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Original Contributions

SEXUALLY TRANSMITTED INFECTION HISTORY AMONG ADOLESCENTS PRESENTING TO THE EMERGENCY DEPARTMENT

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☐ **Abstract—Background: Adolescents and young adults account for about half of the annual diagnoses of sexually transmitted infections (STI) in the United States. Screening and treatment for STIs, as well as prevention, are needed in health-care settings to help offset the costs of untreated STIs. Objective: Our aim was to evaluate the prevalence and correlates of self-reported STI history among adolescents presenting to an emergency department (ED). Methods: Over two and a half years, 4389 youth (aged 14–20 years) presenting to the ED completed screening measures for a randomized controlled trial. About half (56%) reported lifetime sexual intercourse and were included in analyses examining sexual risk behaviors (e.g., inconsistent condom use), and relationships of STI history with demographics (sex, age, race, school enrollment), reason for ED presentation (i.e., medical or injury), and substance use. Results: Among sexually active youth, 10% reported that a medical professional had ever told them they had an STI (212 females, 35 males). Using logistic regression, female sex, older age, non-Caucasian race, not being enrolled in school, medically related ED chief complaint, and inconsistent condom use were associated with increased odds of self-reported STI history. Conclusions: One in 10 sexually active youth in the ED reported a prior diagnosed STI. Previous STI was significantly higher among females than males. ED providers inquiring about inconsistent condom use and previous STI among male and female adolescents may be one strategy to focus biological testing resources and improve screening for current STI.** © **2015 Elsevier Inc.**

☐ **Keywords—emergency department; sexually transmitted infections; adolescents; risk behaviors**

INTRODUCTION

In the United States, it is estimated that there are nearly 20 million new sexually transmitted infections (STI)

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diagnosed annually and adolescents and young adults aged 15–24 years account for half of these cases, despite being only 25% of the sexually experienced population (1–5). Furthermore, women, African Americans, and Hispanics are disproportionately affected (6–8). Additionally, STIs result in approximately $16 billion in direct and indirect health-care expenses (9,10). Among women, STIs, such as chlamydia, can cause long-term health consequences, such as pelvic inflammatory disease, infertility, and perinatal complications (11–14). Among males, STIs, particularly chlamydia, have been implicated in chronic and acute infections (e.g., urethritis, epididymitis, epididymo-orchitis), as well as infertility (15).

Prior STI during adolescence or emerging adulthood predicts risk for future STI and human immunodeficiency virus (HIV) infection and recurrence rates are concerning (16,17). For example, a cohort study found that when comparing adolescents who never had an STI to those who had (where chlamydia was most common), HIV risk doubled among those with any past STI (16). In addition, research with emerging adults suggests that a past-year diagnosis of herpes is associated with increased odds of past-year diagnoses of chlamydia, gonorrhea, and genital warts (18). Further, a recent review found recurrence rates for genital warts of up to 110 per 100,000 among females and up to 163 per 100,000 among males, in addition to a peak in incidence during emerging adulthood (19). Thus, identifying individuals with a prior STI may be clinically important to health-care providers in identifying those at future risk.

Several factors put adolescents at risk for STIs, including multiple and concurrent sexual partners, lack of consistent and proper use of barrier protection, and increased biologic susceptibility to infection (1,5,20,21). For many adolescents, engaging in sexual risk behaviors increases from adolescence into emerging adulthood (22–24). In addition, high-risk behaviors, including alcohol and other substance abuse, tend to occur with or precede sexual risk behaviors among young people (24–29). Protective factors have also been identified, such as parental disapproval of sex and high grade-point average (30–32).

Adolescents are frequently without a primary care physician and they often present to the emergency department (ED) for their medical care (2,20,33,34). Also, many older adolescents do not receive health maintenance examinations, limiting the opportunity for screening and preventive medicine (35). Research also demonstrates that adolescents receiving care in the ED are more likely to engage in risky behaviors compared to those presenting in primary care (36). Further, female adolescents frequently present to the ED with gynecologic symptoms contributing to the estimated 171,000 patients who present to the ED yearly for evaluation for STIs (20,37,38). However, as many STIs are asymptomatic and under-diagnosed, this is likely an underestimate of the disease burden, especially among male adolescents who are less likely to seek ED care for nonurgent problems and are less likely to undergo health maintenance screening (7,35,39). For example, studies involving point-of-care testing have shown that about 11% of youth in EDs tested positive for chlamydia or gonorrhea (39,40).

Although the Centers for Disease Control and Prevention (CDC) recommend routine STI screening for sexually active youth, particularly for females < 26 years, this screening occurs about half of the time (2,5,41). A national survey that included adolescents and adults showed that emergency physicians are less likely than other physicians to screen for STIs and suggested lack of time, follow-up, appropriate counseling, and reimbursement as primary barriers (42,43). ED practitioner compliance with CDC guidelines for treatment of STIs and related clinical presentations, such as pelvic inflammatory disease (PID), is poor in samples of adolescents and adults (20,44). For example, among adolescent women attending EDs for STIs or PID, full compliance with guidelines occurred in around one-third of cases (20,45). Despite this low compliance with recommendations, research has shown that sexually active youth, compared to non–sexually active peers, are willing to engage in discussions of STIs with providers (46).

Thus, the ED may be a crucial location for STI testing, intervention, referrals, and treatment efforts among youth, especially young men who may be asymptomatic carriers of STIs. In order to inform such efforts, research is needed to identify characteristics of those youth presenting to the ED setting who may be at highest risk for STIs to focus limited resources for point of care testing, as universal testing may not be feasible in every setting. Although youth with prior STI may have different characteristics than youth with current STI, given the relationship between past STI and future risk for STI and HIV infection and the concerning recurrence rates, information on the prevalence and characteristics of youth in the ED with prior STI is needed to identify those at risk in order to inform screening, prevention, and treatment efforts to provide an alternative to universal biologic testing (16–19,39,40). The aims of this study are to determine the prevalence of prior STI among sexually active males and females between 14 and 20 years of age in the ED and then to determine correlates of prior STI among this cohort.