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Original Contributions

SEXUAL HISTORY TAKING IN THE EMERGENCY DEPARTMENT – MORE SPECIFICITY REQUIRED

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□ **Abstract—Background:** ***Chlamydia trachomatis*** **(CT) and** ***Neisseria gonorrhoeae*** **(GC) are the most reported diseases in the United States, and emergency departments (ED) serve a population presenting with increased infection risk. However, identifying patients for whom sexually transmitted infection (STI) screening is appropriate requires accurate sexual history reporting. Study Objectives: To examine the consistency with which ED patients answer general and specific sexual activity questions, and how responses relate to perceived STI risk. Methods: Urban ED patients aged 15–34 years completed a sexual history survey containing sexual activity and perceived infection risk questions and provided urine and pharyngeal specimens for CT/GC analysis. Results: Participants included 192 males and 301 females with a mean age of 25.2 years and were 65.7% white and 33.3% black. Thirty-eight (7.7%) were infected with CT or GC. In patients denying sexual activity in the past year (general question), 40.7% of such males and 45.0% of females also reported some form of specific sexual activity (activity misclassification). Among self-identified heterosexuals, 7.2% males and 7.5% females reported some form of homosexual activity (orientation misclassification; OM). OM individuals were more likely to perceive themselves at risk of infection both orally (odds ratio 2.92, confidence interval 1.12-7.63) and genitally (odds ratio 3.36, confidence interval 1.55-7.30). Conclusions: Given that reported sexual activity and age are the only criteria for routine female screening, and that homosexual activity is one of the few screening criteria for males, our results show that a substantial proportion of ED patients eligible for screening may not be identified by reliance upon general sexual history questions.** © **2015 Elsevier Inc.**

□ **Keywords—emergency department; sexual history; sexually transmitted infection;** ***Chlamydia trachomatis*****;** ***Neisseria gonorrhoeae***

INTRODUCTION

Chlamydia trachomatis (CT) and *Neisseria gonorrhoeae* (GC) are the most commonly reported diseases in the United States (US), with 1,412,791 and 321,849 cases reported, respectively, in 2011, with females aged 15–24 years at highest risk for infection of both organisms (1). Infection incidence in both sexes has increased in the past year, most likely due to increased screening efforts and improvements in laboratory testing. Due to the asymptomatic nature of most chlamydial infections and the potential for significant morbidity and cost, the Centers for Disease Control and Prevention recommends annual CT screening for all sexually active females under the age of 26 years (2). Although the National Committee for Quality Assurance reports increased chlamydia screening, many at-risk men and women are not being tested due to a lack of health care provider awareness and limited resources to support these screenings (3). Emergency departments (EDs) are already significant screening providers for a large number of adolescents and young adults, with adolescents aged 11–21 years comprising 15.8% of all ED visits (4). Previous studies show that instituting routine sexually transmitted infection (STI) screening in the ED is feasible and cost effective (5).

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Our previous work indicates that limiting CT/GC screening by patient-provided sexual history information further refines screening criteria while still providing testing to the majority of infected individuals (6).

Sexual history reporting is vital for properly identifying patients with increased risk for STI. However, such reporting can be influenced by many factors, including: confusing medical terminology, understanding of questions, variable definitions of what constitutes sexual activity, and self-identified sexual orientation. One study found that many respondents were unfamiliar with STI terms such as chlamydia, nongonococcal urethritis, trichomoniasis, or genital warts, and could not correctly identify the symptoms associated with these infections (7). Individual conceptions of what constitutes "sexual activity" can also vary dramatically among patients. For example, in a survey of undergraduate students from 29 Midwestern US universities, nearly 60% of respondents indicated that oral-genital contact did not constitute having "had sex," and 19% of respondents did not regard anal intercourse as having "had sex" (8). Patients may not report sexual activity despite genital contact with another individual, and one study even found respondents were more likely to classify a sexual behavior as abstinence if no orgasm was involved (9). Just as the definition of sexual activity varies widely by individual opinion, a patient's identification with a certain sexual orientation varies from person to person and may even change over time. Recorded as a part of the National Health and Nutrition Examination Survey during 2001–2006, of the 7.1% of women who reported ever having sex with women, 52.6% self-identified as heterosexual/straight (vs. bisexual, lesbian, other categories) (10). Similarly, of the 5.2% of men who reported ever having sex with men, 35.3% self-identified as heterosexual/straight (11). This last statistic is particularly troubling, as men who have sex with men are at increased infection risk and should be screened at least annually, but may be missed if they do not identify as such.

ED clinicians serve a population at increased risk of STI, with overall prevalence rates in excess of 0.9–8.1% for CT and 0.9–3.9% for GC (12,13). Such rates are frequently observed even among those presenting without any STI symptoms (e.g., CT and GC at 6.3% and 0.8%, respectively) (14). However, the time required to perform a comprehensive sexual history is substantial, with one study reporting time in the 45- to 60-min range (15). There is seldom the time to perform such individual risk assessments in the ED environment, and sexual history questioning may be brief and of limited specificity. This brevity may negatively impact the accuracy of patient-provided information and lead to misclassification of an individual's infection risk. Whereas some ED studies have found a high concordance rate when comparing physician-elicited sexual histories with self-administered questionnaires (e.g., Goyal et al, Spearman rho = 0.90), others have shown that patients misreport sexual health information in face-to-face interviews, specifically under-reporting high-risk sexual behavior (e.g., females reporting fewer male partners; HIV-positive males reporting fewer risky activities) (16–18). For example, DiClemente, et al. found that more than 10% of young adult STI-positive patients reported abstinence from sexual intercourse in the last 12 months (19).

The purpose of this study was to determine the degree of concordance between general and more-specific sexual history questions administered via survey to ED patients. We were particularly interested in the utility of two generalized questions: *Have you been sexually active in the past year?* and *What is the gender of your partner?* Both questions have significance regarding estimating individual infection risk and the appropriateness of screening. In the first case, a response of no sexual activity in the past year reduces the suspicion of infection and makes screening inappropriate for either gender, whereas a report of a same-gender partner increases the suspicion of infection and automatically makes screening appropriate for males. Exploring how ED patients answer these general, and other more specific, activity questions will provide insight into how ED patients define and report sexual activity, perceive their risk of genital or oral CT/GC infection, and how to develop more accurate sexual health questions to identify those at increased risk.

METHODS

The study was conducted June 2012–March 2013. Patients were eligible if they were aged 15–34 years, presented to the ED between 10 a.m. and 4 p.m. with a low-acuity complaint, and were not otherwise involved with visit-based clinical care. Participants completed informed consent and a sexual history survey, provided both a urine sample and oropharyngeal swab for CT/GC testing, and received a $10 incentive. All samples were analyzed using nucleic acid amplification. Individuals testing positive for any infection were to be directed to our partnering local health department for follow-up and treatment.

Questionnaires were self-administered, took approximately 5 min to complete, and were identical for males and females. Questions were based, in part, upon those listed as part of obtaining a sexual history in the Centers for Disease Control *Sexually Transmitted Diseases Treatment Guidelines*, 2010 (2). Whereas some questions were gender-neutral (e.g., *Have you been sexually active in the past 12 months?*), others were gender-specific (e.g., *How many different male partners have you had in the past 12 months?*). And more general