

STI-related risk behaviors and STI disparity between residents of Baltimore City and other urban cities in the U.S.

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Background: Baltimore City, Maryland, has experienced rates of STDs that are consistently higher than the national average. National surveillance data indicate that in 2000 the rates of gonorrhea and Chlamydia in Baltimore City were 3.3 and 6.7 times higher than the overall U.S. rate. Among U.S. cities with greater than 200,000 people, Baltimore City ranked among the top four for Chlamydia and gonorrhea infection rates.

Objective: To compare reports of diagnoses of gonorrhea and Chlamydia among adults residing in Baltimore City to those in other central cities of the U.S. and to assess whether a higher prevalence of sexual and substance use behaviors in Baltimore may account for infection disparity.

Methods: We utilized data collected from a cross-sectional probability telephone survey of the U.S. (N=1,543) and Baltimore City (N=744) adults aged 18-45 years old in 1999-2000. Respondents were asked about a wide range of STI-related risk behaviors and STI history. Bivariate analysis assessed differences in the prevalence of self-reported history of gonorrhea and chlamydia, substance use, and sexual risk behaviors among residents of Baltimore City and other central cities of the U.S. Multivariate logistic regression models measured heterogeneity in self-reported history of gonorrhea and chlamydia by location of residence, substance use and sexual history, adjusting for race and age.

Results: Lifetime prevalence of gonorrhea and chlamydia was 18.2% (95% CI 14.8%-22.1%) among Baltimore residents and 9.8% (95% CI 7.3%-13%) among residents of other central cities ($p < 0.001$). In bivariate analysis, Baltimore residents were no more likely to report a history of cocaine or injection drug use than residents of other urban areas ($p = 0.774$). However, Baltimore residents were more likely to report having six or more lifetime sexual partners (49.1% vs. 40.7%, Prev. Ratio 1.21 (95% CI 1.2-1.24)), multiple partners in the past year (24.3% vs. 16.9%, Prev. Ratio 1.4 (95% CI 1.4-1.5)), and a history of paid sex (17.8% vs. 8.7%, Prev. Ratio 2.0 (95% CI 1.8-2.3)).

Conclusion: The higher prevalence of sexual risk behaviors among Baltimore adults is likely to accelerate STI transmission and contribute to the higher incidence of STIs in Baltimore.

Increased Risk for *Trichomonas Vaginalis* in an Urban Population of Young Adults

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Background. The epidemiology of *T vaginalis* (TV) in the general population is not well understood, although it is reported to be the most common curable sexually transmitted infection worldwide. Surveillance data do not exist either for US national or local populations. Infection with TV increases the likelihood of HIV acquisition and has been associated with adverse health outcomes in men and women.

Methods. The Monitoring STIs Survey Program (MSSP) used telephone audio computer-assisted self-interview technology and specimen collection kits sent out and returned by mail to monitor *T.vaginalis* and *C.trachomatis* among a probability sample of 15 to 35-year-olds residing in Baltimore, MD from September 2006 through June 2009. Specimens were tested using TMA-based APTIMA assays. Weighted estimates of infection prevalence by respondents' sociodemographic and behavioural characteristics were tabulated using poisson regression.

Results. 2120 of 2936 respondents (72.2%) provided specimens for STI testing. The prevalence of TV was 7.5% (95% CI 6.0% to 9.0%) and was significantly higher among women (11.8%) than men (2.9%; PR_{1/4}4.0, 95% CI 2.2% to 7.4%). Among Black females, the estimated prevalence was 16.1% (95% CI 1.0% to 19.8). Levels of TV infection ranged from 7.3% (95% CI 4.7% to 11.2) among 15-19 year olds to 10.6% (95% CI 7.6% to 14.7) among those aged 20-24 years and 6.6% (95% CI 4.5% to 9.6) among 30-35 year olds (p_{1/4}0.39 for linear trend). Infection with *T.vaginalis* was more

Abstract O1-S05.04 Table 1 Estimated prevalence of trichomoniasis and chlamydial infection by respondent characteristics: monitoring STIs in the population, 2006–09

Characteristic	N	<i>T vaginalis</i> Wtd.% (95% CI)	p	<i>C trachomatis</i> Wtd.% (95% CI)	p
Total	2120	7.5 (6.0 to 9.0)		3.9 (2.7 to 5.0)	
Sex					
Women	1322	11.8 (9.6 to 14.3)		3.4 (2.4 to 4.8)	
Men	798	2.9 (1.6 to 5.1)	<0.001	4.5 (2.8 to 7.0)	0.35
Race					
Black	1299	11.2 (9.1 to 13.6)		6.0 (4.4 to 8.1)	
Non-black	821	2.0 (1.2 to 3.5)	<0.001	0.7 (0.2 to 2.0)	<0.001
Age					
15–19	576	7.3 (4.7 to 11.2)		6.6 (4.2 to 10.5)	
20–24	460	10.6 (7.6 to 14.7)		5.9 (3.6 to 9.7)	
25–29	501	5.6 (3.7 to 8.5)		1.7 (0.8 to 3.3)	
30–35	583	6.6 (4.5 to 9.6)	0.39	1.2 (0.5 to 2.8)	<0.001
3+ partners past year					
Yes	445	10.6 (7.6 to 14.6)		8.2 (5.5 to 12.0)	
No	1674	6.6 (5.1 to 8.4)	0.02	2.7 (1.8 to 4.2)	<0.001
New partner in past 3 months					
Yes	435	11.7 (8.2 to 16.4)		9.3 (6.3 to 13.6)	
No	1657	6.3 (5.0 to 8.1)	0.004	2.5 (1.6 to 3.8)	<0.001
Previous STI					
Yes	503	12.8 (9.6 to 17.0)		4.5 (2.7 to 7.2)	
No	1372	6.7 (5.2 to 8.8)	0.001	4.3 (3.0 to 6.1)	0.91

common than infection with *C trachomatis* (3.9%, 95% CI 2.7% to 5.0%; p<0.001). Unlike TV, CT did not vary by gender (women 4.5%, men 3.4%, p_{1/4}0.35) and infection prevalence was significantly higher among those <25 years of age (p<0.001 for trend). Concomitant TV infection was detected in 23.5% of respondents with CT (PR_{1/4}3.7, 95% CI 1.9% to 7.7). Both TV and CT were associated with reporting of three or more partners in the past year and a new

partner in the past 3 months. TV infection, but not CT, was associated with a previous STI diagnosis (PR¹/₄1.9, 95% CI 1.3% to 2.8%) see Abstract O1-S05.04 table 1.

Conclusions. Undetected *T vaginalis* is common among young adults in Baltimore, particularly among women. Nearly one-fourth of respondents with chlamydial infection also tested positive for TV. Unlike chlamydial infection, the prevalence of TV was consistently high across all age groups. Our results provide strong support for routine screening for TV in conjunction with CT in populations at elevated risk of infection.