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The Need to Focus on Sex Workers in Generalized HIV Epidemic Settings

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In this issue, Vandepitte and coworkers report a high prevalence of HIV and sexually transmitted infections among sex workers in Kampala, Uganda. HIV prevalence was 37% among 1027 women recruited from red-light areas in Kampala in 2008 and 2009—80% of women were positive for herpes simplex virus-2, 13% were infected with gonorrhea, and 9% with chlamydia. This finding is noteworthy because it adds to a growing body of literature documenting worrisome trends that HIV prevalence and incidence may be increasing in Uganda,[1,2] a country that has been hailed as one of the few poster children of HIV prevention success.

Uganda's success in decreasing national HIV prevalence from a high of 18% in 1992 to 6% in 2005 has been widely heralded.[3] This decline has been largely attributed to reductions in multiple partnerships (in particular casual sex),[4] in addition to social and contextual factors such as community mobilization and communication about HIV.[5]

Despite the evidence documenting declines in HIV prevalence and concomitant reductions in risk behavior, growing evidence points to a subsequent increase in HIV prevalence and incidence and a rise in sexual risk behaviors in Uganda. Household surveys conducted in southwest Uganda that included annual testing show that HIV prevalence declined from 8.5% in 1990/1991 to 6.2% in 1999/2000 and subsequently increased to 7.7% in 2004/2005.[2] In a nationally representative household survey in Uganda conducted in 2004–2005, the incidence rate was found to be 1.8 infections per 100 person-years (95% confidence interval, 1.5–2.1).[1] While this is likely an overestimate due to the nature of the BED assay, it still suggests an elevated incidence for a country with a prevalence of 6%. Individuals who had outside partners and did not use condoms with them had an HIV incidence of 7.8/100 person-years and were more likely to have incident HIV than those with no outside partners (adjusted odds ratio, 3.2; 95% confidence interval, 1.7–6.1). Behavioral data also suggest a shift towards more risk taking behaviors particularly an increase in multiple sex partners and nonspousal sex and a decrease in condom use in nonspousal sex partners among men.[6] Among men aged 15 to 49 years, self-reported multiple partnerships increased from 24% in 2001 to 29% in 2005; in this same group nonspousal sex increased from 28% in 2001 to 37% in 2005.[6] The proportion of married men who reported sex with someone other than a spouse was 11% in 2001 and 18% in 2005.

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Between 2001 and 2005, condom use during last nonspousal sex declined from 61% to 54% in men aged 15 to 49 years.[6]

The high prevalence of HIV in sex workers in Kampala documented by Vandepitte and coworkers raises the question of the role of Most At Risk Populations (MARPs) in countries with mature generalized epidemics, such as in Uganda. Numerous publications in the 1990s discussed the effects of targeting core groups versus the general population in generalized epidemic settings.[7–9] In 1991, Plummer stated that "the current emphasis for prevention in generalized epidemic settings may neglect core groups" and he noted that while core groups were important early on in the epidemic, their importance re-emerged as the epidemic declined.[8] Despite this caution, more than 20 years ago and recent calls to address MARPs, it appears that there has been too little focus on MARPs, core groups, or core transmitters of late.[10] Yet in the 1990s, prevention programs targeted at sex workers were effective in significantly decreasing HIV prevalence in sex workers in generalized epidemic settings.[11–14]

According to a 2009 report by the Ugandan National AIDS Commission, sex workers and their clients account for 10% of new infections.[3] However, this only accounts for partners of clients in a single year and thus may underestimate downstream transmission and the model was based on limited empirical data. The report also found few outreach programs directed to MARPS and a summary of prevention resources spent on MARPs in the 2006/2007 fiscal year found that no funds were spent on MARPs. The 2009 National AIDS Commission report concluded that currently no policies were targeting MARPs and that condoms were not sufficiently targeted to MARPs where they are most effective. A recent study among Ugandan sex workers on the trans Africa highway found that only 18.9% reported 100% condom use and access to condoms for sex workers was less than optimal.[15] Fortunately, the 2010 UNGASS Progress Report for Uganda highlights that MARPS are priority areas for the National Prevention Plan in 2010.[16]

The apparent lack of prevention programs targeting MARPs is likely due to a greater focus on the general population in a generalized epidemic setting. However, the shift towards more risk taking behaviors reported by Ugandan men[6] suggests that recent prevention programs targeted at the general population have not been effective. Uganda, like many countries in sub-Saharan Africa faces numerous challenges to adequate HIV prevention. For example, over 3-quarters of adults do not know their HIV status[3] and it is estimated that only about half of risky sex acts are covered by condoms.[3] Further, only 25% of the male population is circumcised[1] and an evaluation of health facilities by the Ugandan Ministry of Health found only 6% of facilities were performing male circumcision.[3]

In addition, it is not clear to what extent social and contextual factors, purportedly key to the original decline in HIV, have been tackled in Uganda's recent prevention response. Reducing intimate partner violence, alcohol misuse, discrimination based on gender, HIV, or sexual orientation as well as promotion of education and human rights remain important targets for prevention programs.[17,18]

More research and interventions are needed in these neglected areas, especially in Uganda. Legislation proposed in late 2009 in Uganda would have invoked prison terms and heavy fines for gay men and the death penalty for an HIV-positive man proven to have had sex with another man.[19] While Men who have sex with Men (MSM) may not be a major driver of the Ugandan epidemic, an environment which supports such legislation could force MARPs to go underground thus making access to prevention services more difficult and likely contribute to increasing prevalence.

Last but not least, sex workers have a basic human right to prevention, care, and treatment. Obstacles go beyond the local and national levels. The Anti-Prostitution Loyalty Oath put into effect by the US government in 2003 requires that PEPFAR (President's Emergency Plan for AIDS Relief) funding recipients agree that no PEPFAR funds can be used "to provide assistance to any group or organization that does not have a policy explicitly opposing prostitution and sex trafficking."[20] This clause thus excludes de facto any grass roots sex worker organization from getting access to PEPFAR resources and impedes much needed harm-reduction interventions.[21] Effective HIV prevention and respect for human rights necessitate repeal of this clause.

In conclusion, effective implementation of proven prevention interventions requires combination approaches that target all populations at risk of acquiring and transmitting the virus, synergy with HIV care and treatment programs, strategic and operational flexibility to address new information, integrity to avoid misuse of available resources,[22] and attention to continuous quality improvement in addition to ensuring high coverage. Importantly, the article by Vandepitte and coworkers reminds us as we struggle to improve and expand current prevention programs that gains made in curtailing the epidemic can be lost and that constant attention to "knowing one's epidemic" and providing effective prevention to those at risk remains imperative.

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