Heterosexual HIV/STD Concurrency

- In 2008, 22% of New York City (NYC) new HIV diagnoses (1,809) were attributable to heterosexual transmission (NYC DOHMH, 2009).
- Disproportionately affects women - 72% of new HIV diagnoses in NYC.
- Sexual risk behaviors and sexually transmitted disease (STD) collectors alone do not explain the heterosexual spread of HIV (Walford, DD et al., 2007)
- Sex partner concurrency may help to explain variation in the heterosexual spread of HIV and other STDS, e.g., in sub-Saharan Africa and US urban areas.

Sex Partner Concurrency

- Overlapping sex partners within the same time interval.
- A high prevalence of concurrency is hypothesized to:
  - Increase sexual connections among large numbers of sex partners
  - Increase the extent and rapidity of STD and HIV spread (Morris, M and Kretschmar, M, 1997)
- Reciprocal sex partner concurrency (RSPC) is when both partners in a sexual relationship have other sex partners.

Mono Concurrency

- A reports partners B and C

RSPC Concurrency

- A reports partners B and C, and that B has other partners, D and E

Study Sample

- National HIV Behavioral Surveillance (NHSB) Study
- CDC cooperative agreement in 25 cities in the United States
- Ongoing cyclical study of MSM, IDU, and high-risk heterosexuals (HET)
- NHSB-HET data collection in 2006-7
- Cross-sectional design, repeats each at-risk group every 3 years
- Estimate HIV prevalence, risk behaviors, testing patterns, prevention services utilization
- Interviewer-administered structured survey questionnaire and HIV test
- Anonymous recruitment, survey and test

High-Risk Heterosexual Definition

- Main eligibility criteria:
  - A man or woman who resides in or is recruited by someone who resides in a high-risk area (HRA)
    - HRAs include 30 NYC zip codes with the highest rates of heterosexual HIV and poorly
    - Between 18-50 years old
    - Vaginal or anal sex with opposite-sex partner in the past year
- Additional eligibility criteria:
  - Resident of NYC
  - Speaks English or Spanish

Respondent-Driven Sampling (RDS)

- Seed recruitment by ethnographer (2 initial seeds each in HRAs in Harlem, Brooklyn and the South Bronx)
- Seeds reside in HRAs and are otherwise eligible
- Seeds recruit up to 3 other participants, who recruit up to 3 others
- Continues until required sample size obtained
- Incentives provided for recruiting and participating

Measures

- Reciprocal Sex Partner Concurrency: participant reports that in the past 12 months during the participant’s sexual relationship with her/his last non-exchange sex partner, both the participant and the last sex partner had sex with other people
- Sexually Transmitted Diseases: a self-reported STD diagnosis (gonorrhea, syphilis, Chlamydia, herpes simplex virus, genital, warts, and other STDS) in the past 12 months

Statistical Analysis

- Unweighted analysis
- Crude and adjusted odds ratios (OR, AOR) and 95% Confidence Intervals (95% CI) estimated by logistic regression
- Variables significantly (p<0.05) associated with RSPC included in simultaneous multivariate analysis of any STD diagnoses
- Gender, race/ethnicity, age, the number of sex partners, and the duration of the partnership included in the multivariate model
- Participant’s social network size (reciprocal) included in the multivariate model as a control for selection probability

Results

- Characteristics associated with Reciprocal Sex Partner Concurrency
- Multiple Logistic Regression Model of STD Diagnoses

Discussion

- Many (40.7%) heterosexuals in this NYC high-risk area sample reported RSPC.
- Those in sex partnerships with RSPC were twice as likely to report any STDS as those in which neither or one of the partners had sex partners.
- RSPC was independently associated with STDS after accounting for the effects of sexual, drug use and other risk factors
- RSPC is a risk factor for STDS independent of the number of sex partners
- CDC: Amy Drake, Amy Lansky, Elizabeth DiNanno

References

- CDC: Amy Drake, Amy Lansky, Elizabeth DiNanno

Contact

Alan Neagu, PhD
Email: aneaguc@health.nyc.gov
Phone: 212-442-3667

Funding

CDC Grant Number IHS 964-01