV transmission, only (13.45%) mentioned single use needles for injection is protective measure against HIV/AIDS.

Reported sharing of syringes increased during imprisonment, as did less effective methods of syringe cleaning [21]. In another report from the United Kingdom, intravenous drug users (IDUs) who were former prisoners reported a high prevalence of injection and sexual risk behaviour while in prison; 33 out of 50 had injected drugs, and five out of 50 had had sex with two to 16 men [22].

Study from Iran reported that IV drug use is one of the most significant modes of HIV transmission in the Islamic Republic of Iran [23].

In western countries, intravenous drugs form important mode of transmission of HIV as the addicts shared used needles and syringes which are contaminated with blood infected with HIV among them [24].

The effectiveness of condom use education and provision in reducing the risk of HIV transmission has been widely supported in the research literature among various populations [25, 26].

Although the majority of prisoners mentioned avoid extramarital sex and screening of blood before transmission as a means for individual protection, however, lower percent of participants (27.9%) who considered the use of condom as a mean for individual protection, which may reflect the negligence of mentioning the role of condom in prevention of HIV transmission or it could be attributed to the fact that extra-marital sex is prohibited and if occurred, it is a shameful and stigmatizing act in the Yemen community.

In current study, there was a substantial negative attitude to HIV/AIDS-positive patients. More than half of the respondents were not willing to take meal with a patient with HIV/AIDS; about 46.62% willing to keep secrete if family member infected with HIV/AIDS and 91% believed that people living with HIV/AIDS should be isolated. This is unfortunate since such attitudes towards people living with HIV/AIDS will further enhance stigmatization and discrimination against them. This will further reduce the rate of voluntary testing for the virus and self-reporting of HIV status, thereby militating against behavioural modifications that will prevent the spread of HIV infection Home-based care is already expanding rapidly in all countries; the expansion is due in part to increasing needs in addition to a shift from hospital-based care to community-based care for economic reasons, especially in developing

countries. In all countries, families have always been the major providers for long-term care, especially for elderly and those with chronic diseases such as HIV/AIDS, tuberculosis and malaria [27]. In the present study, only 34% of participants accepted home-care for HIV/AIDS patients. These findings may reflect the community phobia from HIV/AIDS and lack of knowledge regarding modes of HIV transmission

Although the findings reported here may be influenced by the inevitable limitations of the study design and the available data, it is believed that the results provide a valuable insight into the prisoner's knowledge and attitudes to HIV/AIDS in Yemen, an other major limitation with this study is that the researcher was restricted in asking questions concerning people's behaviors and beliefs on matters such as sex and drug use

We recommend implementing a program for health education on Mukalla prisons to improve knowledge and attitude of prisoners toward HIV/AIDS. Further investigation, in other city of Yemen, or using a different methodology and data analysis may elicit a greater volume of information about the prisoner's knowledge and attitudes about this important topic.

Acknowledgement.

I would like to thank all participants in this study and Prison authorities for allowing us to conduct this study.

Reference

1. Torabi M, Jeng I. Trends of public knowledge and attitudes related to HIV/AIDS in Indiana. *Am J Health Studies* 1999; 15: 203-216.

- 2 - UNAIDS. Joint United Nations Programme on HIV/AIDS (2007). The Media and HIV/AIDS: Making a difference. Available from URL: <http://www.unaids.org/en/resources/publications>
3. UNAIDS/WHO. AIDS epidemic update December 2007. Available from: http://www.who.int/hiv/pub/epidemiology/epi_2007/en/ Accessed on Feb.3, 2008
4. Madani T, Al-Mazrou Y, Al-Jeffri M, Al-Huzaim N. Epidemiology of the human immunodeficiency virus in Saudi Arabia; 18-year surveillance results and prevention from an Islamic perspective. *BMC Infect Dis* 2004; 4: 25-32
5. Ministry of Health and population, National AIDS programe Sana'a.
- 6 Brewer TF, Vlahor D, Taylor E, Hall D, Munoz A, Polk BF. Transmission of HIV-1 within a state-wide prison system. *AIDS* 1988; 2:363-367.
7. Horsburgh CR Jr, Jarvis JQ, McArther T, Ignacio T, Stock P. Seroconversion to immunodeficiency virus in prison inmates. *Am J Public Health* 1990; 80:209-210.
8. Mutter RC, Grimes RM, Labarthe D. Evidence of intraprisn spread of HIV infection. *Arch Intern Med* 1994; 154:793-795.
9. Hammett TM. 1990 Update: AIDS in correctional facilities. Washington, DC: U.S. Department of Justice; 1991.
- 10- UNAIDS. Report on the Global HIV/AIDS Epidemic .2002 July.

- 11-Tavoosi A et al. Knowledge and attitudes towards HIV/AIDS among Iranian students. BMC public health, 2004, 4(1):17.
- 12-Yerdaw M, Nedi T, Enquoselassie F. Assessment of awareness of HIV/AIDS among selected target groups in and around Addis Ababa, Ethiopia. African journal of reproductive health, 2002, 6(2):30–8.
- 13- Islam MT, Mustafa G, Bhuiy A, Hawkes S and Francisco A. Knowledge on, and attitude toward HIV/AIDS among staff of international organization in Bangladesh. J Health Popul Nutr 2002; 20: 271-278.
14. WHO. The Global AIDS Strategy. WHO AIDS Series 1992: 11: 15.
- 15- Joint United Nations Programmed on HIV/AIDS (UNAIDS/99.44E:3). Counseling and voluntary testing for pregnant women in high HIV prevalence countries. UNAIDS/99.44E:3. Vietnam: UNAIDS Best Practice Collection; 1999
16. Haverkos HW, Quinn TC. The third wave: HIV infection among heterosexuals in the United States and Europe. Int J STD AIDS 1995; 6: 227-232.
17. Goyer KC, Gow J. Confronting HIV/AIDS in South African prisons. Politikon 2001; 28:195-206.
- 18-Odujinrin, MT; Adebajo, SB. Social characteristics, HIV/AIDS knowledge, preventive practices and risk factors elicitation among prisoners in Lagos, Nigeria. West African Journal of Medicine. 2001; 20:191–8. PubMed

19 -Kantor, E. HIV transmission and prevention in prisons. In: Peiperl L, Coffey S, Bacon O, Volberding P. , editor. HIV InSite Knowledge Base Chapter. University of San Francisco and San Francisco General Hospital; 2006. <http://hivinsite.ucsf.edu/InSite?page=kb-07-04-13#>

20- 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; 5:53–64. doi: 10.1521/aeap.14.7.53.23865. [PubMed]

21. Mahon N. New York inmates HIV risk behaviour: the implications for prevention policy and programs. *Am J Public Health* 1996; 86:1211-1215.

22. Hammett TM. 1990 Update: AIDS in correctional facilities. Washington, DC: U.S. Department of Justice; 1991.

23--Salazar, C; Hamidreza, S. Uniting the World Against AIDS Iran (Islamic Republic of). UNAIDS: Joint United Nations Programme on HIV/AIDS; 2006

24-Solomon L. Utilization of health services in a cohort of intravenous drug users with known HIV-serostatus. *Am J Public Health* 1991;81:1285-1290

25- Rekart, ML. Sex-work Harm Reduction. *Lancet.* 2005;366:2123–34. doi: 10.1016/S0140-6736(05)67732-X. [PubMed]

26-Prata, N; Morris, L; Mazive, E; Vahidnia, F; Stehr, M. Relationship between HIV risk perception and condom use: Evidence from a population-based survey in Mozambique.

International Family Planning Perspectives. 2006; 32:192–200. doi: 10.1363/3219206. [PubMed]

27- Ndaba-Mbata RD, Seloilwe ES. Home-based care of the terminally ill in Botswana: Knowledge and perceptions. Int Nurs Rev 2000; 47: 218-223.