974

High levels of unprotected intercourse among men who have sex with men and their female sex partners – a bridge between men and women

Danni Daniels, Paul H. Denning, Kathleen M. Gallagher

Behavioral and Clinical Surveillance Branch, National Center for HIV, STD, and TB Prevention, CDC

Danni Daniels, MA, MS
Behavioral & Clinical Surveillance Branch
National Center for HIV, STD and TB Prevention
Centers for Disease Control and Prevention
1600 Clifton Road, NE (Mailstop E-46)
Atlanta, GA 30333

Tel: 404-639-2090
Fax: 404-639-8640
Email: DDaniels@cdc.gov

Background

The AIDS epidemic in the United States has disproportionately affected men who have sex with men (MSM). Through December of 2002, 45% of the 849,780 AIDS cases in adults and adolescents reported to the Centers for Disease Control and Prevention (CDC) were diagnosed among MSM.

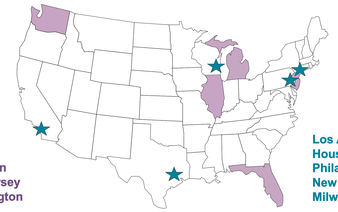
However, the proportion of AIDS cases attributed to heterosexual contact increased from 3% in 1985 to 30% in 2002. In 2002, over half (60%) of persons with AIDS acquired through heterosexual contact were women. Bisexual males may represent an important bridge for HIV transmission between men who have sex with men and their female sex partners. To explore this link, we examined levels of unprotected intercourse among men who have sex with both men and women.

Methods

2002 HIV Testing Survey - Study Design

- Cross-sectional, anonymous, interview study
- Conducted in 10 states across the United States
- Venue-based recruitment
  - Target of 100 MSM from each project area
  - Gay bars or clubs
- Standard 30 minute interviewer-administered questionnaire
- Eligibility criteria
  - State resident > 6 months
  - ≥18 years old
  - Able to give informed consent
  - Had sex with a man within past 12 months
- Inclusion criteria for analysis
  - HIV negative or HIV status unknown

2002 HIV Testing Survey - Study Sites



Florida
Illinois
Michigan
New Jersey
Washington

Los Angeles, CA
Houston, TX
Philadelphia, PA
New York, NY
Milwaukee, WI

Analysis

- Definitions
  - Bisexual behavior is defined as men reporting having sex with both men and women (MSMW) in the past 12 months
  - Unprotected intercourse (UI) is defined as not using a condom during vaginal or anal sex
  - Primary partner is a sexual relationship where one feels committed to the partner above anyone else
  - Non-primary partner is a sexual relationship that is not with a primary partner (e.g., casual or anonymous partner)
- Associations between MSMW behavior and demographic characteristics were examined using multiple logistic regression
- Associations between UI status with male partners and bisexual behavior were examined using chi-square tests

Results

- 1,052 MSM were interviewed for HITS in 2002
- 152 (14%) of MSM participants reported bisexual behavior (MSMW)
  - 26% White, 34% African-American, 16% Hispanic, and 15% multi-racial
  - 67% identified as bisexual, 25% as homosexual, and 5% as heterosexual
  - 89% between 18 and 39 years old
  - 93% had at least a high school education

Demographic characteristics of men who have sex with both men and women, 2002 HIV Testing Survey

	Total n	MSMW n (%)	Adjusted Odds Ratio* (95% CI)
Age			
18-24	325	67 (21)	2.09 (1.26, 3.48)
25-29	253	37 (15)	1.37 (0.80, 2.35)
30-39	317	31 (10)	Reference
≥40	157	17 (11)	1.31 (0.68, 2.52)
Race			
White	401	40 (10)	Reference
Black	291	51 (18)	2.50 (1.47, 4.27)
Hispanic	185	25 (14)	1.48 (0.79, 2.75)
Multi-racial	99	23 (23)	2.00 (1.07, 3.73)
Asian, American Indian/Alaska Native, Pacific Islander, Other	67	13 (19)	2.54 (1.17, 5.51)
Education			
< High school	57	10 (18)	0.87 (0.39, 1.95)
High school or GED	256	44 (17)	Reference
> High school	739	98 (13)	0.90 (0.59, 1.38)
Given or received money or drugs for sex in past 12 months			
Yes	69	21 (30)	1.96 (1.08, 3.56)
No	982	130 (13)	Reference
Drug use in past 12 months			
Yes	493	89 (18)	1.41 (0.95 , 2.08)
No	554	61 (11)	Reference
Arrested in past 12 months			
Yes	85	26 (31)	2.22 (1.27 , 3.88)
No	965	125 (13)	Reference
Total	**1052**	**152 (14)**	

*Logistic model controlled for study site

Unprotected intercourse status with male partners by bisexual behavior, 2002 HIV Testing Survey

Unprotected intercourse with	MSM n (%)	MSMW n (%)	Odds Ratio (95% CI)
Male partners	529 (59)	67 (44)	0.55 (0.39 , 0.78)
Primary male partners	366 (62)	35 (44)	0.47 (0.29 , 0.75)
Non-primary male partners	247 (40)	43 (35)	0.80 (0.53 , 1.20)

- MSMW were less likely to have UI with male partners than were MSM
- MSMW were less likely to have UI with primary male partners than were MSM
- MSMW were less likely to have UI with non-primary male partners; however, the difference in proportions was not statistically significant

Number of male and female partners for 152 men who had sex with both male and female partners in the past 12 months, 2002 HIV Testing Survey

		Number of female partners			
		1	2-3	≥ 4	Total*
Number of male partners	1	26 (17%)	11 (7%)	7 (5%)	44 (29%)
	2-3	15 (10%)	13 (9%)	11 (7%)	39 (26%)
	≥4	33 (22%)	21 (14%)	13 (9%)	67 (45%)
	Total*	74 (49%)	45 (30%)	31 (21%)	150 (100%)

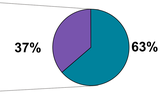
*The number of partners was missing for 2 MSMW

- Nearly half (49%) of MSMW had only 1 female partner
- Majority (71%) of MSMW had more than 1 male partner, with 45% having 4 or more male partners
- Over half (52%) of MSMW had more male than female partners (data not shown)
- Nearly a quarter (22%) had the same number of male and female partners (data not shown)
- Over a quarter (26%) of MSMW had more female than male partners (data not shown)

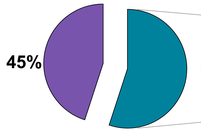
Unprotected intercourse status with female sex partners by type of female partners among MSMW, 2002 HIV Testing Survey

Prevalence of UI with female partners among 152 MSMW

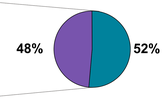
Prevalence of UI with male partners among 63 MSMW having UI with female partners



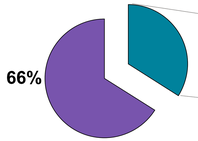
Prevalence of UI with primary female partners among 60 MSMW with primary female partners



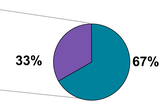
Prevalence of UI with male partners among 33 MSMW having UI with primary female partners



Prevalence of UI with non-primary female partners among 115 MSMW with non-primary female partners



Prevalence of UI with male partners among 39 MSMW having UI with non-primary female partners



Protected Intercourse
Unprotected Intercourse

Limitations

- Convenience sample
- Self-reported data collected by an interviewer
  - Recall bias
  - Social desirability bias
- Representativeness
  - Limited to men who have sex with men and visit gay bars and clubs
  - Limited geographic distribution of project areas
- Concurrency
  - Could not determine if male and female relationships were concurrent or sequential
- No measure of disclosure of bisexual behavior to female partners

Conclusions

- Among MSM interviewed in the 2002 HIV Testing Survey, we found that 14% had sex with women. MSM more likely to have bisexual behavior were younger, non-White, gave or received money or drugs for sex in the past 12 months, or were arrested in the past 12 months
- Although MSMW tend to be less likely than MSM who only have sex with men to have UI with their male partners, nearly half of MSMW still had UI
- Only a small proportion (5%) of MSMW interviewed self-identify as being heterosexual
- Approximately a quarter (36/152) of MSMW had unprotected intercourse with both male and female partners; thereby, creating the potential for the spread of HIV from MSM to their female sex partners

Recommendations

- Need to expand culturally appropriate HIV prevention interventions among MSMW to provide services that address their multiple risk behaviors
  - Especially targeting those populations most likely to be MSMW - young, non-White, exchanging money or drugs for sex, recently arrested
- Since this study was conducted in gay bars, may have under-estimated the prevalence of bisexual behavior among men. Further research is needed to examine the level of bisexual behavior.
- Need to create HIV prevention messages for MSMW who do not identify as being gay or bisexual
- HIV prevention programs for women should encourage women to
  - know about their partners' sexual history and status
  - consistently use condoms in non-monogamous relationships