Human immunodeficiency virus and hepatitis virus infection in correctional institutions in Africa: is this the neglected source of an epidemic?

Prisons form part of the criminal justice system and it is estimated that over 9 million people are in penal institutions worldwide. Overcrowding in prisons remains a concern in both developed and developing countries, and is a key causative factor for a myriad of other problems which ultimately turn these custodial settings into breeding grounds for infectious diseases such as AIDS, hepatitis, gonorrhoea, syphilis and tuberculosis. Compared to the general population, prisoners worldwide continue to demonstrate a significantly higher prevalence of human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV) infections (Weinbaum *et al.*, 2005; Goyer, 2003; Allwright *et al.*, 2000; Miranda *et al.*, 2000; Singh *et al.*, 1999). This phenomenon has been attributed to factors such as high-risk sexual behaviour before and during incarceration, intravenous drug use with sharing of syringes and drug paraphernalia, as well as tattooing among inmates (Allwright *et al.*, 2000; Miranda *et al.*, 2000; Butler *et al.*, 1997).

In Africa, the median prison population rates range from 324/100 000 of the national population in Southern African countries to 52/100 000 in the West African nations (Walmsley, 2005). However, competing demands for available resources mean that budgetary allocations for prisons are limited, resulting in an inability to meet minimum basic international standards. In a recent United Nations report, overcrowding was apparent in 13 out of the 15 African countries surveyed, with many prisons operating at over 50 % of their official capacity (Kibuka, 2001), and being unable to provide adequate arrangements to meet the special needs or prevent abuse of incarcerated women and juveniles. The prevalence of HIV infection in South African prisons is reported to be about 40 %, which is double the level in the general population (Goyer, 2003), but

figures are lacking for inmates in many African countries. In addition, although HBV prevalence remains high with HCV infection now emerging as a public health concern on the continent (Koate *et al.*, 2005; Lassey *et al.*, 2004; Agwale *et al.*, 2004; Kiire, 1996), we are still in the dark as to the prevalence of hepatitis in the high-risk prison population.

Adjei *et al.* (2006) in this issue of the journal take us inside three prisons in the West African country of Ghana to determine the prevalence of HIV, HBV, HCV and syphilis. The data provide tangible evidence to support anecdotal suggestions that an outbreak of these infections might be occurring in African prisons, affecting both inmates and prison staff. Furthermore, this high-risk group may represent the nucleus for the beginning of a HCV outbreak in the general population. The authors also highlight the problems of overcrowding, lack of access to medical facilities, and the absence of screening, immunization or health education programmes in these penal institutions. Their findings perhaps represent the state of affairs in penal institutions in many poor developing countries. There has been some debate recently about attention on chronic diseases versus infectious diseases in developing countries (Senok & Botta, 2005; Yach *et al.*, 2005; Strong *et al.*, 2005). This work by Adjei *et al.* (2006) lends further credence to the concept that infectious diseases, including the HIV/AIDS epidemic, still pose considerable threats to Africa and gives an insight into the enormity of work that still needs to be done.

Although the World Health Organization's (WHO) guidelines for HIV/AIDS in prisons stipulate that all inmates have a right to equitable health care and that national AIDS programmes should be applied in jails (World Health Organization, 1993), this is rarely the case in many African countries.

Most inmates eventually get released and those infected represent a serious risk to their families and communities as they are reservoirs for further spread in the general population. In December 2005, at Africa's 14th International Conference on HIV/AIDS, the executive director of The Joint United Nations Programme on HIV/AIDS (UNAIDS) stated that 'urgent and sustained action is needed at all levels to increase access to HIV prevention and treatment services across Africa'.

One of these levels would be to address the issue of HIV and other blood/sexually transmitted infections in the prison system. Firstly, we need more research, as the paucity of accurate data impedes proper appraisal of the impact of the prison population on the dynamics of the HIV/AIDS epidemic in Africa. Women account for over 50 % of people with HIV/AIDS in Africa and this gender disparity is even more marked among those aged 15–24 years (World Health Organization, 2004). Therefore, these studies must also investigate the specific characteristics and needs of incarcerated women and juveniles as well as young children who are living in prisons with their mothers. Secondly, there is a need to identify which policies and intervention programmes will work in African prisons in the face of limited resources and cultural norms. For example, condom distribution recommended by WHO and UNAIDS remains highly controversial due to moral and legal barriers in many countries (Zachariah *et al.*, 2002; Anonymous, 1998). Outside prison walls, the refusal of condoms by men who consider their usage an affront to their manhood is well documented; in the prison environment the fear of intimidation and stigmatization makes it even more difficult for inmates to request them. In South Africa, the only African country where condoms and lubricant are provided for prisoners on request (since 1996), there is

now a call to make them available in a more discreet manner. Education is a key component in a successful health intervention programme. The prison offers a controlled environment where health education and risk assessment can be offered to a traditionally hard to reach population. However, what works well on the outside may not necessarily apply behind prison walls. Therefore, the medium and content of such an intervention needs to take into account the prison 'subculture' that puts inmates at risk, as well as the deep-seated suspicion of authority and the low literacy rate in the prison population. Even with resource limitations, peer education and counselling programmes implemented by inmates (particularly gang leaders) and correctional officers are achievable, as shown by experiences in some African prison systems, and deserve serious consideration.

To make headway in addressing issues of prison health as public health issues, African nations would benefit from partnerships with non-governmental organizations, donor agencies and international bodies. More links between African researchers in correctional health issues and their counterparts in developed countries need to be forged to enhance capacity building and collaborative work. With such backing, effective prison health initiatives providing counselling, health education, confidential voluntary testing, care pathways, strategies for interrupting transmission as well as harm reduction can be developed and implemented. Such an approach would ultimately benefit the inmates, the correctional officers, families, communities and the general populace.

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