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Does Africa need a rectal microbicide?

MTN Regional Meeting, Cape Town, October 2010

Previously presented at a M2010 symposium on: A tale of two compartments

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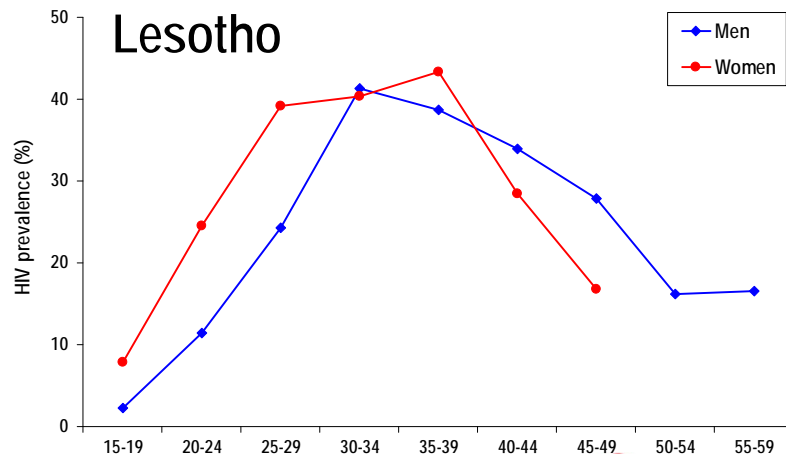
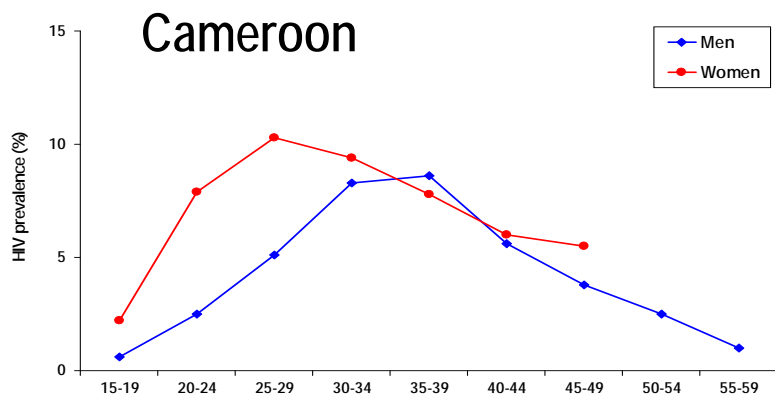
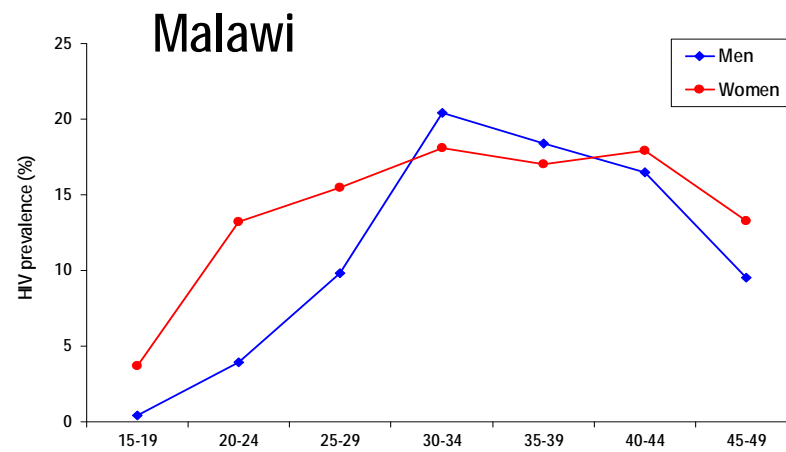
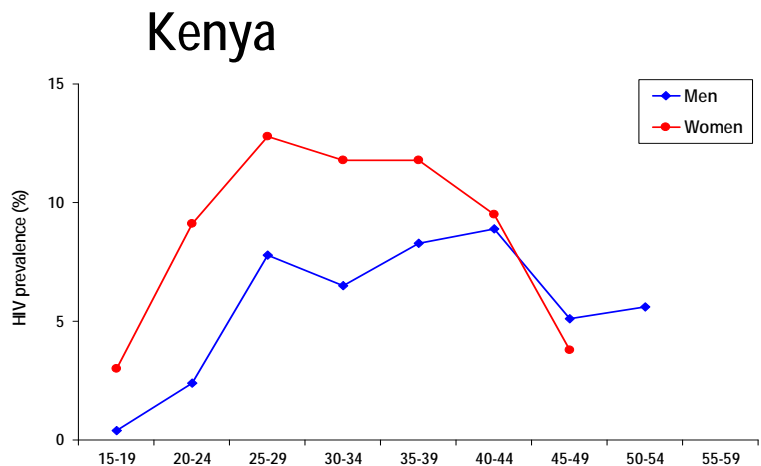
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Outline

- **The HIV epidemic in Africa**
- **Prevalence of HIV in MSM**
- **Rates of bisexual partnerships**
- **Prevalence of anal sex**
- **Risk factors for unprotected anal intercourse**
- **Conclusion**

The HIV epidemic in Africa: HIV prevalence by age and sex in four African countries

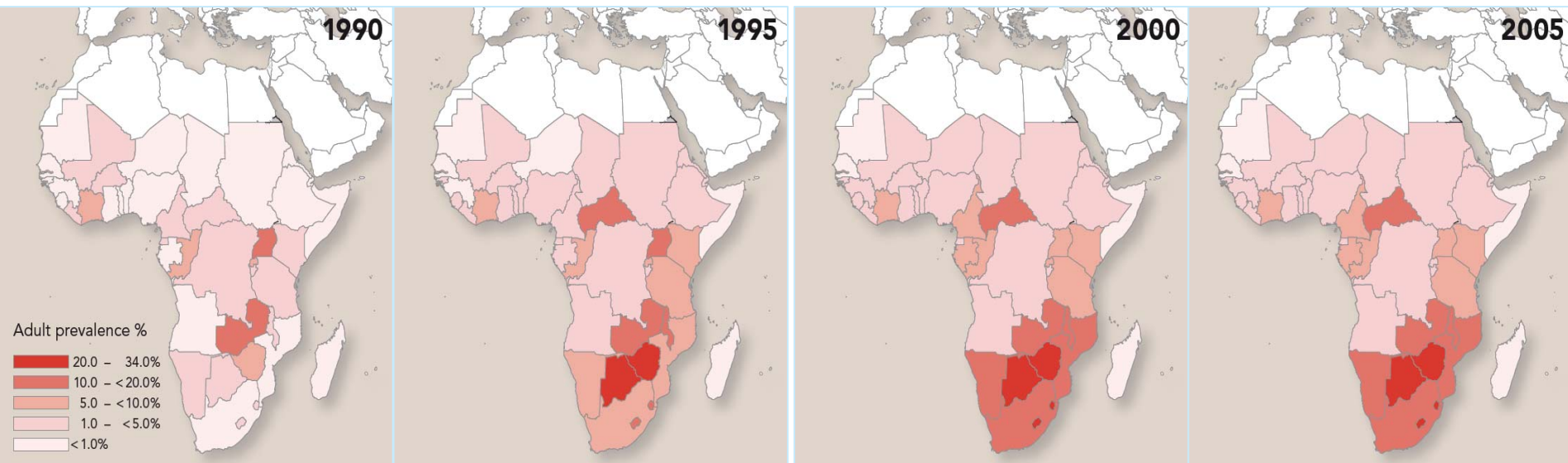




The HIV epidemic in Africa: The hidden side African Men who have Sex with Men

- **Population-level data on MSM are rare**
 - same-sex relations are criminalized in 37 out of 54 African countries and are punishable by death in four of these.
- **Recent studies on MSM sex workers indicates widespread existence of MSM groups in Africa**
 - *Mombasa, Kenya:*
 - ± 739 MSM sex workers working in the city
 - *Johannesburg, South Africa:*
 - ± 496 MSM sex workers (95% CI 437–555) working in city on any given Saturday night

The HIV epidemic in Africa: A mosaic of both heterosexual and homosexual HIV transmission



Source: UNAIDS. 2006 Report on the global AIDS epidemic. UNAIDS, Geneva

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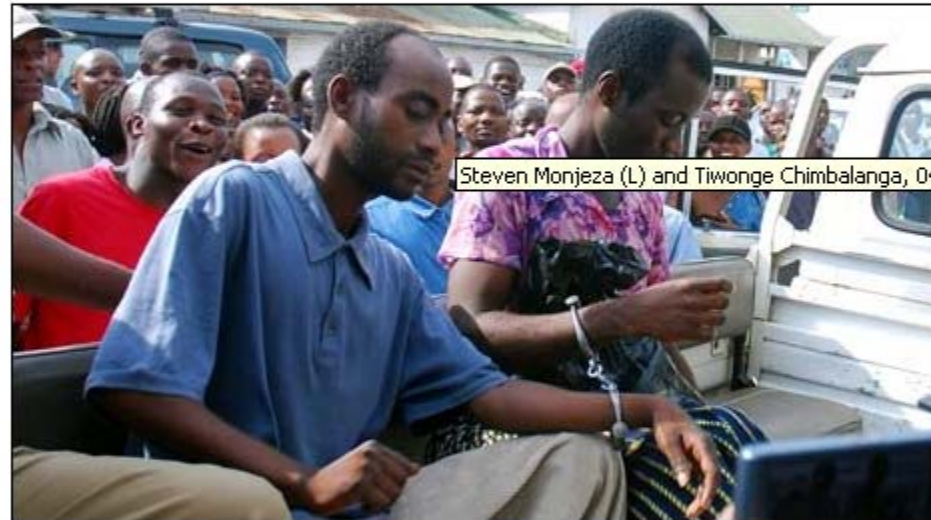
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Page last updated at 14:45 GMT, Tuesday, 18 May 2010 15:45 UK

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Malawi court convicts gay couple



Steven Monjeza (L) and Tiwonge Chimbalanga, 04/

Steven Monjeza (L) and Tiwonge Chimbalanga (R) face 14 years in jail

A court in Malawi has convicted a gay couple of gross indecency and unnatural acts.

Steven Monjeza, 26, and Tiwonge Chimbalanga, 20, were arrested in December 2009 after celebrating their engagement ahead of a wedding planned for 2010.

They have been in jail ever since and now face 14 years in prison.

Their arrest had sparked international condemnation and a debate about homosexuality in the country.

Uganda considers death sentence for gay sex in bill before parliament

- Minimum penalty is life in jail, under anti-homosexuality bill
- US evangelical activists pressed for restrictive measures

Xan Rice in Kampala

guardian.co.uk, Sunday 29 November 2009 20.28 GMT

[Article history](#)

As a gay Ugandan, Frank Mugisha has endured insults from strangers, hate messages on his phone, police harassment and being outed in a tabloid as one of the country's "top homos". That may soon seem like the good old days.

Life imprisonment is the minimum punishment for anyone convicted of having gay sex, under an anti-homosexuality bill currently before Uganda's parliament. If the accused person is HIV positive or a serial offender, or a "person of authority" over the other partner, or if the "victim" is under 18, a conviction will result in the death penalty.

Members of the public are obliged to report any homosexual activity to police with 24 hours or risk up to three years in jail – a scenario that human rights campaigners say will result in a witchhunt. Ugandans breaking the new law abroad will be subject to extradition requests.

Anti-Homosexual Bill In Uganda Causes Global Uproar

The Proposed Bill Could Punish Homosexuals Who Marry With Life In Prison

By DAN HARRIS, KATIE HINMAN and ALMIN KARAMEHMEDOVIC

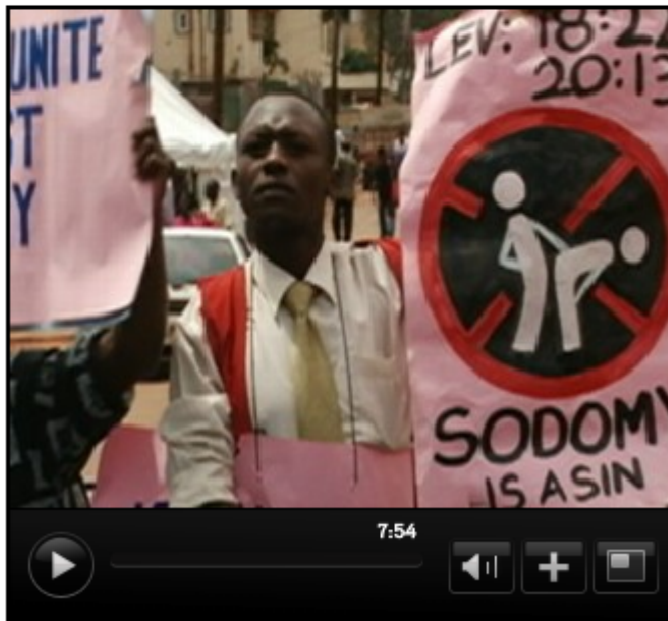


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March 10, 2010

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Standing onstage in black velvet robes, despite the stifling heat in the open-air church, Pastor Martin Ssempea's face is a mask of disgust.



Some Ugandans advocate death sentence for homosexuals.

[More Photos](#)

"Anal licking!," he shouts, directing the crowd's attention to the images of hardcore gay pornography that he's projecting via his laptop. "That is what they are doing in the privacy of their bedrooms."

"Everything having to do with eating of poop...heterosexuals do not eat poop," Ssempea said. "And if they do, they are misguided, they are not real heterosexuals. We don't practice, that's an abomination. It's like sex with a dog, sex with a cow; it's evil."

Homophobia In Uganda

Ssempea's animated style has made him one of the most popular preachers in the

HIV prevalence among MSM in Africa

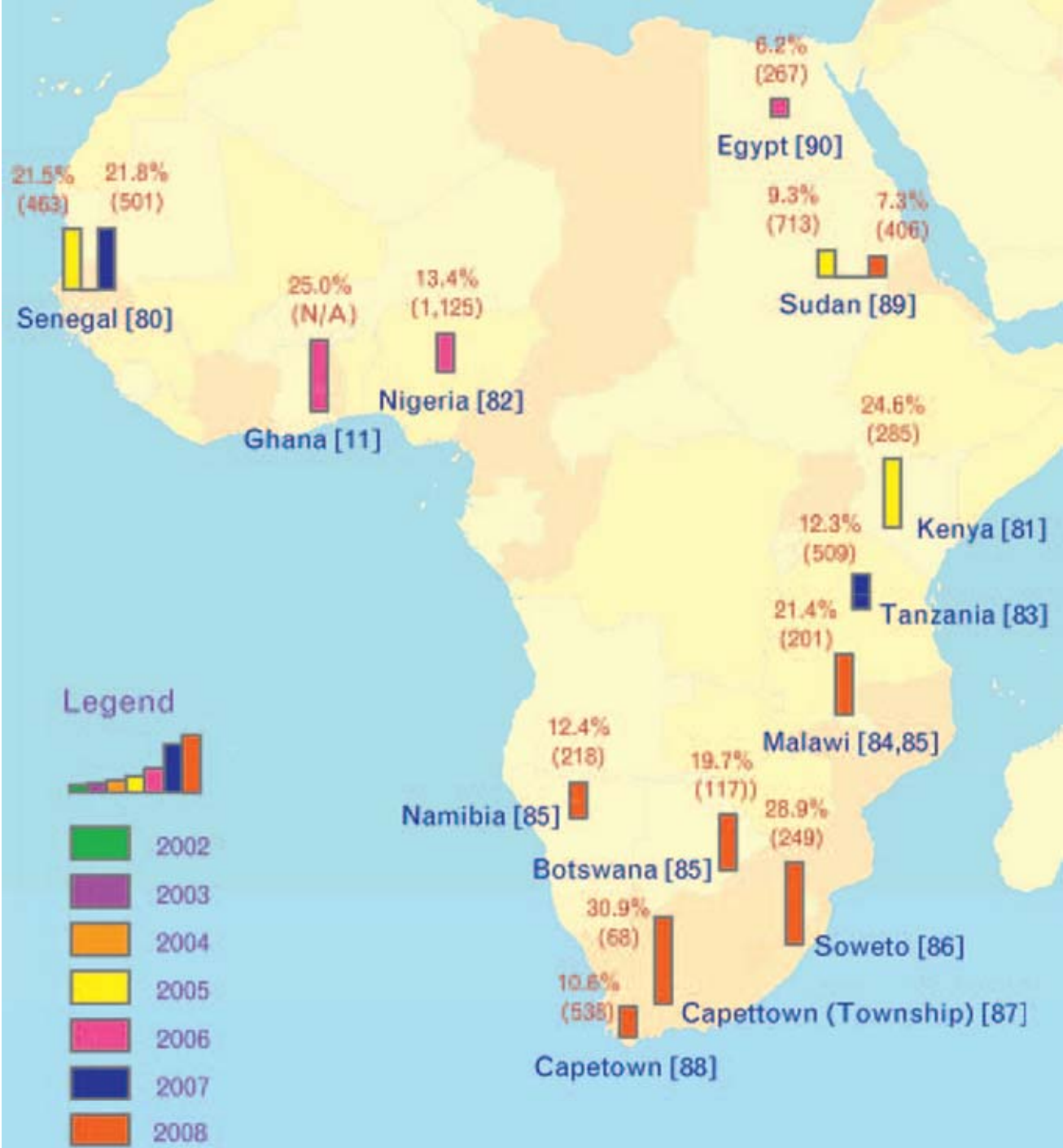
HIV prevalence in MSM:

Range:

6.2% in Egypt

to

30.9% in Cape Town



Source: Griensven et al.
Current Opinion in HIV and AIDS
 2009, 4:300-307

Estimates of HIV prevalence among MSM in sub-Saharan Africa

| | Year | HIV prevalence (95%CI) | n |
|--------------|-----------|------------------------|------|
| Kenya | 2002–2005 | 10.6% (9–13) | 780 |
| Tanzania | 2007 | 12.3% (10–15) | 509 |
| Nigeria | 2006 | 13.4% (11–15) | 1125 |
| South Africa | 2003–2005 | 14.1% (12–17) | 728 |
| Malawi | 2008 | 21.4% (16–28) | 201 |
| Senegal | 2007 | 21.8% (18–25) | 501 |
| Zambia | 2006 | 33% (29–37) | 641 |

Factors associated with HIV infection among MSM

■ In South Africa

- Soweto Men's Study (N=378) HIV infection associated with:
 - *6-9 partners (past 6 months)* (OR 5.7, CI 4.0-8.2)
 - *any unprotected anal sex** (OR 4.4, CI 3.5-5.7)
*past 6 months

■ In Kenya

- Prevalent HIV infection in MSM (n=285) was associated with:
 - *recent receptive anal sex* (OR, 6.1; CI, 2.4-16)
 - *exclusive sex with men* (OR, 6.3; CI, 2.3-17),

Gay and Bisexual Men in Kampala, Uganda

Phoebe Kajubi · Moses R. Kamya · H. Fisher Raymond · Sanny Chen · George W. Rutherford · Jeffrey S. Mandel · Willi McFarland

Published online: 30 October 2007
© Springer Science+Business Media, LLC 2007

Abstract HIV/AIDS disproportionately affects gay and bisexual men around the world; however, little is known about this population in sub-Saharan Africa. We conducted a respondent-driven sampling survey of gay and bisexual men in Kampala, Uganda ($N = 224$). Overall, 92% of respondents reported themselves as “gay” and 39% as “bisexual.” Of the gay and bisexual men, 92% were Ugandan; 37% had reported receptive anal sex in the last six months, 27% were paid for sex, 18% had history of urethral discharge. Perception that gay and bisexual men are at risk for HIV infection was low. Gay and bisexual men in Kampala are overwhelmingly Ugandan nationals from all parts of society. Recognition of gay and bisexual men in

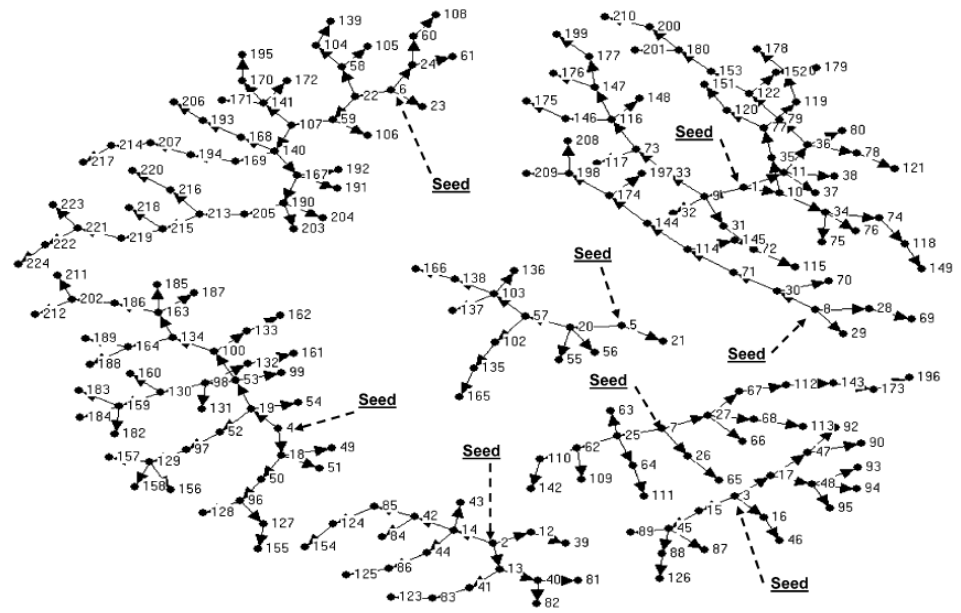


Fig. 1 Recruitment chains in a respondent-driven sample of gay and bisexual men, Kampala, Uganda, 2004

as they were the group in which AIDS was first discovered. Since the beginning of the epidemic, MSM have contributed immensely to our understanding of the epidemiology of HIV, ways to prevent transmission, and the care of persons affected by HIV/AIDS. However, little is known about MSM and HIV among MSM in sub-Saharan Africa.

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Rates of bisexual partnerships in Africa

- **In Malawi, Namibia and Botswana**
 - cross-sectional study of MSM (n=537) showed:
 - *34.1% were married or had a stable female partner,*
 - *53.7% had both male and female sexual partners*
- **In Egypt**
 - Survey among MSM (n=73) showed:
 - *73.3% of MSM reported being bisexual*
- **In Kampala, Uganda**
 - Survey among MSM (n=224) reported:
 - *39% self-identified as "bisexual"*

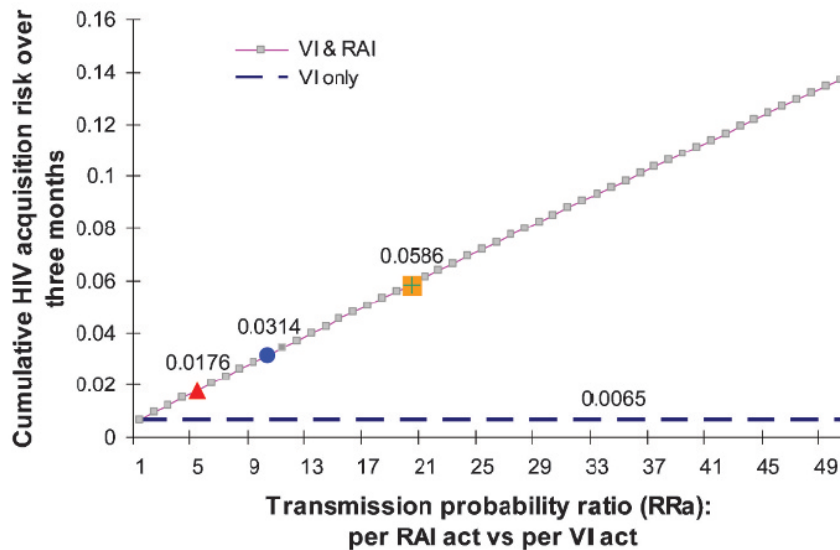
Studies providing estimates of heterosexual sex among MSM, 2003–2007

| | Global studies (range of results) | African studies (range of results) |
|------------------------------------|--------------------------------------|---------------------------------------|
| Heterosexual sex in MSM, lifetime | 20 (25–86) | 3 (41–86) |
| Heterosexual sex in MSM, last year | 16 (8–98) | 2 (50–69) |
| Proportion of MSM who are married | 16 (3–42) | 2 (8–15) |

Source: Caceres, C. F., et al. (2008). *Sex Transm Infect* 84 Suppl 1: i49-i56.

The role of heterosexual anal intercourse for HIV transmission in developing countries: are we ready to draw conclusions?

Marie-Claude Boily,¹ Rebecca F Baggaley,¹ Benoit Mâsse²



As stated by the authors, an important limitation of these results is that the AI risk may be underestimated, given the sensitivity of subject matter and the interviewing method used (self-administered questionnaire with minimal assistance). Studies have shown that collection methods for sensitive data can lead to substantial under-reporting which varies across methods, settings and populations,² making comparisons difficult. For example, in a study among married men from the general population in Cotonou-Benin, face-to-face interviews 3.5% reported ever having AI with a woman compared with 17.5% when using pooling booth surveys.³ Given the difficulty in evaluating

among heterosexuals and that, “even among those who do engage in AI, most

Anal intercourse in heterosexual men & women

■ In Cape Town, South Africa:

- Anonymous surveys of 2593 men and 1818 women:
 - *Anal intercourse (past 3 months): Men = 14%; Women = 10%*
 - *Condom use during anal intercourse: Men = 67%; Women = 50%*

Kalichman et al (2009)

■ In KwaZulu-Natal, South Africa:

- 42% of truck drivers (n=320) reported anal sex with female sex workers

Ramjee et al (2002)

■ In Kenya:

- Survey among FSW (n=147):
 - *40.8% reported ever practising anal intercourse, 30% reported never or rarely using condoms during anal intercourse*
 - *consistent condom use lower in anal sex than peno-vaginal intercourse*

Schwandt et al (2006)

■ In Nigeria:

- anal sex practiced by 12% of public secondary schools students (N= 521)

Bamidele et al (2009)

Factors associated with unprotected anal intercourse among men who have sex with men in Douala, Cameroon

E Henry,¹ F Marcellin,^{2,3,4} Y Yomb,⁵ L Fugon,^{2,3,4} S Nemande,⁵ C Gueboguo,⁶
J Larmarange,⁷ E Trenado,¹ F Eboko,^{2,3,4} B Spire^{1,2,3,4,8}

ABSTRACT

Objectives Research on men who have sex with men (MSM) in sub-Saharan Africa was neglected for a long time. The objective of this study was to understand factors associated with unprotected anal intercourse (UAI) with male partners among a group of MSM living in the city of Douala, Cameroon.

Methods In 2008, a survey on the sexual activity and practices of MSM was set up in Douala in collaboration with a local community-based organisation. Data were collected among a convenience sample of 168 MSM during face-to-face interviews with trained interviewers.

Results A total of 142 individuals reported sexual activity during the previous 6 months, among whom 80 (57%) reported UAI with male partners. In a multivariate logistic regression model adjusted for the frequency of sexual intercourse, not having had access to prevention interventions and not knowing any HIV-infected person

that a sexual bridge between MSM and women could contribute to the expansion of the HIV epidemic.⁸

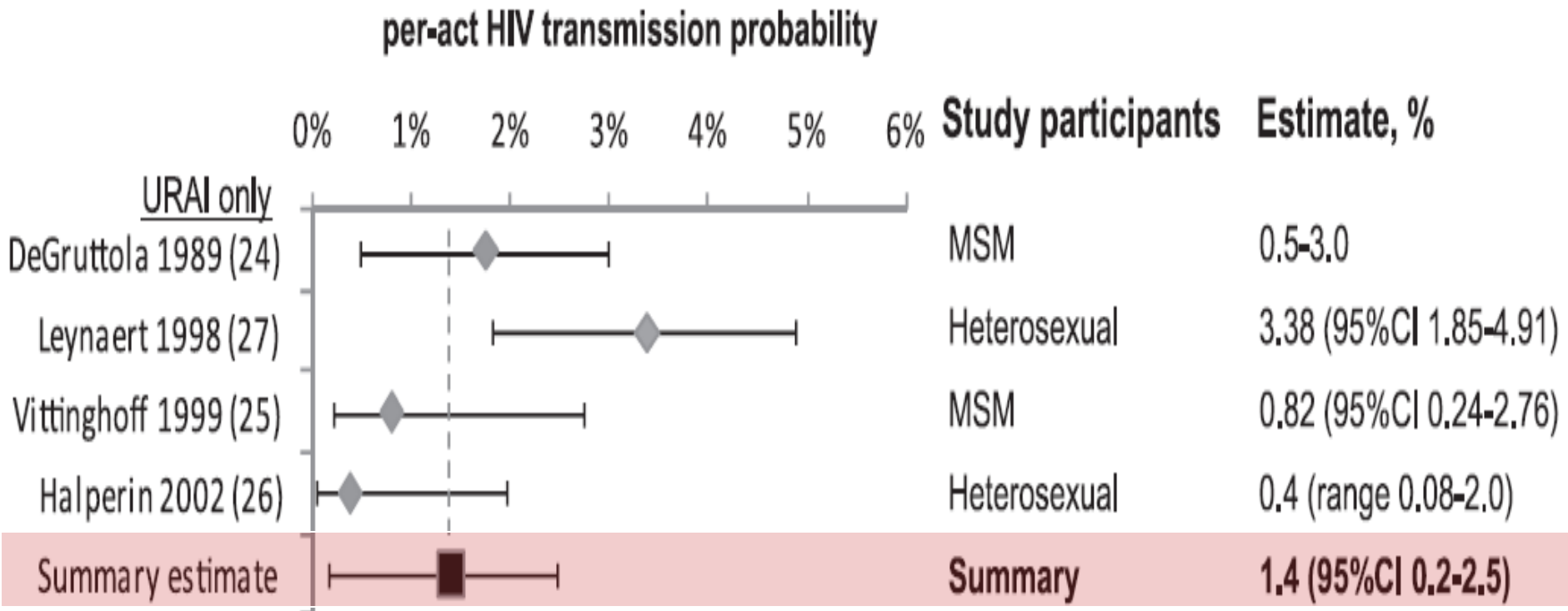
Access to existing national prevention and care programmes is still very difficult for MSM. Available data have highlighted the need for the design and implementation of specific interventions in order to include this group in the development of such programmes now and in the future. Designing specific interventions for MSM in African countries would require a greater understanding of HIV risk-taking in this population.⁹ However, the data currently available are mainly prevalence data, and few studies have explored the psychosocial determinants of systematic condom use during male-to-male sexual intercourse.

In Cameroon, qualitative studies conducted in the general population show that sociosexual

Factors associated with unprotected anal intercourse (UAI) in Africa

- **Cameroon:** UAI risk increased in those not knowing any HIV-infected person (N=168, OR 1.89) *Henry et al (2010)*
- **South Africa:** UAI risk associated with regular drinking (N=147; OR 4.1) *Lane et al. (2008)*
- **Uganda:** UAI associated with having had an HIV test in the past 6 months (N=215, OR 2.81) *Raymond et al (2009)*
- **Kenya:** UAI linked to poor knowledge of increased HIV risk from UAI (N=425, OR: 1.9) *Geibel et al. (2008)*

Risks associated with unprotected anal intercourse: HIV transmission



Source: Baggaley et al. *Int. J. Epidemiol.* Advance Access published April 20, 2010

Limitations of current HIV prevention in Africa

- **MSM and their needs are largely ignored in HIV prevention and treatment efforts in Africa**
- **Most AIDS prevention messages are targeted at heterosexual men and women emphasizing the risks of transmission through peno-vaginal sex and not through anal intercourse**
- **The needs of the many women who are unable to get men to use condoms in anal sex are ignored**
- **Hence the need for a rectal microbicide in Africa...**

Conclusion

- HIV spreading in MSM **AND** heterosexuals in Africa
- Unprotected anal sex is a key HIV risk factor
- Current HIV prevention efforts are unable to contain or reduce the spread of HIV infection thro anal sex
- Combating HIV is not only about scaling-up proven prevention – but also new prevention technologies
- A rectal microbicide, as a new HIV prevention technology is urgently needed in Africa for the large number of people practicing anal sex, ie:
 - *Men who have Sex with Men*
 - *Bisexual men*
 - *Women*