

Heterosexual Anal Intercourse and the Developing Country HIV Epidemic

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Outline

- Prevalence of anal intercourse in developing countries
- Risks associated with anal intercourse compared with other types of exposure
- Condom promotion -- success and failure
- Implications for HIV prevention
 - Rectal microbicides and rectal safety
 - Reducing prevalence of unprotected anal intercourse



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Heterosexual Anal Intercourse - USA

- Little reliable data on
 - Prevalence
 - Types of anal intercourse
 - Risk behaviours associated with AI (e.g. drug use)
- Survey data suggest prevalence of ever AI in women general population in the range 20% - 30%
- MSM
 - Prevalence of AI in range 75% - 90%
 - Unprotected receptive and/or insertive AI in 1/3 to 1/2 MSM

Pamina Gorbach, Microbicides 2006, Cape Town



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Heterosexual Anal Intercourse

- Brazil, Pelotas
 - 3% adult women ever AI
- Peru
 - Young Adults 8-28 yrs
 - 32% of male, 12% females
 - Adults in household survey
 - 48% males, 29% females
- China
 - Anhui Province rural adults
 - 2.3% ever AI

Pamina Gorbach, Microbicides 2006, Cape Town



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Commercial Sex Workers, Meru, Kenya

- In-depth interview of 147 participants in CSW cohort
- Perception of risk for STIs for anal compared with vaginal intercourse
 - Greater risk 64%
 - Same risk 10%
 - Less risk 24%
- 41% reported ever having practiced AI
 - < once per month 50%
 - 1 – 5x per month 37%
 - >= 6x per month 13%

Schwandt *et al.* *Sex Transm Infect* 2006; **82**: 392-6



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Commercial Sex Workers, Meru, Kenya

- Condom use during AI
 - Every time 45%
 - Usually 23%
 - Rarely 5%
 - Never 27%
- Condom use during dry sex
 - Every time 47%
 - Usually 32%
 - Rarely 8%
 - Never 13%

Schwandt *et al.* *Sex Transm Infect* 2006; **82**: 392-6



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Commercial Sex Workers, Meru, Kenya

	One time clients	Regular clients	Spouse or partner
Anal intercourse (60/147)	78%	43%	5%
Dry sex (53/147)	79%	60%	13%

Schwandt *et al.* *Sex Transm Infect* 2006; **82**: 392-6



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Anal Intercourse, Africa, other data

- Kenya FSWs
 - 20% ever AI (Ferguson, 2003)
 - 14% ever AI (Fonck, 2000)
- South Africa
 - 43% of FSWs at truck stops reported ever AI (Karim, 1998)
 - Mean 5 acts per week in FSWs (Ramjee, 1999)
- Tanzania
 - 9% of male and female students reported AI as their first sexual experience (Matasha, 1998)
- Togo
 - 12% of female college students reported experience of AI (Sallah, 1999)

Cited in Schwandt *et al.* *Sex Transm Infect* 2006; **82**: 392-6



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South African National Youth Survey (2003)

- Nationally representative sample of 11 904 South African young people age 15-24 years
- Anal sex (ever) among sexually experienced
 - Men: 5.5%
 - Women: 5.3%
- HIV prevalence
 - 15-19 yr old: men 2.5%, women 7.3%
 - 20-24 yr old: men 7.6%, women 24.5%
 - HIV prevalence 4x higher in young men reporting AI, no difference in women

Lane *et al.* *AIDS* 2006; **20**: 123-5



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HIV Prevention Trials

- COL-1492 (Nonoxynol-9)

- Baseline

- Anal sex ever: 108/765 (14%)
- Median frequency per week: 2.0
- Durban: 76/187 (41%)
- Cotonou: 17/203 (8%)
- Other sites (Bangkok, Abidjan, Hat Yai): 4%

- During follow up

- No condom vaginal sex: 11%
- No condom anal sex: 25%
- Durban: 75% participants reported having unprotected anal sex at least once

Van Damme *et al.* *Lancet* 2002; **360**: 971-7



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Anal Intercourse

- Difficulties in collecting reliable data
 - Stigma, illegal in some countries, reporting bias
- Considerable variation in reported rates in different contexts
- Incidence is not rare
- Microbicide HIV prevention trials likely to give further insights into anal intercourse frequency and practices
 - Secondary analyses
 - ? Quality of data
 - ? Comparability of data collection methods and definitions



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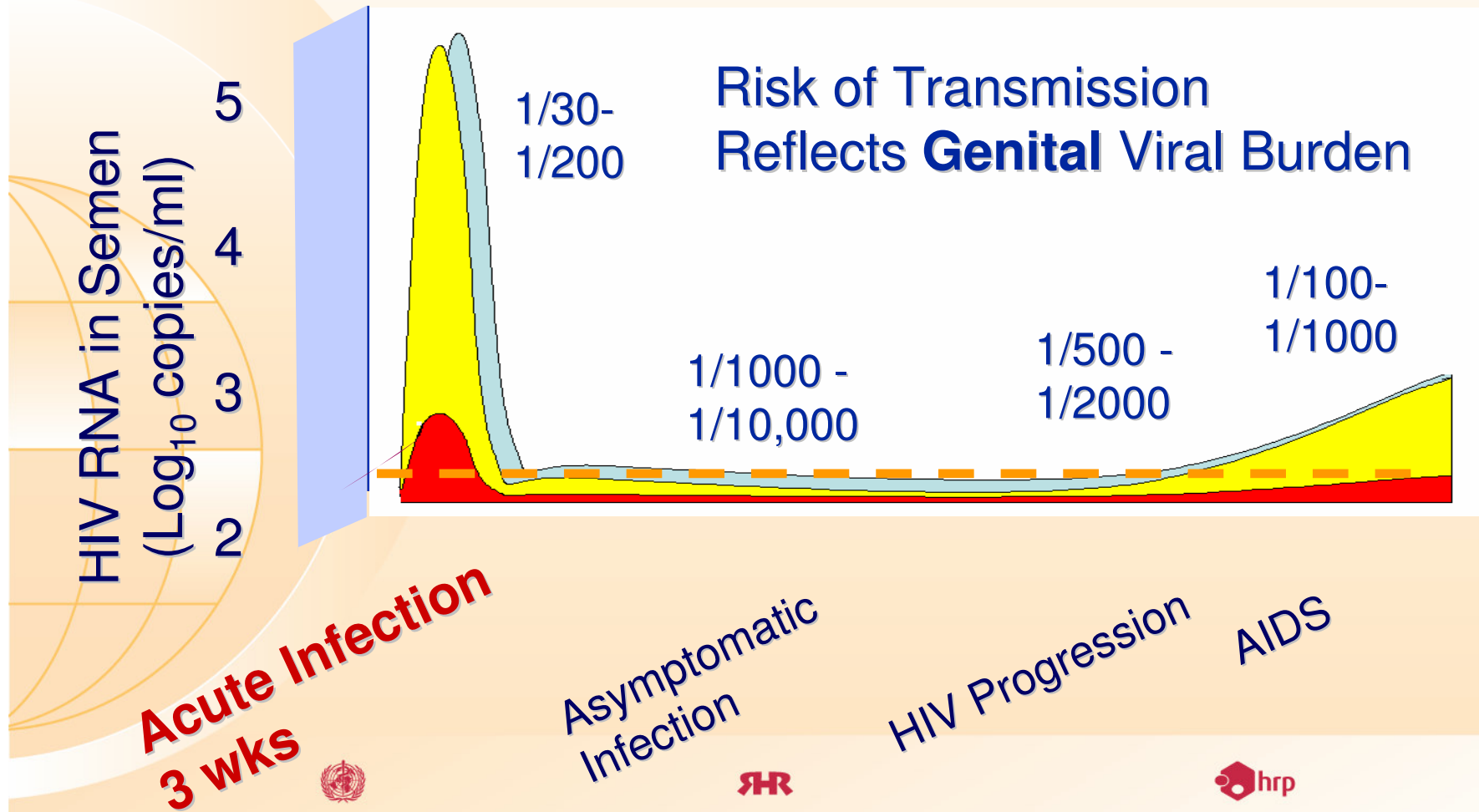
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Sexual Transmission of HIV

(ISSTDR, 1998, *Cohen and Pilcher, JID May 2005*)



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Risk of HIV Infection

(Royce, Sena, Cates and Cohen, *NEJM* 1997; **336**:1072-8)

Sexual transmission	
Female-to-male (vaginal)	1/700 – 1/3,000
Male-to-female (vaginal)	1/200 – 1/2,000
Male-to-male (anal)	1/10 – 1/1,600
Oral	0 (CDC) or 6% (SF)
Parenteral transmission	
Transfusion of infected blood	95/100
Needle sharing	1/150
Needle stick	1/200
Needle stick /AZT PEP	1/10,000
Mother-to-child transmission	
Without prophylaxis	1/4
With ARV prophylaxis	1/10 or less



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Trends in Condom Use in Past Decade

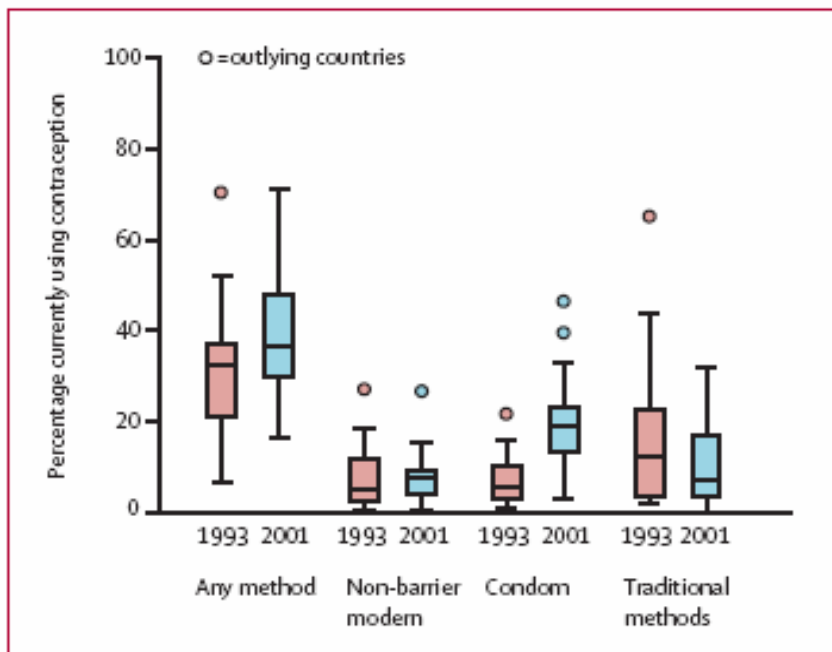


Figure 3: Box and whisker plot showing trend (1993-2001) in current contraceptive use by single women aged 15-24 who were sexually active in the last 3 months before the survey. Data standardised for 18 African countries.

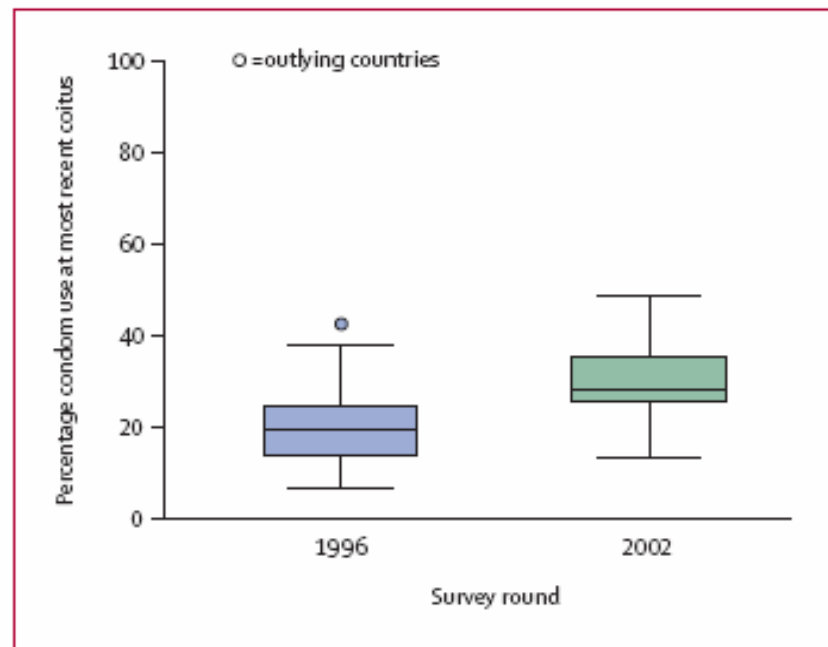


Figure 4: Box and whisker plot showing trend in percentage of single women aged 15-24 who reported condom use at most recent coitus and who were sexually active in the last 3 months. Data standardised for 13 African countries.

Cleland & Ali, *Lancet* 2006; **368**: 1788-93



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Trends in Condom Use in Past Decade

Table 1. Trends in current use of contraception for 18 African countries and condom use at most recent coitus among sexually active single and married women aged 15–24 years for 13 of the countries: median values standardised by age, education and rural-urban residence

	Single women (%)		Married women (%)	
	1993	2001	1993	2001
Current use of contraception				
Any method	32.6	36.5	13.0	17.8
Non-barrier	5.2	7.7	2.9	6.2
Condoms	5.2	18.8	1.0	2.4
Traditional	12.2	7.3	4.9	5.3
	1996	2002	1996	2002
Condom use at most recent coitus	19.3	28.4	3.7	4.5

Cleland, Ali & Shah, *Reproductive Health Matters* 2006; **14**: 17-22



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Trends in Condom Use in Past Decade

- Among young single African women
 - Use of condoms for pregnancy prevention rose in 13 of 18 countries (median proportion increased from 5·3% to 18·8%)
 - Median rate of annual increase of condom use was 1·41 percentage points (95% CI 1·12–2·25)
 - Condom use at most recent coitus rose from a median of 19·3% to 28·4%.
 - Over half (58·5%) of condom users were motivated, at least in part, by a wish to avoid pregnancy.
 - Condom promotion campaigns in sub-Saharan Africa have affected the behaviour of young single women; the pace of change has matched the rise in contraceptive use by married couples in developing countries over recent decades.
- Same trends NOT observed in married women

Cleland & Ali, *Lancet* 2006; **368**: 1788-93



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Development of Rectal Microbicides

- Critical importance to identify safe rectal lubricants that provide (some) protection against HIV
- Must establish rectal safety of products being developed for prevention of vaginal transmission of HIV
- Must develop suitable marketing strategies for such products



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Anal Intercourse to Accelerate HIV Prevention

- Major drivers of HIV epidemic (generalised epidemics)
 - Sex, particularly unprotected sex
 - Type of sexual partner
 - Commercial, casual or occasional partners
 - Sex within primary relationships
 - Type of sexual activity
 - Oral, vaginal, anal intercourse
 - Concurrent sexual relationships
 - Lack of male circumcision
- Anal intercourse as a risk factor and an opportunity
 - Types of partner with whom AI practiced
 - Factors associated with *unprotected* AI
 - Contribution of anal intercourse to driving HIV epidemic in different epidemiological contexts
 - Factors associated with high risk sexual behaviours
 - AND INTERVENTIONS TO REDUCE THEM!!!



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