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Testing Adolescents for Sexually Transmitted Infections in Urban Primary Care Practices: Results from a Baseline Study

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Abstract

Objective—Sexually active urban adolescents experience a high burden of sexually transmitted infections (STI). Adolescents often access medical care through general primary care providers; their time alone with a provider increases the likelihood that youth will disclose risky behavior, which may result in STI testing. Our goals were to assess the association (if any) between the provision of time alone and STI testing, and describe the rates of STI testing among sexually active adolescents in urban primary care.

Methods—Youth (aged 12–19 years) presenting for care at 4 urban health centers were invited to complete post-visit surveys of their experience. Sexually transmitted infection screening rates were obtained from the clinical information systems (CIS); CIS data were linked to survey responses.

Results—We received 101 surveys. Surveyed youth experienced time alone in 69% of all visits. Time alone varied by age (older teens experienced more time alone), and it occurred more frequently in preventive visits (71%) versus nonpreventive visits (33%). It did not vary by gender. Forty-two of the 46 sexually active youth experienced time alone. Screening rates for sexually active females, either at the index visit or within 6 months prior to the index visit, were 17.9% for human immunodeficiency virus and 32.1% for gonorrhea/*Chlamydia*. No sexually active surveyed males were tested. Overall screening rates varied widely across practices (human

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Declaration of Conflicting Interests

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immunodeficiency virus 0%–29%; gonorrhea/*Chlamydia* 7%–29%). There was no difference in screening rates among youth with and without time alone.

Conclusion—STI testing for adolescents is being conducted in this primary care urban population, especially for sexually active females. However, clinicians in this setting are not screening females consistently enough and rarely screen males. We were unable to test our hypothesis that provision of time alone was associated with a higher rate of STI testing. Site differences suggest substantial variation in clinician practices that should be addressed in quality improvement interventions.

Keywords

adolescents; *Chlamydia*; gonorrhea; HIV; primary care; sexually transmitted diseases; sexually transmitted infection testing; survey study; time alone; urban primary care

Background

Sexually active urban adolescents in the United States experience a high burden of sexually transmitted infections (STI).¹ Females aged 15–19 years have the highest rates of *Chlamydia* and gonorrhea as compared with any other age or sex.² There are disparities in STI rates. For example, *Chlamydia* rates are highest among young African American females.² Screening for STI in sexually active adolescents is recommended in Centers for Disease Control and Prevention guidelines and by professional medical organizations.³

Yet in 2007, composite data from national health plans reported that only 41.6% of women 16–25 years old were screened for *Chlamydia*.⁴ Limitations to these data include lack of data specifically for teens⁵ and for urban populations,⁶ both higher-risk groups. There are no national data on rates of screening for males. Numerous studies describe primary care provider (PCP) report or recall of STI screening,^{7–9} but these data are not linked to actual screening rates of at risk youth. Studies examining this issue from the perspective of youth have queried adolescents screened in specialty STI, family planning, or school-based clinics¹⁰ and rely on youth self-report and/or recall of testing.^{11–13} No prior study examines screening rates for a high-risk urban population attending community health centers.

Examining community health centers is important because youth often access medical care through general PCP.¹⁴ Additionally, an adolescent's time alone with a provider increases the likelihood that he or she will disclose risky behavior.¹⁵ We lack reliable data about STI screening in urban adolescents, especially male adolescents and about the relationship between time alone and appropriate STI screening in primary care.

In preparation for a practice-based intervention to improve delivery of sexual health services to adolescents including STI testing, we surveyed youth to obtain adolescent report of the content of visits with clinicians, and sexual activity status. Rates of STI screening among at-risk youth as well as for all adolescents seen during the pre-intervention period were determined. Our data are unique because we have self-reported information about sexual activity correlated with actual clinical information system (CIS) data on STI testing.

Our goals in gathering these baseline survey data are to (1) assess the association (if any) between the provision of time alone with a provider and STI testing, and (2) describe the rates of STI testing among adolescents in primary care who identify as sexually active.

Methods

Youth (aged 12–19 years) presenting for care at 4 urban, hospital-owned health centers were invited to complete postvisit surveys of their experiences during a visit with a generalist PCP (pediatrician or family medicine). None of the sites had a provider who was trained specifically in adolescent medicine; 1 site had family medicine residents. The majority of patients at these centers are eligible for Medicaid. Potential participants were recruited via nurse-initiated “opt-in” cards provided at the beginning of the clinical encounter. The card provided permission to be contacted by the research team. Once an opt-in card was received, a member of the study team contacted potential participants, obtained informed consent, then sent a survey to complete in English or Spanish (online or hard copy, as preferred). Rates for STI screening were obtained from the hospital clinical information systems (CIS); CIS data were linked to survey responses.

Descriptive statistics and chi-square analyses were performed using PASW, version 18.0, 2009, (SPSS, Inc., Chicago, IL). This project was approved by the Institutional Review Board of the Albert Einstein College of Medicine.

Results

Demographic Information

During the data collection period at the 4 sites, 1097 adolescents aged 12–19 years were seen. The mean age of youth seen during the period was 15.8 years, 58.6% were female, and 40.1% of all visits were for preventive care. We obtained opt-in cards from 156 adolescents (14.2% of total number of adolescents seen; range 10%–52.7% by site). Of these youth, 101 completed the survey, yielding surveys from 9.2% of all youth seen (range 5.5%–37% by site). Survey responders were more likely to be older (mean age 16.4 years), female (67%), and to have a preventive care visit (61.7%); 45.5% of responders were sexually active. Sixty-three percent of surveyed youth identified as Hispanic ethnicity, and 79% were born in the mainland United States.

Time Alone

Fifty-seven percent of respondents came to their visit accompanied by their parent or guardian. Youth reported that they experienced time alone with the clinician in 56.8% (33/58) of accompanied visits (range 38%–71% across sites) and 69% of all visits (accompanied and unaccompanied). Time alone varied by age (0% for 12- to 13-year-olds, 60% 14–15, 74% 16), but not sex. Time alone occurred more frequently in preventive visits (71%) versus nonpreventive visits (33%, $P = .006$). Youth reported provider queries about sexual activity in 63% of visits (72% for males and 60% for females) and questions about sexual orientation in 18%; 90.6% answered their doctors honestly when asked about sexual activity. Forty-two of the 46 youth who reported they were sexually active experienced time alone at the index visit.

Sexually Transmitted Infection Screening

Sexually transmitted infection screening rates for sexually active surveyed youth either at the index visit or within 6 months prior to the index visit were as follows for: human immunodeficiency virus (HIV), 0 males (0/14) and 17.9% of females (5/28); gonorrhea/*Chlamydia* (GC), 0 males (0/14) and 32.1% of females (9/28). Overall screening rates for sexually active youth varied widely across practices (HIV 0%–29%; GC 7%–29%). There was no difference in screening rates for those sexually active youth who did versus did not experience time alone.

Discussion

Sexually transmitted infection testing for adolescents is being conducted in this primary care urban population, especially for sexually active females. Screening rates for GC were higher than for HIV, possibly reflecting repeat testing for reinfection after initial treatment, greater ease of urine (GC) versus serum (HIV) testing, higher prevalence of GC and thus greater perceived need for GC testing, and/or insurance-driven Health Effectiveness Data and Information Set (HEDIS) performance measures around GC testing for young women. However, clinicians in this setting rarely screen males for STI, and they are not screening females consistently enough.

Because of our limited sample size and the very high proportion of sexually active respondents who experienced time alone, we were unable to test our hypothesis that provision of time alone was associated with a higher rate of STI testing. Additionally our study population differed from the cohort of adolescents seen during our study period; a substantial proportion of the survey responders' visits were for preventive care, and their mean age was 16.4 years. Consistent with the literature, time alone in our sample occurred more frequently with preventive visits with older adolescents.¹⁶

Study limitations include a low response rate. Given our limited budget, our recruitment strategy required clinical staff to obtain consent to contact potentially eligible participants. This approach was financially feasible, however, it was carried out inconsistently and appears to have resulted in more cards distributed to older adolescents and those present for a preventive visit. In future practice-based survey studies, we would recommend a more robustly staffed study and/or increased incentives for the recruitment sites.

Despite the limitations, this study allows an initial description of actual STI screening rates of urban at-risk adolescents and highlights the special need to increase screening in males. Site differences in time alone and screening sexually active youth suggest substantial variation in clinician practices that should be addressed in quality improvement interventions.

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