

Sexually Transmitted Infections: Comparing Teenagers to Adults in a Probability Sample of Baltimore, MD, USA

E. Eggleston¹, C.F. Turner², S.M. Rogers¹, S.Tan¹, A.M. Roman³, W.C. Miller⁴, M.M. Hobbs⁴, E. Erbelding⁵, L. Ganapathi¹

¹Research Triangle Institute, Washington DC/RTP, NC; ²City University of New York, (Queens College & the Graduate Center); ³University of Massachusetts-Boston, ⁴University of North Carolina at Chapel Hill, School of Medicine; ⁵Johns Hopkins University, School of Medicine

BACKGROUND

- STI rates among adolescents are perceived to be higher than among adults.
- Actual rates vary by infection, with some more prevalent among adults.
- Little research has been conducted regarding how factors associated with infection differ between teenagers and adults

MONITORING STIs SURVEY PROGRAM (MSSP)

- Monitors prevalence of undiagnosed STIs (chlamydia, trichomoniasis, gonorrhea) in Baltimore MD, 2006–09.
- Probability samples of 15–35 year-olds in households with landline phones.
- Data sources: 1) telephone audio computer-assisted self interview (T-ACASI); 2) mailed-in urine specimens tested for STIs.

RESEARCH QUESTIONS

- Does prevalence of Ct and/or Tv vary for teenagers (15–19) and adults (20–35)?
- What factors are associated with STI infection?
- Are the factors associated with the risk of infection different for teens and adults?

ANALYSIS

- Results reported from first two years of MSSP.
- Estimates weighted to adjust for survey stratification and varying probabilities of selection, plus post-stratification weighting to adjust for impact of survey and specimen nonresponse.
- All analyses use algorithms that take account of the MSSP's complex sample design (Stata v. 10)

RESULTS

- Interviews completed with 2,281 of 3,878 (59%) eligible respondents during first two years of MSSP.
- 71.8% (1637) provided valid urine specimen.

Prevalence of Chlamydia and Trichomoniasis

- Ct: 3.9% (CI: 2.7, 5.1)
(Teens 6.0%, Adults 3.2%)
- Tv: 6.3% (CI: 4.9, 7.7)
(Teens 4.0%, Adults, 7.1%)

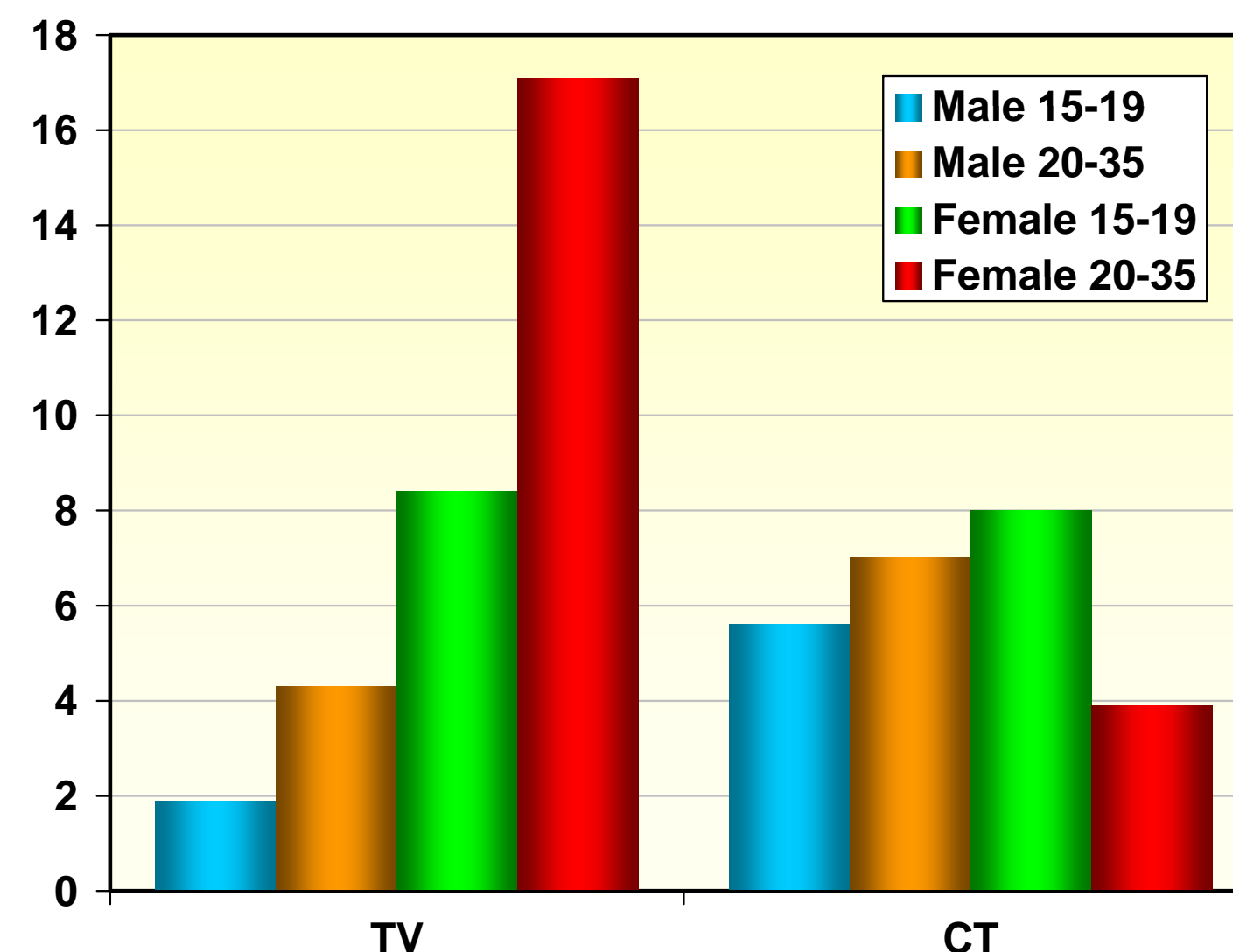
Racial Disparities

- Enormous racial differences in STI prevalence existed. Only one Ct and two Tv infections were detected among the 533 respondents who identified as white or Asian.
- African-American respondents had estimated population prevalences of 5.7% for Ct (CI: 3.9, 7.5) and 9.6% (CI: 7.5, 11.7) for Tv.

Factors Associated with STI Among African-Americans (Figure 1)

- 1,045 respondents identified as African-American.
- Tv varies by both age and gender, ranging from 1.9% for teenaged males to 17.1% for adult females.
- Tv higher among adults than teens (OR=2.3, CI: 1.4, 4.4).

Figure 1. Estimated Prevalence of TV and CT by Gender and Age (African-American Population)



- Tv prevalence significantly higher among females than males (OR=4.8, CI: 2.3, 10.2).
- Ct does not vary by gender or age.
- Among females, Ct prevalence higher among teens than adults: 8% v 3.9% (OR=0.5; CI: 0.2, 1.1; p=0.068).

Teen-Adult Variation in Factors Associated with STI

- Statistical power weak, with only 352 black teens. Nonetheless, clear evidence of variation by age group in factors associated with STI.
- Table 1 shows factors with significant variation between teens and adults in association with Tv or Ct.
- In every instance, stronger associations for teens than for adults.

Table 1. Variation by age group in factors associated with likelihood of STI (Tv or Ct)

Factor	OR Teens	OR Adult	Interaction p-value
Number sexual partners in past year (0, 1, 2, 3+)	2.3	1.5	0.05
Ever experienced forced sex	5.2	1.6	0.06
Respondent's sexual partner had/may have had other partner(s) in past year	2.4	1.1	0.09
Respondent's partner jailed, past yr	4.7	2.3	0.15
Reported STI diagnosis, past year	4.0	1.9	0.23

CONCLUSIONS

- Tv far more prevalent than Ct in Baltimore, MD.
- Both Tv and Ct heavily concentrated in African-American population.
- Among African-Americans, Tv prevalence highest among adult women, while Ct highest among teen women.
- Wrong to assume that STI risk factors are equivalent for teens and adults.
- Further research needed to explore racial disparities in measured levels of STI.