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ORIGINAL CONTRIBUTION

Adolescent Patient Preferences Surrounding Partner Notification and Treatment for Sexually Transmitted Infections

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Abstract

Objectives: Important barriers to addressing the sexually transmitted infection (STI) epidemic among adolescents are the inadequate partner notification of positive STI results and insufficient rates of partner testing and treatment. However, adolescent attitudes regarding partner notification and treatment are not well understood. The aim was to qualitatively explore the barriers to and preferences for partner notification and treatment among adolescent males and females tested for STIs in an emergency department (ED) setting and to explore the acceptability of ED personnel notifying their sexual partners.

Methods: This was a descriptive, qualitative study in which a convenience sample of 40 adolescents (18 females, 22 males) 14 to 21 years of age who presented to either adult or pediatric EDs with STI-related complaints participated. Individualized, semistructured, confidential interviews were administered to each participant. Interviews were audiotaped and transcribed verbatim by an independent transcriptionist. Data were analyzed using framework analysis.

Results: Barriers to partner notification included fear of retaliation or loss of the relationship, lack of understanding of or concern for the consequences associated with an STI, and social stigma and embarrassment. Participants reported two primary barriers to their partners obtaining STI testing and treatment: lack of transportation to the health care site and the partner's fear of STI positive test results. Most participants preferred to notify their main sexual partners of an STI exposure via a face-to-face interaction or a phone call. Most participants were agreeable with a health care provider (HCP) notifying their main sexual partners of STI exposure and preferred that the HCP notify the partner by phone call.

Conclusions: There are several adolescent preferences and barriers for partner notification and treatment. To be most effective, future interventions to prevent adolescent STIs should incorporate these preferences and address the barriers to partner notification. In an ED setting, using HCPs to provide partner notification of STI exposures is acceptable to adolescent patients; however, the feasibility of this type of program needs further exploration.

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A sexually transmitted infection (STI) epidemic exists among U.S. adolescents, and our region ranks in the top third of cities for chlamydia cases per capita.[1] Our previous research demonstrated that, at our institution, nearly 40% of adolescent women recruited for an STI study from the emergency depart-

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ment (ED) were infected with an STI, including chlamydia (24%), trichomoniasis (19%), and gonorrhea (15%).[2] It has been documented that up to 30% of women with either chlamydia or trichomoniasis are reinfected within 3 months of the initial diagnosis.[3–5] This suggests that interventions among adolescents, including improved partner notification, testing, and treatment, are needed to decrease the transmission of STIs in this population.[6]

A substantial barrier to addressing the STI epidemic among adolescents is inadequate partner notification and treatment. This has historically been a responsibility of public health departments. In our community, even though cases of chlamydia and gonorrhea are reported to the health department, the health department takes no further action to notify partners. Therefore, the responsibility lies with the patient, the provider, or the system in which the test was ordered. Due to barriers such as funding constraints within the public health system, most physicians now rely on the patient to notify his or her partner.[7] This method has been shown to be most effective when the patient is in a long-term relationship with the identified partner.[8] However, long-term relationships are not the norm for adolescents. One study, conducted in an adolescent clinic setting, demonstrated that only 66% of sexual contacts were notified by either the patient or the provider. Significantly more provider-notified partners than patient-notified partners reported treatment (55% vs. 37%; $p = 0.05$).[9] In our previous work in a teen health clinic and ED combined population, 48% of infected females reported partner testing.[2]

Additionally, adolescents may lack the communication skills and developmental maturity to address such difficult topics as STIs with their partners. Several authors have suggested that patient-delivered partner treatment (the patient physically takes the medication to the partner for treatment) is an alternate way to treat infected partners; however, this approach has several limitations, and some authors suggest that this method may not be any more effective than self-referral of partners for testing and treatment. Schillinger et al.[10] demonstrated that in 14- to 34-year-old women, there was no difference between patient-delivered partner treatment versus self-referral of partners for prevention of chlamydial repeat infections. Khan et al.[11] demonstrated that a large percentage of partners had different STIs or new STIs in addition to the STI reported in the index patient; therefore, presumptive treatment without testing would miss further STI diagnoses. Finally, patient-delivered partner treatment is not currently legal in many states, including here in Ohio. For these reasons, provider-based partner notification is a viable alternative to address the STI rates among adolescents.

To our knowledge, no studies have addressed partner notification or treatment specifically in an ED setting. At this time, there is no system in place to provide partner notification or treatment in many ED systems. Therefore, we aimed to determine barriers and preferences regarding partner notification among adolescents in the ED and to explore the acceptability of ED personnel notifying their sexual partners.

METHODS

Study Design

This study was conducted in both adult and pediatric EDs using a qualitative exploratory design. The study was approved by Cincinnati Children's Hospital Medical Center (CCHMC) institutional review board (IRB), which waived the requirement for parental consent for those less than 18 years of age. This waiver allowed adolescents to participate without breaking our state law regarding mandated confidentiality between adolescents and their health care providers (HCPs) for reproductive health care. The adult hospital, the University Hospital, University of Cincinnati Medical Center, approved the study with reliance on the CCHMC IRB. Verbal informed consent or assent was obtained from all participants.

Study Setting and Population

Both EDs are located in urban, academic health care centers within close proximity to each other. Because we know that a proportion of older adolescents and young adults and/or partners of the pediatric ED patients may visit the adult ED for STI care, half of the interviews were conducted at each site. We used a purposeful sampling method to enroll a total of 40 females and males 14 to 21 years of age who presented to the ED with STI-related chief complaints.

Study Protocol

Semistructured interviews were conducted by three trained interviewers (RT, GG, CH) experienced in working with the adolescent population. Participants were interviewed in a private area to maintain privacy and confidentiality. An interview guide was developed by a multidisciplinary team and was used to provide consistency and guide the interviews. Probing questions were used as needed based on participant responses. Key topics discussed included barriers and risks experienced when notifying a partner, barriers to partners seeking treatment, preferences for partner notification (phone call vs. text message vs. letter, etc.), suggestions for where and how their partner(s) would receive the appropriate treatment (i.e., ED vs. primary care provider vs. health department), and acceptability of a HCP contacting their partners. All interviews were audiotaped with participant permission, and audiotapes were transcribed by an independent transcriptionist. Transcripts and any notes taken were cleaned, edited, and imported into NVivo 9 software (QSR International, Burlington, MA) to organize themes and code direct quotations. Any names found in the transcripts were replaced with pseudonyms prior to data analysis. Each participant received a small monetary compensation for his or her participation in the study.

Data Analysis

The interview data were analyzed using the five phases of framework analysis.[12] In phase 1 (*familiarization*), the investigators (JR, RT, GG) independently read through the transcripts reaching consensus regarding recurrent themes and important ideas. In phase 2 (*identification of a thematic framework*), the authors collaborated to develop an organizational model for the themes. In

phase 3 (*indexing*), the data were systematically labeled according to the thematic framework. In phase 4 (*charting*), direct quotations from the interviews were formulated into a master chart with headings and subheadings. All discrepancies were reviewed until consensus was reached. In phase 5 (*mapping and interpretation*), the investigators used any existing literature to identify potential linkages between concepts and mechanisms underlying adolescents' perceived barriers to and suggestions for partner notification and treatment. Trustworthiness of the data and findings was accomplished through investigator triangulation (i.e., several investigators analyzing the data and coming to consensus on the thematic analysis), data source triangulation (i.e., analyzing data across each interview), debriefings between the interviewees and team members not involved in data analysis, and verifying the accuracy of transcripts to the audio recordings.[13]

RESULTS

There were 40 participants in the study; 20 were recruited from each study site. Study demographics are summarized in Table 1. Four themes were derived from the data: barriers to partner notification, barriers to partner treatment, preferences for partner notification, and preferences for partner treatment.

Barriers to Partner Notification

The three primary concerns that participants cited as barriers to notifying their partners of an STI exposure were fear of retaliation from the partner, being "scared" of the partner's response, or the loss of the current relationship (n = 16). Additional barriers to partner notification included a lack of understanding or being concerned about the short- and long-term consequences of an STI (n = 5). Last, several participants expressed a fear of violation of privacy, embarrassment, or being socially stigmatized (n = 11). Illustrative quotes of the barriers to partner notification are shown in Table 2.

Perceived Partner Barriers to Treatment

Participants were asked to describe factors that might prevent their partners from seeking STI testing and treatment, if they were informed of an STI exposure. First, participants expressed several barriers to receiving medical care including the lack of transportation to the health care site (n = 4), the fear of STI positive test results (n = 3), and insufficient time (n = 1). Second, participants noted that poor knowledge of the short- and long-term consequences of STI and treatment regimens prevented partners from pursuing testing and treatment for STI exposures (n = 5). The remainder of the participants did not report any barriers to partner treatment. Illustrative quotes of the barriers to partner treatment are in Table 3.

Table 1
Demographics of Participants

Characteristic	CCHMC	UCMC	Total
Sex (*n*)			
Male	10	12	22
Female	10	8	18
Age (yr)			
Median	18	19.5	19
Range	14–20	17–21	14–21
Race (*n*)			
Black	17	14	31
White	0	6	6
Biracial/multiracial	3	0	3

CCHMC = Cincinnati Children's Hospital Medical Center; UCMC = University of Cincinnati Medical Center.

Preferred Methods of Partner Notification

Most participants preferred notifying their main sexual partners of an STI exposure via a face-to-face interaction or a phone call. Two suggested using an online method of notification (i.e., Facebook). However, 80% (n = 32) of participants reported that it would be acceptable to them if a HCP were to notify their main sexual partners of an STI exposure. Most preferred that the HCPs notify the partners by phone call, and approximately 20% (n = 8) preferred that the HCPs notify the partners using text messaging. Only 18% (n = 7) reported sexual activity with acquaintances or casual partners, and among those participants, preferences for notification included face-to-face interaction (n = 2), a phone call (n = 3), or a text message (n = 3). One of these participants reported either a call or face-to-face interaction would be preferable.

Perceived Partner Preferences for Treatment

Participants expressed a clear preference for how they perceived their partners would like to be treated for STIs; specifically, they perceived that their partners would desire anonymous, convenient care that is easily accessible, focused, efficient, and available outside of normal business hours. Most participants (n = 32, 80%) expressed that their partners would likely access an onsite STI clinic at the children's hospital for STI treatment. Most participants who indicated their partners would not access this care noted that the partner was older than 21 years of age, which would preclude the partner from being seen at the children's hospital. Five participants expressed concern regarding the use of an onsite STI clinic because other patients would know exactly what the participant was seeking care for, and thus it would breach doctor–patient confidentiality.

DISCUSSION

Partner notification of STI exposures is vital to decreasing the rates of STIs among adolescents. At a population level, treatment of current partners is most important in reducing transmission rates and preventing reinfection, and at the individual level, notifying three or more partners in the preceding 18 months produces a significant number of previously undiagnosed STIs.[14] Thus it is important to explore new opportunities to notify and treat exposed partners.[15] In our community, many adolescents receive care for STIs at either the local children's hospital or the affiliated adult academic center (in part due to the lack of public health

Table 2
Barriers to Partner Notification Themes With Illustrative Quotations

Theme	Illustrative Quotations
Fear of retaliation or loss of relationship	"Yeah, because you don't know how a person is going to take it or is that person going to hurt you or spread a rumor, so that is one of the biggest concerns." "Now days on the streets, if somebody says [he/she has an STI], they are going to try to do something to you."
Social stigma or embarrassment	"Maybe they are embarrassed, ashamed or maybe they cheated." "Because people are making fun of people when they get it."
Lack of understanding or concern of the consequences associated with STIs	"If I see that they [a partner] don't care, then I would just leave them alone." "A lot of guys don't really tell and that's the biggest problem with STDs . . . so, nobody really goes to get checked or calls to say I have something." "People don't see STDs as being a big thing."

STD = sexually transmitted disease; STI = sexually transmitted infection.

Table 3
Perceived Barriers to Partner Treatment Themes With Illustrative Quotations

Theme	Illustrative Quotations
Lack of transportation to receive medical care	"Yes, transportation probably" [identified as a partner barrier to obtain testing and treatment for an STI exposure] "Finding a way."
Fear of positive STI results	"Unless they don't really want to know. Some people don't want to know . . . as soon as they find out they get all depressed and stuff . . . I don't think they want to know, they are scared." "They are probably scared, dudes don't like going to the doctor for some reason. I don't know why."
Poor knowledge of STIs	"Because I had some symptoms, like little blisters, and I guess it was genital herpes. Well not genital herpes, but it was a type of herpes. It's the one that you can get rid of. But mine, when I went I didn't have herpes, mine didn't get that far, I had gonorrhea."
Poor knowledge of appropriate treatment regimens	"How safe are condoms and the viral and bacterial STDs that are out there? And [what are] treatments for them too?" "They would probably go to the store and buy some penicillin pills and take them." "And another thing is when people go ahead and they get treated, they go home and they think it is OK. It's gone. They don't go by what's on the paper, they go back [to sex] when they think."

STD = sexually transmitted disease; STI = sexually transmitted infection.

services focused on STI care), especially if they are 18 to 21 years of age. Thus, we focused this study on adolescents receiving care at both institutions.

In this sample of youth, our work demonstrated that there are significant barriers to notifying partners of STI exposures. One concerning barrier includes the fear of retaliation, whether that be verbal or physical, among patients who notify partners of STI exposures. Our findings support those of previous authors who found that up to 44% of women in one study worried about physical violence after discussing STI exposures with their partners, and those who had a previous history of intimate partner violence were less likely to notify partners.[16,17] Additionally, we found that embarrassment or social stigma accounted for the lack of partner notification among many participants, which has been demonstrated in previous literature.[18] Finally, the basic lack of understanding of the consequences of untreated STIs proved to be another important reason for lack of partner notification. Although we did not explore barriers for HCPs in providing news of STI exposures to partners, they also face barriers when conveying the news to an exposed partner of their patient. Concerns included the lack of time or staff to provide this service and uncertainties around the legality of contacting those who are not their patients.[18] Because many of these adolescents fear for their safety or reputations when discussing STI exposures with their partners, clinicians need to be sensitive to these concerns and explore alternative options, including provider partner notification, for this subset of patients.

Once a partner is notified of an STI exposure, the partner still needs to obtain the appropriate treatment. Secura et al.[19] demonstrated that despite offering free partner treatment for patients with diagnosed STIs, only 44% of male partners had documentation of appropriate treatment. They also demonstrated that black participants, those not living with their partners, and those who were concerned about contracting STIs from their partners within 3 months were less likely to assure their partners got treated.[19] Our data suggest that poor knowledge of STIs and treatment regimens, along with lack of transportation, fear of positive test results, and concern for a violation of privacy were all participant-perceived barriers to their partners receiving treatment. However, participants perceived that partners would

obtain treatment if there was an anonymous, convenient, care-focused facility that was available outside of normal business hours, such as a dedicated onsite STI clinic. Over 80% of the participants responded favorably that their partners would seek care in this setting. The only barrier expressed was the concern for confidentiality in that others in the waiting areas would be aware of the patient's presumed diagnosis if care was sought in this venue. One strategy that may help adolescents with this concern is having them wait in a common lobby, waiting area, or cafeteria after checking in with clinic staff. The adolescent then could be paged, texted, or called just prior to being taken into the treatment area. This strategy would minimize the intermingling of adolescents seeking care in an STI specialized clinic.

We also explored preferences for partner notification and treatment among adolescents. Similar to previously reported literature among adults and older adolescents, most of our participants preferred to notify their main partners themselves either in person or by a phone call.[17,20–23] We also aimed to explore the partner notification preferences among acquaintances or casual partners. One author reported that patients who had casual partners preferred that a third party (i.e., HCP) notify this partner of an STI exposure.[17] Among our participants, only seven even reported having casual sexual partners; thus, there were insufficient data to make accurate conclusions. The lack of reporting of casual partners among the adolescent population may be because adolescents define a steady partner differently or much quicker than adults. For instance, a partner of a week may be a main or steady partner for an adolescent, but a casual partner for a young adult. Knowing that most adolescents would prefer to notify their partners themselves, providers must provide tools and support to encourage these adolescents to do so. Because adolescents may lack the communication skills and developmental maturity to address such difficult topics as STIs with their partners, methods such as providing adolescents with instruction and videos suggesting how to have that conversation may be valuable.

Health care provider notification of partners who are exposed to STIs is the method most commonly used in public health settings. An advantage to provider notification is that it allows for verification that partners were notified and encouraged to seek treatment. Over 80% of our participants found this method acceptable, and most preferred that the HCP notify partners through a phone call or a text message. Previous literature shows that among youth health center patients in Sweden, only 73% of partners were able to be notified even when this service was provided by the HCPs at the health centers.[24] This suggests that it is important to have multiple contact strategies to notify partners, as well as a follow-up plan to contact patients for assistance when provider efforts were not effective in contacting partners.

Notification methods using the Internet have been suggested as well, and authors have reported that youth are receptive to using these online programs for sexual health services.[25] In our study, only two participants suggested using online methods (i.e., Facebook) for communicating STI exposures to partners. Despite the reported interest among adolescents in using these methods, studies have demonstrated poor use of these Internet-based programs for partner notification.[26,27]

LIMITATIONS

We aimed to include a diversity of races and ages by recruiting equal numbers of patients within specified demographic stratums. However, we were having difficulty reaching our enrollment goals within the designated recruitment time period. Thus, we focused on recruiting any age that met our enrollment criteria regardless of race. Consequently, the majority of the participants were black and older adolescents, and thus the findings reflect the experiences of this population. Second, participants were recruited from two urban settings. The perceptions of adolescents in suburban and rural settings may differ from our findings. We also did not solicit information on sexual orientation. While one participant did self-report being in a same-sex relationship, it was not known if the sexual orientation of the participant influenced his or her willingness to notify partners of STI exposure. This study also relied on patients' perceptions of their partners' STI notification preferences, which may differ from what the partners actually prefer. Finally, this study was conducted in an ED where many patients do not have medical homes and are very transient. These patients may not have access to a phone or text messaging, which may be different from other populations and thus affect findings related to preferences for partner notification.

CONCLUSIONS

There are several adolescent preferences and barriers for partner notification. To be most effective, future interventions to prevent sexually transmitted infections in adolescents should incorporate these adolescent preferences and address these barriers for partner notification. In an ED setting, using health care providers to provide partner notification of exposures is acceptable to adolescent patients; however, the feasibility of this type of program needs further exploration.

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