

Full Length Research Paper

Prevalence of risk factors for transmission of HIV and blood-borne viruses in a prison population

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The objective of this study was to assess the factors which constitute risk of transmitting HIV and blood-borne viruses in a male prison. The setting for this study is Quthing district prison, Lesotho. It is a descriptive study that utilized semi-structured questionnaire administered in a face-to-face interview with participants. Collated data were analysed with the aid of SPSS computer software programme. One hundred and thirty eight prison inmates were to be interviewed but only 123 inmates were successfully interviewed. Forty-two percent of the respondents had tattoo marks but just 2/3 of them had their tattoo marks done in the prison. Sixty-five percent of the inmates interviewed shared sharp instruments such as shaving blades in the prison. Thirteen percent of the inmates used condom regularly before admitted into the prison and 68% had more than one sexual partner within the period of 4 weeks before they were imprisoned. Four percent of the inmates had practiced unprotected anal sex in the prison and 2.5% had used intravenous illicit drug. In conclusion this study showed that unprotected anal sex, tattooing and use of unsterilized sharp instruments are common practices among the prisoners while intravenous drug was uncommon.

Key words: HIV/AIDS, assessment, practices, prison, risk, transmission.

INTRODUCTION

In Lesotho, the incidence of HIV infection continues to be on the increase (Myers, 1997; UNAIDS, 2002). In a hospital based sentinel study conducted by the United Nations team in the hospitals all over Lesotho in 1999, 37% sero-prevalence was found among the out-patient population (UN Theme Group, 2000). HIV has been recognized as an important problem in prisons because of the common practice of unsafe needle sharing, tattooing and unprotected anal intercourse (MacDonald, 1999; Dolan and Wodak, 1999; Weild et al., 2000). The population mainly affected in the spread of HIV infection in Lesotho is the age group of 20-39 years (Ministry of Health and

Social Welfare and Lesotho, 1999; Weilandt and Radun, 2007) and this age group constitutes the majority of the inmates of Quthing prison.

These youths will be discharged eventually from the prisons and return to the society and this may further increase the cases of HIV/AIDS in the general population. A rise in the incidence of HIV/AIDS among the prisoners will be an additional cost in government's spending on health, since these prisoners usually receive free medical care. For the majority of people in detention or custody there is no provision of condoms and clean needles coupled with paucity of counselling and support for prisoners living with HIV/AIDS. The problem of HIV/AIDS cuts across every society, the prison inclusive.

In Lesotho, prevention of HIV in prisons has not been addressed. A review of the literature indicates no published paper about HIV/AIDS in prisons in Lesotho. Accord-

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ing to the final report of a government commission of inquiry in 2003, the Lesotho Prison Service is facing many problems ranging from lack of infrastructures, old state of the buildings of majority of the prisons, overcrowding and lack of resources.

The Quthing district has only one prison- a medium security prison built in 1940 for males only. The official capacity of Quthing prison is 66 inmates but at the time of this study, there were 138 prisoners. There is no official data on the prevalence of HIV in the prison population generally in Lesotho; notwithstanding, anecdotal reports from clinical practice have shown that there is a high prevalence of sexually transmitted infections (STIs) in prisons in Lesotho.

METHODOLOGY

Study Design

Descriptive study using semi-structured questionnaire administered in a face-face interview with participants.

Setting of the study

The study was carried out at Quthing district prison, Lesotho- a medium security prison which serves as a correctional and punitive facility for only male subjects.

Subjects

The subjects were the Quthing prison inmates. Although some of the prison inmates can read and write in Sesotho (the national language), only very few of them can do the same in English, therefore, it was necessary to interview the inmates in Sesotho language.

Study population and sample size

The Quthing prison consists of 138 inmates. Their ages ranged between 18 and 55 years with over 90% of the inmates in the 25-44 years age group. Majority of the inmates came from Quthing district. They were mostly herdsmen by occupation before admitted into the prison and all the prisoners are of African descent. Only inmates who met the inclusion criteria were interviewed and included in the study. The inclusion criteria were: participants must be registered inmates of Quthing prisons 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 sign the consent forms and if inmate is too ill to participate.

Description of practice and use of data collection tool

The instrument for data collection was a semi-structured questionnaire. Each set of questionnaire was divided into 4 sections. The questionnaire elicited on the personal data and demographic characteristics, the practices of the inmates, modes of transmission, and signs and symptoms of STIs. The questionnaire was written in English and translated into Sesotho so that the respondents understood the questions clearly. The consent forms were also translated to Sesotho language. The translated questionnaire and consent forms were printed in Sesotho language.

The questionnaires were pre-validated by the Ministry of Education for the authenticity and accuracy of the Sesotho translation before their use.

Field workers were recruited and received one-day training on how to interview subjects with questionnaire. These field workers were undergraduate students of Theology at the National University of Lesotho (NUL) and doing a 3-month attachment at Quthing Hospital on HIV/AIDS-related issues such as voluntary counselling and testing (VCT). This team of fieldworkers consisted of two males and four females, all Sesotho and English speaking. A written permission to interview the inmates with questionnaire was obtained from the prison authorities before the interview. Prior to the interview, a 2 h session was spent with all the prisoners at the same time to explain to them the nature of the interview. Informed consents were obtained from the prisoners by signing the consent forms after the contents of the form had been explained to the prisoners in Sesotho. The field workers also helped to fill in the responses of the inmates. Confidentiality of the respondents was maintained. No names were recorded as part of the personal data. Personal data included only the age, marital status, educational level and previous home address. All completed questionnaires were enclosed and sealed in envelopes that were provided for the respondents before submission. The data were collated and analysed quantitatively using SPSS computer software.

RESULTS

A total of 126 inmates were interviewed with questionnaire. Of these, questionnaires from three inmates were half completed and were discarded. All the completed questionnaires from the 123 inmates were back translated from Sesotho to English. A descriptive analysis of the quantitative data collated was done as presented below:

The practices

Tattoo marks

Results showed that 42% of the respondents had tattoo marks and out of these inmates, two thirds had their tattoo marks done in the prison. Well over three-quarter stated that the instruments used for their tattoo marks were not sterilised and the same instruments were used for more than one person in about half of the cases. It was also noted that 64.5% of the respondents agreed that they shared the use of the same sharp instruments like shaving blades in the prison (Table 1a).

Sexual preference activities

About 4% of the respondents had sexual preference for males while about 96% with persons of opposite sex (Table 1b).

Alcohol/drug abuse

Most of the inmates had abused alcohol before they came to the prison. Some had always used it (16.7%), or used it sometimes (50%) in the past. On the other hand, 12.5% always used glue; mandrax (illegal drug/substance

Table 1a. Tattoo marks and the use of sharp instruments.

Questions	Yes	No
Do you have tattoo marks?	42% (51/122)	58% (71/122)
Were the tattoo marks done in the prison?	67% (34/51)	33% (17/51)
Were the instruments used for the tattoo sterilised?	19.6% (9/46)	78.4% (36/46)
Were the same instruments used for other persons apart from you?	51.0% (26/51)	49.0% (25/51)
Do you share the use of sharp instruments like shaving blades in the prison?	64.5% (71/110)	35.5% (39/110)

Table 1b. Respondents' alcohol and other risky sexual behaviours.

Questions	Always	Sometimes	Never
Do you use alcohol?	17% (20/120)	50% (60/120)	33% (40/120)
Do you ever use glue, Mandrax or ecstasy?	12.5% (15/120)	34.5% (41/120)	53% (64/120)
Do you use needles to inject illicit drugs into your blood vessels?	0.8% (1/119)	2.5% (3/119)	96.7% (115/119)
Do you use condoms during sexual intercourse?	13% (15/115)	34% (39/115)	53% (61/115)
Do you have sex with some one of the same sexes in the prison?	0% (0/120)	4% (5/120)	96% (115/120)
Do you have sex with prostitutes?	7.5% (9/120)	21.7% (26/120)	70.8% (85/120)

Table 2a. Opinions on the use of drugs.

Opinion	Frequency	(%)
Dangerous	17	18
Fools my mind	2	2
Not safe	3	3
It's against the law	8	8.5
Not healthy	4	4
Not to be allowed	14	15
Causes problems	1	1
Promotes negligence	2	2
They kills	1	1
They should be used	8	8.5
I hate them	6	6.5
Not a good habit	2	2
One can be jailed	3	3
Promotes spread of HIV/ADS	1	1
Should not be used	12	13
Boost my strength	2	2
Government should fight against it	3	3
Not interested	5	5.5
Total	94	100

abuse) or ecstasy and 34.2% had used them sometimes before coming to the prison. However, the abuse of injection drugs was not a common practice among the prison inmates. About 97% had never used it before while only one person claimed to be using it always and (2.5%) had used it sometimes in the past (Table 1b).

Use of drugs

Table 2a showed the opinions of the prison inmates on the use of drugs. Only 8.5% believed that it should be used and that it was a boost to their strength (2%). Most

of the respondents were against the use of drugs and they gave various reasons for not supporting the use of drugs. Some said it is dangerous to use drugs (18%), that it is against the law (8.5%) and that it is not healthy to use them (4%). Some said that drugs should not be used (13%) or allowed (15%).

The knowledge

Use of condoms and sexual partners

Results indicated that 13% of the respondents used con-

Table 2b. Opinion on condoms and condom usage.

Opinion	Frequency	(%)
Protects my life	2	1.9
Condoms should be used at all times.	22	21.4
Prevents the spread of HIV/AIDS.	24	23
No sexual pleasure.	8	7.8
Prevent unwanted pregnancy.	3	2.9
Prevents the spread of STDs.	8	7.8
They are too tight.	2	1.9
Increases spread of HIV/AIDS.	5	4.9
They have worms.	3	2.9
No need to use them, I only have one Partner.	2	1.9
No need to use them, I will never be Involved in sex.	1	1.0
I do not use them at all.	10	10
I do not use them at all.	2	1.9
They should be given to prisoners.	2	1.9
I do not use it because of religion.	1	1.0
They are not healthy.	5	4.9
No comments.	3	2.9
Not sure.	0	0
Total	0	0
	103	100

dom regularly before admission into the prison while slightly more than half had never used condom in their lifetime during sexual intercourse. However, 4% have had unprotected anal sex in the prison indicating that unprotected anal intercourse was sometimes practiced in the prison. Before their confinement to the prison, 7.5% of the respondents always had sex with prostitutes while 21.7% sometimes had sex with prostitutes (Table 2b and 1b). More than two thirds had more than one sexual partner within the period of 4 weeks before coming to the prison.

Condoms and condom usage

Opinions were sought on the use of condoms with an open-ended question 'what is your opinion on condoms and condom usage?' Table 2b summarized the responses. About 23% believed that condoms prevented the spread of HIV/AIDS and 21.4% thought that condom should be used at all times. Some prison inmates, about 5%, believed that condom usage increased the spread of HIV/AIDS and that they contained worms (2.9%). About a third of the inmates believed that condom usage during sexual intercourse was protective against HIV/AIDS and Sexually Transmitted Infections (STIs) and that it should be used at all times was the view of slightly more than 20% of the inmates. Findings showed that 53% of the respondents had never used condom in their lifetime while only a third kept one partner or abstained from sex.

Experience of Sexually Transmitted Infections (STIs)

Results showed that 32% of the respondents did not know that discharge from the penis or the genitals could be a sexually transmitted infection. Worst still, 41% of them did not know that sexually transmitted infections would increase the chances of contracting HIV. Our reports showed that 41% of the respondents had experienced penile discharge in the past and about a third of this number had experienced this condition for the first time while in the prison (Table 3).

Participation in HIV/AIDS programmes

It was reported that only 58% (70/120) were in the habit of reading about, or attending programmes on HIV/AIDS such as discussion group or town gathering.

DISCUSSION

In order to formulate an effective HIV/AIDS education programmes targeted at the prison, it would be wise to assess the practices in the prison that could be risky for the transmission of HIV and blood-borne viruses. The risky behaviours assessed include unprotected anal practices, tattooing, drugs and alcohol abuse either in the prison or before coming into the prison. The keeping of multiple sexual partners and condom use before coming to the prison or within the prison were also assessed. This study will help to assess the need for policy makers to

Table 3. STI experience.

Questions	Yes	No
Do you know that a disease such as discharge from the penis/private part is an STI?	68% (82/121)	32% (39/121)
Do you know that STIs increases the chance of contracting HIV?	59% (71/121)	41% (50/121)
Have you ever-experienced penile discharge?	41% (49/120)	59% (71/120)
If you had experienced penile discharge, was it while in the prison?	28.6% (14/49)	71.4% (35/49)
If you had experienced, was it before imprisonment?	79.6% (39/49)	20.4% (10/49)

design programmes that will address the practice of prisoners regarding HIV/AIDS, as well as to design intervention programmes for the control and prevention of HIV in the prisons.

According to Goyer (2001), the incidence of rudimentary tattooing by inmates on other prisoners is an integral part of the prison sub-culture in South Africa. This is a recognised practice risky to the transmission of HIV. The risk of HIV transmission is higher when the tool used to do the tattooing is contaminated with HIV and it is immediately re-used on another prisoner without been sterilized. This survey revealed that 42% of the respondents had tattoo marks and two-thirds of this number had their tattoo marks done inside the prison. This showed that tattoo marks were common practices in Quthing prison. The instruments used were unsterilized in about 78% of those who had had tattoo marks and the instruments were used for more than one person in about a half of the prisoners.

Other means of transmitting HIV is the practice of sharing razor blades or other sharp instruments. The risk for HIV and other blood-borne viruses transmitted through this means depends on some other factors like the amount of blood involved and the time elapse between uses, the viral load of the infected person and biological attributes of the infected person (Weilandt and Radun, 2007; Ministry of Health and Social Welfare, Lesotho, 1999; Oguntibeju et al., 2003). It was noted in this study that 64.5% of the respondents agreed that they shared the use of the same sharp instruments like shaving blades in the prison. The prison authority certainly would have to do something about this to see to it that shaving instruments are adequately provided for the prisoners to discourage sharing of shaving instruments.

About 4% of the inmates had their sexual preference for male and 4% of the respondents had had unprotected anal intercourse in the prison; this showed that unprotected anal sexual activity was sometimes practised in the prison. According to Goyer (2001), unprotected anal sex and rape are common practices in the South African male prisons, about 65% of inmates were said to participate in unprotected anal sexual activity. South Africans and Basotho (Lesotho nationals) have many things in common with reference to culture, practices and belief, this probably explain why the inmates in the studied prison equally practised anal sexual activity although with a significantly lower prevalence rate than their South African counterparts.

The issues of condom supply to the prisons in South Africa and Lesotho have been widely debated in workshops and seminars. The concerns raised were on the type of condom supplied that were not strong enough for anal intercourse, and the distribution system that does not provide easy access for the prisoners (Gover, 2001; Oguntibeju et al., 2003). The risky sexual behaviours of the prisoners before coming to the prison were assessed. It was noted that more than two-thirds of the inmates had more than one sexual partner within the period of 4 weeks before coming to the prison. This was dangerous, especially as it was also found that a significant percentage of the inmates had never used condom during sexual intercourse before coming to the prison. This compared favourably with results of 2002 Lesotho reproductive health survey which showed high level of sexual promiscuity and low level of regular condom usage among the general population (Bureau of Statistics, Lesotho, 2003). The opinions of the prisoners on the use of condom were sought using open-ended question 'what is your opinion on condoms and condom usage?' Although most of the inmates thought that condom prevented the spread of HIV/AIDS and that it should be used at all times. It was note worthy to find that about 5% of the inmates believed that condom usage increased the spread of HIV/AIDS and that they contained worms. Regular use of condom is one way of preventing the transmission of HIV/AIDS during sexual intercourse and it is highly recommended. Condoms should be provided to the prisoners free of charge and its availability and distribution should be planned in such a way that there would be no hindrance just like the general community.

On the experience of sexually transmitted infections, it was noted that significant percentage of the respondents had penile discharge and over thirty percentage of the inmates interviewed did not know that this is a sign of sexually transmitted infection. Out of the 41% that had experienced penile discharge in the past, about a third of them experienced it while in the prison which confirms the fact that unprotected sexual intercourse do take place between the inmates. The use of drugs is closely associated with actions that would be risky for the transmission of HIV. For example, men or women who abuse alcohol are more likely to be sexually irresponsible. Demographic and Health Surveys from some African countries had confirmed this relationship (Government of Liberia, 2001). In the Western countries, intravenous drugs form

an important mode of transfusion of HIV as the addicts shared used needles and syringes contaminated with blood infected with HIV (Solomon, 1991).

Most of the prison inmates did not support the use of drugs. According to the opinion of most of the inmates, it was dangerous to use drugs while others said it was against the law. Some also said that it should not be used or not to be allowed. The process of rehabilitation going on in the prison might have influenced these opinions because most of the inmates had used alcohol before coming to the prison. It was indicated that 17% of the inmates always used it and about half of the prisoners had used it sometimes before they were imprisoned. Also, 12.5% of the inmates had always used substances like glue; mandrax or ecstasy while 34.5% had used them sometimes. Most of the inmates, about 97% of them had never used intravenous drug and so it was not a common practice among the prisoners, however, about 2.5% had used it sometimes, only one is addicted to the use of intravenous drug and had always used it. Before coming to the prison, over fifty percent of the prisoners were reading about, or attending programmes for HIV/AIDS such as discussion group or town gathering.

Conclusion

This study confirms some of the findings of international studies in this particular population. Tattooing, sharing of sharp instruments for shaving are common practices reported in this study including the non-usage of condoms by significant number of the prisoners. However, unprotected anal sexual activity reported in the study is much less than those reported elsewhere. Combined, these practices/factors may be related to incidence of sexually transmitted infections and possibly facilitate the transmission of HIV and other blood-borne viruses among the in-

mates. There is therefore a need for urgent programmes to address these problems.

REFERENCES

- Myers AR (1997). *Medicine: National medicine series for independent study (NMS)*. 3rd ed. Baltimore, MD: Williams & Wilkins p.394.
- UN Theme Group on HIV/AIDS in Lesotho (2000). Lesotho hospital based HIV sero-prevalence survey report.
- MacDonald (1999). HIV prevalence at reception in Australian prisons 1991-1997. *Med. J. Aust.* 171(1):18-21.
- Dolan K, Wodak A (1999). HIV transmission in a prison system in an Australian state. *Med. J. Aust.* 171(1):14-17.
- Weild AE, Gill ON, Bennett D, Livingstone SJM, Parry JV, Curran L (2000). Prevalence of HIV, hepatitis and hepatitis C antibodies in prisoners in England and Wales: a national survey. *Communicable Dis. Pub. Health* 3(2): 121-126.
- Weilandt C, Radun D (2007). Prisons: health hazards but also health opportunities. *EuroSurveillance* 12(1): 1-4.
- Ministry of Health and Social Welfare, Lesotho (1999). *AIDS Epidemiology in Lesotho*.
- Goyer KC (2001). Confronting HIV/AIDS in South African Prisons, *Politikon* 28 (2): 195-206.
- Oguntibeju OO, Van Schalkwyk FE, Van den Heever (2003). The HIV epidemic: Factors responsible for the epidemic and the impact of HIV/AIDS. *Rawal Med. J.* 28 (2): 56-62.
- Bureau of Statistics Lesotho (2003). *Reproductive health survey, analytical report*. Maseru: Oct; Vol.1.
- Government of Liberia (2001). *1999/2000 Liberia Demographic and Health Survey, analytical report*. Monrovia Vol. 1.
- Solomon L (1991). Utilization of health services in a cohort of intravenous drug users with known HIV-1serostatus. *Am. J. Public Health* 81: 1285-90.
- UNAIDS (2002). *Report on the global HIV/AIDS epidemic*.