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Adolescent Attitudes Towards Sexually Transmitted Infection Screening in the Emergency Department

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Abstract

Objectives—Adolescents who seek care in emergency departments (EDs) are often at high risk for sexually transmitted infections (STIs). The objective of this study was to assess adolescent attitudes towards ED-based STI screening.

Methods—We conducted a secondary analysis of a cross-sectional study that evaluated STI screening acceptability and prevalence when STI testing was universally offered to asymptomatic adolescents presenting to the ED for care. Adolescents 14–21 years old completed a computerized survey and answered questions regarding attitudes towards ED-based STI screening and sexual behavior. We performed multivariable logistic regression to compare differences in attitudes towards ED-based STI screening among patients who agreed versus declined STI testing.

Results—326 of 553 (59.0%) adolescents agreed to be tested for STIs. The majority (72.1%) believed the ED was an appropriate place for STI screening. Patients who agreed to be tested for STIs were more likely to positively endorse ED-based STI screening than those who declined STI testing (77.0% vs 64.8%; aOR 1.6, [95% CI 1.1, 2.4]). Most (82.6%) patients stated they would feel comfortable getting tested for STI's in the ED. There was no difference in comfort level of ED-based STI testing between those who agreed and declined STI testing (83.5% vs 81.4% aOR 1.1, [95% CI 0.7, 1.8]).

Conclusion—Our results suggest that adolescents view the ED as an acceptable location for STI screening. Therefore the ED may serve a role in increasing the accessibility of STI detection and prevention resources for adolescents.

Keywords

Adolescents; Sexually Transmitted Infections; Emergency Department; Screening

INTRODUCTION

Approximately half of the 20 million new cases of sexually transmitted infections (STIs) in the United States (U.S.) occur in people between the ages of 15 and 24.^{1,2} One in four sexually active adolescent females has an STI.³ The majority of STIs are asymptomatic, and if left undiagnosed and untreated, can lead to serious complications such as infertility, ectopic pregnancies or pelvic inflammatory disease.⁴

While there are national guidelines recommending routine-screening for sexually active patients, physicians report adherence to screening guidelines less than a third of the time during routine health visits.⁵⁻⁷ Furthermore, in 2003 only 30% of women age 25 years and younger with commercial health care plans and 45% of women with Medicaid plans were screened for chlamydia.⁸ One explanation for low STI screening rates among adolescents may be STI screening efforts have traditionally been focused around primary care, and adolescents have the lowest rates of primary care use compared to all other pediatric age groups.^{9,10} Alternatively, adolescents frequently access the emergency department (ED) for care, comprising 14.8 million ED visits annually.¹¹ Furthermore, approximately 1.5 million adolescents rely on EDs as their primary source of health care.^{11,12} Therefore, adolescent patient encounters in the ED may offer a strategic opportunity to address missed opportunities for STI screening, prevention and treatment efforts.

Elucidating barriers to the accessibility of STI services is crucial to the development of effective prevention efforts.¹³ Established barriers to STI services include system level obstacles such as cost, long waiting times, and unfavorable clinic schedules and hours.¹⁴ Given these barriers, patients often access the ED for care. EDs have a perceived quicker wait time and are open 24 hours a day.¹⁴ Other documented reasons for not seeking STI services include perceived interpersonal barriers such as fear of judgment from the doctor and confidentiality.¹⁵ Furthermore, social barriers such as stigma attached to STIs and increased sensitivity to other's perception of themselves also play a role in hindering STI screening efforts.¹⁶ As such, patients may be more inclined to select the ED for care because they do not have an established relationship with the providers and have a lower likelihood of seeing the provider again. However, STI testing is infrequently performed in the ED.^{17,18}

We recently evaluated STI screening acceptability and prevalence when STI screening was universally offered to an asymptomatic adolescent ED population.¹⁹ The goal of this secondary analysis was to explore adolescent attitudes towards ED-based STI screening.

METHODS

Study Design and Population

We conducted a secondary analysis of a cross-sectional study that evaluated STI screening acceptability and prevalence when STI screening was universally offered to asymptomatic adolescents seeking care in a large, tertiary, urban pediatric hospital ED from December 2013 to July 2014. Patients between the ages of 14 to 21 presenting to the ED with non-STI related complaints were eligible for participation. For the purposes of this study, STI related complaints for females were described as: lower abdominal pain, concern for STI, vaginal

discharge with or without lesions, itching and or bleeding, hematuria, dysuria, flank pain, pelvic pain and rectal or anal pain. STI related chief complaints for males were defined as: penile, scrotal or testicular concerns, rectal or anal pain, urinary problems or dysuria. Patients were excluded from participation if they were not literate in English, critically ill, developmentally delayed, presented with altered mental status/psychiatric emergency, victim of assault, or were in police-custody. The hospital's Institutional Review Board approved the study.

Data Collection

Patients who enrolled in this study completed a computerized survey (LimeSurvey Software)²⁰ through the use of a handheld tablet and answered questions regarding attitudes towards ED-based STI screening during their ED visit. The survey also collected information on demographics and sexual behavior.

Data Analysis

We assessed attitudes towards STI screening and compared them among adolescents who agreed to and declined STI testing. Survey items consisted of 5-point Likert scale-type questions (strongly agree to strongly disagree) and were dichotomized for analyses with strongly agree and agree as one category. We performed multivariable logistic regression to compare differences in attitudes towards ED-based STI screening among patients who agreed versus declined STI testing. We included all variables with p-values of <0.2 on bivariable analyses in our final multivariable models. Data were analyzed using STATA vs. 12.0.

RESULTS

A total of 553 adolescents were enrolled in this study. The study population had a mean age of 16.1 (SD $\pm$ 1.8) years, was half female, primarily of non-Hispanic black race/ethnicity, and publicly insured. Almost 50% of the population reported being sexually active (Table 1). Of the 553 adolescents in the study, 326 (59.0%) agreed to be tested for STIs.

The majority of participants in the study (72.1%) believed the ED was an appropriate place for STI screening. Patients who agreed to be tested for STIs were more likely to positively endorse ED-based STI screening than those who declined STI testing (77.0% vs 64.8%; OR 1.8, 95% CI 1.2, 2.7). Most (82.6%) patients stated they would feel comfortable getting tested for STI's in the ED. There was no difference in comfort level of ED-based STI testing between those who agreed (83.5%) and declined (81.4%) STI testing (OR 1.2, 95% CI 0.7, 1.8). One third of patients responded that they were worried about their parents finding out about STI testing. However, there was no difference between confidentiality concerns between those who agreed (34.3%) and declined (32.1%) STI testing (OR 0.9; 95% CI 0.6, 1.3) (Table 2).

In a multivariable model that adjusted for age, gender, insurance status, and sexual activity, adolescents who agreed to be tested for STIs were more likely to believe that the ED was an important venue for STI screening (aOR 1.6, 95% CI 1.1, 2.4) and were more likely to believe doctors and nurses should ask adolescents in the ED about sexual health (aOR 1.5,

95% CI 1.0, 2.1). Participants who accepted testing were also more likely to believe the ED served as a good place for adolescents to answer questions about sexual health (aOR 1.7, 95% CI 1.2, 2.5). However, there was no difference between those who agreed to be tested versus those who declined and a belief that they would want doctors in the ED to ask adolescents about their sexual activity (aOR 1.4, 95% CI 0.9, 2.0).

DISCUSSION

Our study found that most adolescents are comfortable discussing their sexual health with ED clinicians and being screened for STIs in the ED even when they present for non-STI related complaints. These results were seen amongst all participants including those who did not consent to STI screening during the visit. This is an important finding, as access to healthcare is a major barrier to reducing STIs among adolescents,¹⁰ and previous studies demonstrate that adolescents report frequent use of the ED.^{11,12,21}

Recent reports have revealed high rates of STI screening acceptance among adolescents in the ED.^{19,22,23} Previous studies of clinicians reported perceived patient discomfort as the reason for not conducting sexual histories or performing STI screening.²⁴ Our study, which explored adolescent attitudes towards ED-based STI screening found the majority believe the ED is an appropriate place for STI screening, want to discuss their sexual health with clinicians, and feel comfortable receiving STI services in the ED. These results suggest that perceived discomfort is not a true barrier, and should not discourage clinicians from screening patients for STIs in the ED.

The ED encounter may serve as the only opportunity for clinicians to screen and treat high-risk, often asymptomatic adolescents.²⁵ Our study demonstrates adolescents' desire for ED clinicians to engage in sexual health discussions, regardless of why they presented to the ED. The majority of participants not only wanted the clinicians to initiate these discussions, but they also believed the ED is an appropriate setting to respond to these questions. Previous studies have shown similar results, with adolescents reporting they prefer the clinician to initiate the conversation because they feel uncomfortable starting the conversation; however, these studies were not conducted solely in the ED.^{30,31}

Prior data have revealed that adolescents often cite perceived anonymity, confidentiality, and privacy as factors influencing them to visit the ED in placed of a primary care clinic for non-urgent health issues.^{11,15,26} Adolescents in other studies have previously reported that they would stop receiving care or delay screening if their parents were notified.²⁷ About one-third of our sample indicated they were concerned about confidentiality when getting tested in the ED; however, our results suggest that this concern did not affect their acceptance of screening. These results demonstrate that adolescents have a desire for STI screening, and innovative methods for confidential STI screening are warranted.

The results from this study should be considered in light of several potential limitations. We used a convenience sampling strategy, so patients were only enrolled when research staff were available. However, risk of missing patients was minimized because our research assistants enrolled patients 7 days a week from 8 am until 11 pm. Furthermore this study

was conducted in a single pediatric ED with a high community prevalence of STIs. Therefore, our results may not be generalizable to other geographical areas or healthcare settings. The survey responses may be prone to social desirability bias because of the sensitive nature of the topic. In order to decrease the risk for bias, we used a computerized survey as literature suggests that adolescents are more likely to honestly report information through computerized questionnaires when compared to face to face interviews.^{8,28} Finally, the findings of this study may also be prone to responder bias as our survey relied on participants to consent to the study, and therefore does not include the opinions of people who declined participation.

In conclusion, adolescents find STI screening in the ED acceptable. Therefore, the ED could potentially serve as a strategic venue for adolescent STI detection and treatment. Offering STI services in the ED may reduce the morbidity, mortality, and further transmission of STIs. Future studies should explore interventions that can study the impact of ED-based STI screening on a population level, examine provider attitudes towards ED-based STI screening and incorporate STI screening into the ED workflow.

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Table 1

Descriptive Characteristics of Patients

Mean Age(SD)		16.1 (+/-1.8) years
		N (%)
Female Gender		293 (52.4%)
Race/Ethnicity	White, Non-Hispanic	40 (7.3%)
	Black, Non-Hispanic	376 (68.9%)
	Hispanic	81 (14.8%)
	Other	49 (9.0%)
Insurance status	Private	156 (28.2%)
	Public	377 (68.2%)
	Uninsured	20 (3.6%)
Sexually Active		264 (47.7%)

Table 2

Patient Attitudes Towards ED-based STI Screening

	Total N (%)	Agreed to STI Test N (%)	Declined STI Test N (%)	OR	aOR*
The ED is a good place to be tested for STIs	384(72.1%)	244(77.0%)	140(64.8%)	1.8(1.2,2.7)	1.6(1.1, 2.4)
Comfortable getting tested for STIs in the ED	443(82.7%)	264(83.5%)	179(81.4%)	1.2(0.7,1.8)	1.1(0.7,1.8)
Want doctors in the ED to ask adolescents about their sexual activity	300(56.9%)	190(60.7%)	110(51.4%)	1.51(0.2,1)	1.4(0.9,2.0)
Believe the ED is a good place for adolescents to answer questions about sexual health	348(65.3%)	221(70.2%)	127(58.3%)	1.7(1.2,2.4)	1.7(1.2,2.5)
Worried about parents finding out about STI testing	176(33.4%)	107(34.3%)	69(32.1%)	0.9(0.6,1.3)	0.8(0.6,1.2)

* Adjusted for age, gender, insurance status and sexual activity