

Review Article

Knowledge, Attitudes and Practices that Facilitate the Transmission of HIV among Prison Inmates: A Review

Victor Akeke¹, Mathilda Mokgatle², Oluwafemi Oguntibeju³

¹Quthing Government Hospital, Quthing, Lesotho

²National School of Public Health, University of Limpopo (MEDUNSA Campus), South Africa

³School of Medicine, Spartan Health Sciences University, Vieux Fort, St Lucia, West Indies

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ABSTRACT

The need for an effective response to HIV and behavioural patterns in prisons is a significant national and international concern. In different countries of the world, the rate of HIV infection among prison inmates is high. In some countries, reports showed that the rate of HIV infection in prisons is higher than in the general population. The epidemic is related to risk factors such as drug use, unsafe injection practices, and homosexual relationships, tattooing and sharing of needles. The failure to provide access to adequate prevention, protection, information and care is a violation of prisoners' right to health as established by international law. As it is

known today, the spread of HIV can only be controlled by effective programs designed to educate people about the causes of the infection, its mode of transmission as well as the attitude and behaviour that puts them at risk of becoming infected with HIV and how to avoid exposure to HIV. In this paper we review prisoner's knowledge about HIV/AIDS, attitudes of the prison inmates and practices that constitute risk of transmitting HIV among prison inmates, the link between the society and prison in the transmission of HIV and offer recommendations to tackle the problems.

KEYWORDS: attitudes, HIV/AIDS, inmates, knowledge, practices, prisons, risk factors, transmission

INTRODUCTION

There are various activities that are known to occur among prisoners^[1]. These activities have been identified as constituting risk for HIV infection^[2,3]. 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^[3,4]. Sexual activity between male inmates is not uncommon in prisons^[3]. A USA Federal Bureau of Prisons study in 1982 reported that 30% of federal prison inmates engaged in homosexual activity while incarcerated^[5,6]. In a 1984 study of Tennessee inmates, 17% reported homosexual activity in prison^[2]. Former prisoners surveyed in New York reported use of makeshift devices for safer sex, such as fingers of latex gloves, when condoms were not available^[3]. The frequency of homosexual rape in prisons is extremely difficult to estimate and the activity difficult to control. The victim who reports rape in prison faces a probability of further suffering and worse injury. The Federal Bureau of Prisons study reported that 9-20% of federal inmates, especially new or homosexual inmates were victims of rape^[1]. The text of the Prison Rape Reduction Act of 2002

states that the best expert estimate of the number of individuals sexually attacked at least one time during their incarceration is a national median of 13.6%. Other incidents of interpersonal violence (including fights involving lacerations, bites, and bleeding in two or more participants) present some risks for HIV transmission. These risk activities in prisons do not involve consenting participants, and educational programs are not likely to prevent HIV transmission in these situations. Housing more than one inmate per cell, common now in crowded institutions especially in developing countries, is a major contributing factor to incidents of violence and sexual assault.

British investigators interviewed 452 released prisoners about activities before, during, and after prison stays and found that persons engaged in fewer incidents of HIV risk behaviour in prison, were associated with increased risk. Those who reported engaging in homosexual activity while in prison also reported doing so with greater frequency outside, although they used condoms only outside. Reported sharing of syringes increased during imprisonment, as did less effective methods of syringe cleaning^[7]. In another report

Address correspondence to:

Dr Oluwafemi Oguntibeju, PhD, FACBS, FIBMS, Department of Clinical Biochemistry, School of Medicine, Spartan Health Sciences University, Vieux Fort, St Lucia, West Indies. E-mail: bejufemi@yahoo.co.uk

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^[4]. Although imprisoned IDUs do not use drugs with the frequency that they can outside, they do share injection equipment more and sterilize it less because of scarce resources. A handmade syringe may be fashioned from parts of pens and light bulbs. Prisoners may also share toothbrushes, another potential source of HIV infection, in facilities where they are not issued, where inmates are unable to purchase their own, or where infection control precautions are not understood^[7].

Tattooing is widely practiced in prisons and is usually performed without fresh or sterile instrument. It involves multiple skin punctures with recycled, sharpened, and altered implements such as staples, paper clips, and the plastic ink tubes from ballpoint pens. Prison wisdom holds that tattooing that causes blood to flow results in the best quality image and is least likely to become infected. Homemade pigment is delivered intradermally (at a sharp angle) rather than through direct puncture. Metal points connected to a battery or other electrical source are capable of producing vibration, increasing the number of skin punctures exponentially, thereby creating a better tattoo, but also increasing the probability of HIV transmission. Body piercing is becoming more popular in prison as in the outside community, and clean instruments for this practice are similarly unavailable.

Problem Statement

Globally, the incidence of HIV infection continues to be on the increase. HIV has been recognised as an important problem in prisons because of the common practice of unsafe sharing of needle and unsafe sexual practices. The population mainly affected in the spread of HIV infection is the age group of 20-39 years and this age group constitutes the majority of the inmates of prisons. These youths will be discharged eventually from 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. For the majority of people in detention or custody there is no provision of clean needles. Also, there is paucity of counselling and support for prisoners living with HIV/AIDS. The problem of HIV/AIDS cuts across every society, the prison inclusive. The lack of retrievable data notwithstanding, anecdotal reports from clinical practice have shown that there is a high prevalence of HIV and STDs in prisons.

Aim of the study

The objective of this study was to review the level of knowledge, attitudes and practices of prison inmates that constitute risk for the transmission of HIV.

REVIEW

Despite the remarkable progress that has been achieved in gaining a scientific understanding of the HIV infection as well as the nature and progression of AIDS, the search for an effective treatment has proven to be elusive. As of today world wide, the main response to the HIV/AIDS epidemic has been preventive interventions^[8,9]. Attitudes and practice studies are generally used to acquire information that would be required in designing health promotion and health education intervention programs that would be used to impact knowledge, alter attitudes and behaviour or practices that are risky to health.

ATTITUDES AND BEHAVIOUR INCREASING RISK FOR TRANSMISSION OF HIV IN PRISON

In Lesotho as well as many African countries, preventing HIV in prisons is a neglected area. A review of the literature showed very scanty published reports about HIV/AIDS in prisons. According to few commissioned reports, there are no medical facilities or medicines in most prisons and no trained nurses or paramedics specifically assigned to the prisons. Reports further remarked that overcrowding and poor food exacerbated the spread of diseases like HIV/AIDS and Tuberculosis in the prison. The prisoners were not provided with food of nutritional value, adequate for health and strength. Unfortunately, the mortality rate among the prisoners had increased, partly due to malnutrition and malnutrition is shown to be a contributor to HIV disease progression^[10].

In South Africa, 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^[11]. HIV/AIDS in the prison has been a subject of court debate in South Africa. However, it is generally seen as the responsibility of prison authority to protect prisoners against rape and assault from fellow prisoners^[12,13]. A study was carried out in Joyceville Penitentiary, a medium-security federal prison for men in Kingston, Ontario, Canada, by the Queen's University HIV/AIDS Study Group in 1998^[14]. The authors assessed the HIV and Hepatitis C sero-prevalence and the associated risk factors among inmates in the Canadian prison. The results showed that, out of 520 prisoners, 355

(68%) volunteered a blood sample and 350 of 355 filled out a questionnaire. It was found that 1.7% were HIV positive compared with 1.0% in the same prison and 33% were hepatitis C-positive as against 27.9%. 27.1% reported no risk behaviour and out of these, 6.3% were hepatitis C-positive as of 1995. Fifty-seven percent (57%) had been tattooed both inside and outside the prison and only 10.9% reported being tattooed outside the prison while 11.1% had been tattooed inside the prison. Injection drug use in the prison was found to have doubled from 12% in 1995 to over 24.5% in 1998. Out of the six prisoners (1.7%) who were HIV positive, five had used injection drugs at some time; 11.4% reported sharing injection equipment inside and outside prison; 7.7% reported sharing inside but not outside the prison and of these 66.7% were hepatitis C-positive and 6.6% reported sharing outside but not inside; of these 73.3% were hepatitis C-positive. It was concluded in the study that behaviour related risks that transmits hepatitis C can also transmit HIV and that the introduction of HIV-positive individuals with established high-risk behaviour patterns into the prison environment is going to lead to a rapid increase in HIV seroprevalence. The authors also remarked that the prison is a public health disaster in process. Based on the study results, the authors recommended that needle exchange and effective drug rehabilitation programs should be introduced. It was also recommended that methadone maintenance should be made accessible for all heroin users entering prison and that efforts should be made to undertake intensive education programs with peer involvement to prevent prisoners starting injection drug use. If these recommendations are accepted and implemented, they could provide means for reducing the transmission of HIV infection in prisons. Unfortunately, most of these recommendations are just on paper in many countries, particularly the developing countries.

The sero-prevalence of HIV was assessed between January 1994 and December 1999 among adult males incarcerated for sexual offence in Rhode Island, USA^[15]. According to the authors, the aim of the study was to know the sero-prevalence of HIV in this group because it could help to estimate the sero-conversion risk after sexual assault in a given community and to determine the need for HIV post exposure prophylaxis and the best choice of medications. Records of all inmates who entered Rhode Island's state prison for the reason of being charged with or convicted of a sexual offence between January 1994 and December 1999 were examined. Charged inmates routinely undergo HIV antibody testing voluntarily while convicted inmates must submit to testing at the time of

incarceration. The results showed that out of 1524 men in Rhode Island with a sexual offence, 524 (34%) were convicted for the period under study. Out of 1524 charged men, 65% were classified as white, 19% as black and 15% as Hispanic. Out of 524 convicted men, 71% were classified as white, 18% as black and 10% as Hispanic. Sixty percent of the charged men and 54% of the convicted men were younger than 40 years. HIV test results were available for 1422 (93.3%) inmates and it showed a relatively low prevalence of approximately 1% among the inmates charged or convicted. This HIV prevalence appeared to be lower than the overall prevalence for the Rhode Island prison system (3.2%) at the midpoint of the collection period^[16] but higher than HIV prevalence in the general population of males (0.34%) in the state^[17]. The authors thought that it may be reasonable to extrapolate their findings to predict HIV transmission risk following sexual assault in that particular state and therefore to guide when to offer or recommend HIV post exposure prophylaxis.

Substance use is a behaviour known to carry a high risk for transmission of HIV both in the general population and in the prison. A consecutive case study was done on substance use in remand prisoners in Durham prison, a male remand prison in the UK, between October 1995 and April 1996^[18]. This was to determine the prevalence of drug and alcohol use among newly remanded prisoners and to assess the effectiveness of prison reception screening. All new prisoners, about 548 men aged 21 and over, were screened at reception by a health care officer, for physical and mental health problems as well as substance use. A standard prison questionnaire was used. It was found that before remand, 57% of the men were using illicit drugs, 33% met DSM-IV drug misuse or dependence criteria and 32% men met misuse or dependence criteria for alcohol. Seventy-one percent (71%) of the men were judged to require help due to their drug or alcohol use. It was concluded that prevalence of substance misuse in the newly remanded prisoners was high and this fact had been overlooked before the study and as a result only few received entry into a detoxification program.

KNOWLEDGE, ATTITUDE AND PRACTICE ISSUES IN THE MANAGEMENT OF HIV/AIDS IN PRISONS

The quality of health care provided to prisoners has always been a concern in most countries, and the task of managing prisoners infected with HIV is daunting^[18]. A group of specialist HIV care providers from the King's College Hospital reviewed their experience in caring for prisoners at Wandsworth and Brixton prisons in south London between 1994

and 1999^[19]. It was a retrospective cohort study. Six inmates were newly diagnosed as positive to HIV antibodies and, 75 out of the 121 who claimed that they had previously been tested positive were confirmed as positive for the antibodies to HIV-1 and 25 were negative. The other 21 refused to be tested and out of these, 14 gave information to support their claims including their HIV treatment centers. The information proved to be false in all cases. Reasons for these false claims included the desired intention to get a letter pleading mitigating circumstances in court or a request for food supplements, sedatives or opioids.

Out of the 81 patients confirmed positive for the antibodies to HIV-1, 77% were white and 16% were black-African. The median age was 33 with a range of 23-65 years. The main HIV risk factor was injection drug use (59%). The inmates were reviewed regularly to assess clinical status and adherence to anti-retroviral treatment. It was found that they were more likely to keep appointments in prison as compared with the hospital outpatient cohort (88% versus 67%). Reasons advanced for non-attendance, included attendance at court or hospital or legal or social visit (35%), transfer to another prison (25%), failure to locate prisoner (13%) and lack of clinic time (6%). Out of the 34 HIV-1 positive inmates that met the requirement for anti-retroviral treatment, 47% were taking it. Self-reported adherence to anti-retroviral treatment exceeded 90%, and this compared very well with the rate reported from a London outpatient cohort^[20]. Sixty-three percent (63%) of the inmates receiving anti-retroviral treatment reported occasions of not receiving their medications as prescribed due to various reasons such as confinement to cell and travel to court, hospital or another prison. Other reasons like prescription error and drug unavailability were cited infrequently. Nineteen percent (19%) of the inmates receiving the treatment required at least one admission to the hospital for median of seven days (range 3 - 84) for clinical conditions that included respiratory tract infections, investigation for possible *Mycobacterium tuberculosis*, and treatment for lymphoma or Kaposi's sarcoma, meningitis and neuropsychiatry problems. The authors concluded that almost a quarter of prisoners who claimed to be HIV positive were not, and several logistic problems that had impact on patient monitoring and adherence to anti-retroviral treatment were identified. It was then recommended that HIV status must be confirmed in all prisoners, and that there should be regular review of the services provided for prisoners who are HIV-1 positive.

A study was conducted in Lowmoss prison, Glasgow, and Aberdeen prison, UK, in 1996^[21]. Objectives of this study were to determine the

frequency of injecting drugs, inside prison, and use of sterilizing tablets to clean needles in the previous four weeks, to assess the efficiency of random mandatory drug testing in detecting prisoners who inject heroin inside the prison, and to determine the percentage of prisoners who had been vaccinated against hepatitis B. Results revealed that 41% of Lowmoss and 37% of Aberdeen prison inmates had a history of injecting drug use, but only 4% of inmates had ever been offered hepatitis B vaccine. Two Lowmoss prisoners (both drug injectors) tested positive for HIV antibody; HIV prevalence was 0.7% overall and 1.7% for injector inmates. At Aberdeen, two prisoners (both non-injectors and heterosexual) were HIV positive and the HIV prevalence was 1.4% but nil for injector inmates. Forty-two Lowmoss prisoners and 31 Aberdeen prisoners had injected inside prison in the previous four weeks. The use of sterilizing tablets to clean injection equipment in the past four weeks was found to be broadly concordant as local arrangements in both prisons satisfactorily allowed prisoners to access sterilizing tablets for the purpose of harm reduction. It was then concluded that sterilizing tablets and hepatitis B vaccine should be offered to all prisoners, and that random mandatory drug testing underestimates injector inmates' harm reduction needs.

KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING HIV/AIDS OUTSIDE PRISONS

Many studies have been conducted outside prisons on the knowledge, attitudes and practices (KAP) regarding HIV/AIDS. A study titled "Knowledge, attitudes and risk behaviour for contracting HIV/AIDS among adolescents in schools" was undertaken in Lesotho^[22]. This is a KAP study that assessed the knowledge, attitudes and practices among adolescents in the secondary and high schools in Lesotho. It was a quantitative study. A self-administered questionnaire was used in order to maintain complete anonymity and privacy, and to increase the response rate. The study was done in registered secondary and high schools in Lesotho. The target population was students aged 15-19 years. Sampling was by cluster random sampling method. Fifteen schools were chosen from out of three districts and students were randomly selected from these schools. Before its administration, all aspects of questionnaires were explained thoroughly to the participants. The research showed that the students had inadequate knowledge of HIV/AIDS. About 99% of the students had knowledge deficit on the early signs and symptoms of AIDS, its mode of transmission and preventive measures. Eighty percent (80%) of the students did not consider themselves to be at risk of contracting HIV infections. Sixty percent of

the students were sexually active with low condom use. Also, the study showed that over 50% of the students had negative attitude towards people with AIDS and many believed that traditional medicines were effective against HIV/AIDS. Majority of the students felt that it was necessary for HIV/AIDS education to be taught in schools. These findings revealed that there is a need to train educators, for example, teachers and nurses, regarding HIV/AIDS. There is also a need to develop an agreed-upon curriculum for the training of educators and for classroom students teaching purposes^[22].

In 2002, a HIV/AIDS behavioural surveillance survey was conducted in Lesotho by the concerted efforts of Family Health International, Sechaba Research Consultants, Lesotho Ministry of Health and Social Welfare, U.S. Agency for International Development (USAIDS) and Lesotho AIDS Programme Co-ordinating Authority^[23]. Some of the objectives of this survey were: (1) to obtain data in standardized format that will enable comparison with other behavioural surveillance studies carried out in other countries, (2) to assess the relative success of the HIV prevention efforts taking place in selected sites, and (3) to provide information on the behavioural trends of some target groups in the same areas where intervention from projects are being offered. It was a quantitative study on the population that was prone or vulnerable to contract HIV infection and influence the dynamics of the overall epidemic. Seven population groups that met these criteria were identified. These are the youth at school between 15-19 years old (male and female), the youth out of school between 15-24 years old (male and female), male miners, taxi drivers/assistants, soldiers, low-income migrant women and female sex workers. The report showed that 90% of the in-school youths had heard of HIV/AIDS and that knowledge of HIV prevention methods was fairly high at 61%. The median age at first sex was 15 years for males and 16 years for females. Condom use at first sexual encounter was low among the male in-school youths ranging between 33 -37%, but higher among females which was about 70%. It was also reported generally in the study that the male youths both in- and out-of-school tended to have sexual partners of the same age while the female youths reported having older partners. The study reported that the use of alcohol was common among female sex workers (57%), and 16% reported having used drugs. Only 36% of the female sex workers reported the consistent use of condoms with their clients, and 26% of them reported having had STD symptoms in the past 12 months. The knowledge related to HIV was also low among the female sex workers and only 41% of them responded correctly to all

the three prevention methods. The study also showed that the low-income migrant women were a fairly mobile group with about 1/3 of them reported having been away from home for more than one month. A significant proportion of them reported never using condoms with non-regular partners although awareness of condoms was as high as 72%. For the adult male target populations (military, miners and taxi drivers/assistants), both the military and taxi driver reported significant mobility with 42% from the military and 40% of the taxi drivers reporting being recently away from home for more than a month. Only about one fourth of the adult male population reported having ever used drugs while more than half of them reported regular use of alcohol for the past four weeks. It is reported that between 75% and 80% of the adult male respondents had sex with non-regular partners in the last twelve months. Awareness of condom use was high (99%) among the male adult populations with the soldiers reporting highest level of awareness, but the consistent use of condoms was generally low among the adult male populations. The soldiers reported the highest level of knowledge about HIV/AIDS among the male adult populations. HIV testing was found to be low in all the groups put together. The authors came to the following conclusions: (1) condom usage is low among all groups, (2) youths started engaging in sexual activities at a very young age, (3) knowledge about HIV/AIDS did not necessarily translate to safer sexual behaviour, (4) multiple partnership is a common practice among the youth and the adult groups, and (5) that female sex workers tended to have their first sexual encounter at a young age and also to have received money for sex at a young age. It was recommended that the prevention programs that focus on partner reduction and delay of sexual debut should be developed and promoted in the country, and that HIV/AIDS prevention activities for all target groups including the schools should be intensified. It was also recommended that youth centers for activities against HIV/AIDS should be established, and that a strong volunteer counselling and testing (VCT) program including the training of more HIV/AIDS counsellors should be developed and implemented. However, this survey did not take into consideration certain behaviour that could add to the risk of contracting HIV infection such as male circumcision in the circumcision schools, sharing of sharp instruments such as shaving blades amongst household members and friends, as well as homosexual activities. In a society where significant percentage of the youth use drugs/alcohol and engage in high-risk sexual behaviour, it is not impossible that certain of their activities may result into criminal offences and lead them

to the prisons if found guilty. There is therefore, a relationship between youth behavioural patterns, number of youth in prisons and HIV transmission.

A USA- based non-governmental organization (NGO) called Save the Children (SC), with technical assistance from the Johns Hopkins University, conducted a rapid knowledge, attitudes, beliefs and practices (KABP) study related to AIDS among rural Zimbabweans^[24]. The objectives were to test a rapid KABP survey methodology and to assist SC to provide data that would contribute to their final project evaluation. A total of 660 respondents, aged 18-45 years, selected by a modified 30-cluster sampling method were interviewed, in two SC project areas. The authors noted that although knowledge about HIV/AIDS was high, a number of misconceptions about HIV transmission and unfavourable attitudes to people with AIDS were recorded. Out of the five knowledge and attitudes variable that could be compared with the baseline survey results, four showed favourable changes while one showed an unfavourable trend. Comparing responses from those who were educated by SC with those who had other sources of information about HIV/AIDS, higher level of knowledge and greater willingness to care for family members with AIDS was seen in the SC educated group. However, there were no differences seen in other attitudes, beliefs, or in practices regarding condom use. The authors concluded that rapid KABP survey approach was successful in providing quantitative data, useful for project evaluation and for developing HIV/AIDS intervention strategies.

A survey was conducted anonymously in Vietnamese community in their homes in California, USA^[25]. Knowledge about modes of HIV transmission was usually accurate, but few still believed that HIV could be transmitted through casual contact, and from needles used in hospitals (63%). Isolation of the HIV infected people was agreed to by 45%. In respect of sexual practices, 31% reported never having sex, while 8% had two or more sexual partners in the past 12 months. Six percent of men had visited prostitutes and of these, 24% had visited two or more times in the past 12 months and half of those encountered were outside USA. It was reported that most of the sexually active unmarried respondents never used or only sometimes used condoms and less than 1% had injected drugs.

A written survey to study and characterize the behaviour, attitudes, experiences and knowledge of 405 university students about HIV/AIDS was done^[26]. Data was analysed by microcomputer. It was found that 55% of them considered themselves 'sexually active' while 8.1% had sexually transmitted disease. A significant percentage of them reported

participating in high risk behaviour although they were concerned about HIV/AIDS. The authors then concluded that knowledge and concern do not appear to be sufficient for preventing risk prone behaviour and indicated a need to reconsider some of the HIV/AIDS education and prevention efforts.

A project was undertaken in 1991, in Grahamstown, South Africa. After a questionnaire was administered to assess attitudes to AIDS, a lecture on AIDS was given^[27]. A second questionnaire administered six weeks later showed a marked improvement in the attitudes to AIDS. Most of the participants agreed that AIDS education for children should begin with those aged 8-12 years. However, further follow up study was not carried out in this group to find out how many more of the respondents continued to improve on their attitudes to HIV/AIDS. 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^[28,29]. In western countries, intravenous drugs form an important mode of transmission of HIV as the addicts shared used needles and syringes which are contaminated with blood infected with HIV among them^[30].

RECOMMENDATIONS AND POLICY IMPLICATIONS

This review work gave an insight into the beliefs, knowledge and practices of the inmates in prisons regarding HIV/AIDS. From observation, any campaign program intervention against HIV/AIDS in the prison must not be targeted at the prisoners alone but the prison officials and the entire community must be involved. Support of the government, non-governmental organizations (NGOs) and all other stakeholders would be needed in the campaign against HIV/AIDS in prisons. It is recommended that the interventions and strategies enumerated below should be put in place.

HIV/AIDS Education and Counselling in Prisons

There may be prisoners who have never heard of HIV/AIDS and this is of great concern. Education and training programs about HIV/AIDS is recommended. Multi-sectoral approach should be adopted. Partners in this effort should include the correctional service authority, ministry of health and social welfare, private sector, non-governmental organizations (NGOs), national AIDS committee, community based AIDS and health organizations as well as concerned individuals. HIV/AIDS campaign team that would involve the Ministry of health, and Ministry of education

should provide educational sessions quarterly in the prisons. Both the inmates and prison officials should be targeted.

Continuing Education and Skills Development

Regular lecture sessions should be provided in prisons. Areas to be covered should include sexuality, HIV/AIDS, STI, family planning and contraceptive methods. Topics on the preventive methods for infectious diseases, the hazards of unprotected sex or high-risk sexual behaviour, alcohol and drug abuse should also be taught. This should be provided in both male and female prisons. Other themes of discussion should include change in risky behaviour pattern and methods to limit harmful effects that would result from drug and alcohol abuse as well as unprotected sexual intercourse including rape.

Information, Education and Communication Materials

This is an important aspect of the education program. The information, education and communication (IEC) materials such as brochures and pamphlets should be freely available in prisons. They should also be provided to the inmates on their admission to the prison. These materials should be written and illustrated in a local language for easy understanding. Particular attention should be paid to sexually transmitted diseases and HIV/AIDS, defining the disease profile, which would include symptomatic and asymptomatic patients, drug therapy and other method of treatment in each case. Radio sets should be provided in the prisons since electronic media including radio form a major source of information about HIV/AIDS.

Peer Counselling

The inmates should be involved as peer educators. This could be organised in the form of plays and group information meetings, group workshops to educate fellow inmates. Peer facilitators network should be established. This strategy may be highly effective as a result of brotherhood and increased trust among the inmates. It would be a cost saving strategy in some African countries where there are shortages of staff.

Staff Training

There should be preventive educational program for the prison staff as well as the management. The aim should be to create and promote awareness on safe working methods. This program should be available as an induction course immediately upon entering the prison service. The syllabus of such a program should include topics like identification and prevention of communicable diseases, response

to the needs of prisoners, HIV/AIDS and other STDs.

Medical Personnel for the Prisons

Medical officer should be appointed to coordinate all the health programs in the prison including that of HIV/AIDS. The medical officer should also have knowledge of psychiatry. Each prison should have at least one nursing staff with adequate knowledge and training in the area of HIV/AIDS education and counselling. He/She should work with the prison medical officer, other health workers, prison authorities and the various HIV/AIDS program managers. He/She will be expected to train the inmates on universal precaution practices, and arranging information and education sessions relating to health for the inmates and staff.

Update the Reception/Pre-Release Medical Examination

This is to detect any abnormal clinical condition including infectious diseases such as sexually transmitted diseases, tuberculosis and HIV/AIDS upon admission to, and prior to release from the prison. The current medical examination done for potential prisoners in some countries does not take into consideration the issue of HIV/AIDS. The screening may be in the form of symptom questionnaire and inquiry into past and current medical condition, which can be done by specially trained staff on admission and prior to release from the prison. The physicians can do physical examination along with chest X-ray and STD screening test. In keeping with the WHO guidelines, HIV/AIDS testing should be offered voluntarily with informed consent of the inmates after the person had received adequate information and counselling about HIV/AIDS prior to admission and release from the prison.

Accommodation for the Prisoners and Staff

Overcrowding in prisons will mitigate the outcome of the HIV/AIDS prevention campaign in prisons, as it would increase high-risk sexual behaviour and worsen the clinical condition of those who are already ill. Overcrowding is linked to the spread of tuberculosis in prisons. According to United Nation's (UN) committee on crime prevention and control recommendations on the standard minimum rules for the treatment of prisoners in 1984, when sleeping accommodation is in individual cells or rooms, each prisoner shall occupy by night a cell or room by himself^[31]. It is not desirable to have two prisoners in a cell^[31,32]. Efforts should be made to provide adequate and healthy accommodation for the prisoners.

Personal Hygiene

Prison authorities should try as much as possible to provide the prisoners with facilities for proper care of their hair and beard. Men should be able to shave regularly and should not be allowed to share sharp shaving instruments like razor blades. An instrument that is contaminated with blood infected with HIV will facilitate the spread of HIV among inmates, if used by an uninfected inmate.

Standard Universal Precautions

Prison staff and inmates should be taught universal precaution against blood-borne pathogens including HIV and Hepatitis. All used inmate care equipment that have been exposed or soiled with blood or body fluids, secretions and excretions should be disposed off carefully so as to prevent contamination of the environment and transfer of micro-organisms to other inmates or employees. Instruments that must be reused must be adequately sterilized. Protective instruments like masks, gloves, eye goggles and clothing that protect against potential contacts with various infectious materials must be provided for use when need arises.

Protection for Prison Inmates

Prison authorities should try as much as possible to ensure that all necessary measures such as adequate staffing, surveillance and disciplinary measures are taken care of to protect prison inmates from rape, sexual violence and coercion. Prison gang network should be fought against by the prison authorities.

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