Relationships Between Perceived STD-Related Stigma, STD-Related Shame and STD Screening Among a Household Sample of Adolescents

CONTEXT: Important barriers to STD testing may include individuals' perceptions of STD-related stigma (negative societal attitudes toward STD infection) and expectations of STD-related shame (negative personal feelings) that would result from a positive STD test. Obtaining a clear understanding of the relationship between STD-related stigma, STD-related shame and STD testing may help inform programs and policies aimed at reducing STD transmission.

METHODS: Measures derived from previously published scales were used to assess perceived STD-related stigma, anticipated STD-related shame and receipt of an STD test in the past year in an urban, household sample of 594 sexually active 15–24-year-olds interviewed in 2004–2007. Logistic regression was used to examine associations between recent STD testing and perceived stigma, shame and other participant characteristics.

RESULTS: Thirty-seven percent of males and 70% of females reporting having had an STD test in the past year; the largest proportions of tests (42% among males and 59% among females) had occurred in the context of a routine health care visit, not because adolescents had had disease symptoms or were concerned about exposure to infection. For both males and females, the level of STD-related stigma was negatively associated with the odds of having been tested (odds ratio, 0.5 for each). STD-related shame was not related to STD testing.

CONCLUSIONS: Adolescents who view STDs as stigmatizing have a reduced likelihood of being screened, but it is unclear whether this relationship reflects their care seeking or providers' practice of offering STD screening at a routine health visit.

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Chlamydia and gonorrhea are among the 10 most frequently reported infectious diseases in the United States, and the highest age-specific rates occur among 15–24-year-olds.[1] Because of the high prevalence of asymptomatic disease, many cases can be identified only through screening. Nevertheless, a large proportion of vulnerable youth do not seek routine screening or decline to be tested in the absence of symptoms.[2,3] Moreover, as many as one-third of symptomatic patients attending STD clinics report having delayed seeking testing and treatment for more than a week after the onset of symptoms or notification about an exposure.[4–6] Current medical guidelines recommend that chlamydia screening be offered to all sexually active adolescents at least annually as part of routine primary care visits.[7] However, not all providers use such visits as an opportunity to screen and treat adolescents for STDs. For example, data from a population-based survey in San Francisco suggest that among black adolescents who had made a primary health care visit since their sexual debut, only 20% of males and 40% of females had been screened for an STD during that visit.[3]

Stigma associated with STDs may be an important barrier to STD prevention and care.[2,5,8,9] Stigma occurs when individuals are set apart from others and linked to negative evaluations because they have or are imagined to have a particular trait;[10,11] it may take one of two forms—perceived stigma or self-stigma. Perceived stigma refers to individuals' fears that they will be subjected to negative societal attitudes and discrimination because they have a particular trait.[12] Self-stigma, or shame, refers to individuals' negative attitudes about themselves as a result of internalizing stigmatizing ideas held by society.[13] Qualitative work suggests that perceived stigma may contribute to delays in seeking STD screening and care.[14,15] Similarly, shame is a common theme of individuals' reactions to STD diagnoses and, in turn, may directly influence testing or care-seeking behaviors.[16] Alternatively, instead of accepting demeaning social definitions, some people may acknowledge the stigma associated with a particular attribute but contest the meanings assigned to it and to them.[17] Individuals who do not think that they would internalize negative stereotypes if they tested positive for an STD may be more likely than others to be tested. In either case, STD-related shame may be more amenable to intervention, particularly clinical intervention, than stigma has been shown to be.[18]

In one empirical analysis, the belief that others hold negative attitudes toward individuals with STDs was positively associated with the interval between adolescent females' recognition of STD symptoms and their decision to seek care.[2] Among adolescent females, the perceived negative attitudes of others has also been associated with decreased likelihood of recent STD testing.[5] Likewise, a

TABLE 1. Results of factor analysis of measures used to assess perceived STD-related stigma and STD-related shame among a sample of 15–24-year-olds living in Baltimore, 2004–2007

Measure	Factor loading	
	Stigma	Shame
How respondents think people would react if they had an STD		
Would avoid them	0.71	na
Would think they were unclean	0.76	na
Would not want to be friends with them	0.80	na
Would be disgusted by them	0.86	na
Would be uncomfortable around them	0.87	na
Would think they have bad morals	0.84	na
Would think they are hanging out with the wrong crowd	0.70	na
Would think they do not take care of themselves	0.77	na
Would think they are weak and foolish	0.71	na
How respondents think they would feel if they had an STD		
Ashamed	na	0.83
Embarrassed	na	0.84
Guilty	na	0.82
Scared	na	0.80
Disappointed in themselves	na	0.80

Notes: The first set of items were scored on a four-point scale indicating level of agreement with the statement; the second set were scored on a four-point scale indicating intensity of the emotion. na=not applicable.

study of the association of STD-related stigma with sexual health care among adult women attending a community clinic program found shame to be negatively associated with having received an STD test in the past year.[9] Other studies, however, have not found STD-related shame to be an obstacle to STD testing,[2,8] and neither stigma nor shame has been associated with STD testing among adolescent males.[2,5]

While available evidence suggests that STD-related stigma is more strongly related than shame to individuals' likelihood of seeking appropriate services, research assessing these relationships suffers from some important limitations. Adolescents are the population most at risk for contracting an STD, yet little is known about how STD-related stigma and STD-related shame are related to their care-seeking behaviors. Adolescents may be more sensitive to social judgments and the opinions of their peers than other age-groups. Moreover, because they are not necessarily autonomous health care consumers, logistical problems associated with obtaining care, such as transportation or financial difficulties, might be magnified for adolescents in the face of perceived STD-related stigma. Additionally, research assessing the relationship between STD-related stigma, STD-related shame and STD test seeking has been conducted predominantly in clinic-based populations; thus, the findings cannot be generalized to persons who do not actively seek health care. Most analyses have failed to control for known correlates of STD screening other than gender (for example, experience with a positive diagnosis) that may influence the relationship between STD-related stigma, STD-related shame and STD testing. Small sample sizes may also have limited the ability of previous studies to detect associations, particularly among adolescent males.

Given the limitations of previous research, the objective of this study was to examine, among a household sample of sexually active adolescents, the relationship between STD-related stigma, STD-related shame and the receipt of an STD test in the past year. We hypothesized that level of STD-related stigma would be negatively associated with adolescents' likelihood of having received an STD test in the past year. In addition, we posited that adolescents' anticipated levels of STD-related shame from a positive STD test would be negatively associated with their likelihood of having undergone recent screening.

METHODS

Study Design

We conducted a household study from April 2004 to April 2007 in Baltimore City, Maryland; the target population was English-speaking, sexually active persons aged 15–24. Sampling selection was conducted in two stages—the first involving the selection of neighborhoods (i.e., census block groups), and the second involving the selection of households.

In the first stage of selection, 710 census block groups were categorized by gonorrhea prevalence and number of households with at least one resident aged 15–24. Gonorrhea rates per 100,000 individuals aged 15–49 were generated from public health surveillance data for 1994–1999,[19] and estimates of eligible households were generated using information from the 2000 census.[20] To be eligible for selection, census block groups were required to have gonorrhea rates above the 25th percentile and to have at least 35 estimated eligible households. On the basis of these criteria, 486 block groups were eligible for selection. To ensure that the selected block groups included a range of levels of gonorrhea prevalence and poverty and were geographically noncontiguous, we ordered block groups by decile of gonorrhea rates, then by the proportion of households with incomes below the federal poverty line according to the 2000 census and finally by location. A final sample of 65 block groups was selected through a strategy using stratified probability proportional to size and systematic sampling.

To create a household sampling frame, we obtained three address lists from different vendors for the 65 selected block groups—two lists that targeted 15–24-year-olds and one complete list of residential addresses. A total of 27,194 addresses associated with the selected block groups served as the second-stage sampling frame. We used nonlinear optimization to select a sample of 13,873 households in a way that reduced screening costs while controlling for design effects.[21] The target enrollment for each block group was 10 participants.

All sampled households received a letter describing the study; approximately two weeks later, trained research assistants screened sampled households to identify those that had at least one age-eligible individual. Screening was conducted by telephone for the 33% of households for which a telephone number was available and in person for

the rest. Seventy-four percent of sampled households were successfully screened. During the screening, two of the 65 census block groups were found to be composed entirely of retirement communities and thus were excluded. Among screened households, 12% had at least one member who was English-speaking and 15–24 years old; if a selected household had more than one age-eligible person, one was randomly selected for screening. Seventy percent of potentially eligible young people completed a screening for sexual activity. A parent's or guardian's informed consent and the adolescent's informed assent were obtained for potential participants who were younger than 18; informed consent was obtained for those aged 18 or older. The final sample analyzed for this study consisted of 594 participants residing in 63 census block groups, corresponding to an overall interview response rate of 51%.[22]

Once an eligible, consenting individual had enrolled, he or she completed an audio computer-assisted self-interview in a private setting. Questions covered participants' socioeconomic and demographic characteristics, health care–seeking behaviors, and sexual and risk-related behaviors. Depending on when respondents enrolled in the study, they were given $25, $35 or $50 gift certificates for their participation. The increases in the amount of compensation provided were comparable to increases in other studies over the data collection time period. The study protocol was approved by the Western Institutional Review Board for Johns Hopkins University.

Measures

STD testing behavior was assessed by participants' response when asked, "In the last 12 months, have you been tested for a sexually transmitted disease, whether or not you had any symptoms?" Responses were coded as "no STD test in the past year" or "any STD test in the past year." Participants who reported having been screened were asked their primary reason for having been tested. Response options were "experienced a symptom such as unusual discharge or burning when peeing," "contacted [by health care personnel] because someone you had sex with got an STD," "told by partner that [he or she] had an STD, "tested during a routine medical checkup," "tested as part of participation in a study," "had sex and didn't use a condom," "suggested by someone as a good idea" and "other." Additionally, participants were asked whether they had ever received a diagnosis of any of the following STDs: chlamydia, gonorrhea, pelvic inflammatory disease (females only), syphilis, trichomonas, herpes or warts. Those who reported having ever had an STD were asked when it had been diagnosed. Responses were collapsed into "no STD history prior to the past year" and "history of at least one STD prior to the past year." Other data collected included participants' age, sex, race, level of education, lifetime number of sex partners and sexual orientation, as well as their parent's or guardian's level of education.

TABLE 2. Selected characteristics of the sample, by sex

Characteristic	% or mean	
	Males (N=230)	Females (N=364)
% DISTRIBUTIONS		
Race		
Black	86.5	86.8
Other	13.5	13.2
Education level		
<high school*	51.5	39.0
High school degree/equivalent	34.5	34.1
>high school degree/equivalent*	14.0	26.9
Highest grade completed by parent/guardian		
≤high school	58.9	58.9
Some college/technical school	12.8	16.8
≥college degree	28.3	24.3
Sexual orientation		
Heterosexual	92.0	88.7
Gay	4.0	4.6
Bisexual	4.0	6.7
Lifetime no. sex partners		
1–2	30.0	30.0
3–5	21.6	28.7
6–10	18.4	23.5
>10*	30.0	18.8
Had STD test in past year		
No	63.4	30.3
Yes*	36.6	69.7
Had STD ≥1 year ago		
No	87.8	71.7
Yes*	12.2	28.3
Total	100.0	100.0
MEANS		
Age, years (range, 15–24)*	18.8 (2.7)	19.6 (2.6)
Perceived stigma (range, 9–36)*	24.5 (7.0)	22.4 (7.1)
Shame (range, 5–20)	17.1 (3.7)	17.5 (3.5)

*p<.05 for sex difference. *Notes:* For some characteristics, N is reduced because of missing data. Numbers in parentheses are standard deviations.

We measured perceived STD-related stigma and STD-related shame with 14 items adapted from previous research.[2,8] A factor analysis (principal components with varimax rotation) of responses showed that these items fell into two components: stigma, reflecting participants' expectations of negative interactions and judgments associated with STDs; and shame, reflecting participants' expected negative affective states associated with STDs (Table 1). For the stigma scale (Cronbach's alpha, 0.92), participants rated their level of agreement with each of nine statements about what other people would think of them if they had an STD (e.g., "people would avoid you" and "people would think you have bad morals"); possible scores ranged from 1 (strongly disagree) to 4 (strongly agree). For the shame scale (Cronbach's alpha, 0.89), participants rated how intensely they thought they would feel each of five emotions (e.g., embarrassment, guilt and disappointment) if they had an STD; possible scores ranged from 1 (not at all) to 4 (very). For ease of interpretation of results, scale scores below the 50th percentile were classified as "low," and scores at or above the 50th percentile were classified as "high."

TABLE 3. Percentage distribution of adolescents who had had an STD test in the past year, by primary reason for undergoing testing, according to gender

Reason	Males (N=83)	Females (N=251)
Routine medical checkup	42.2	58.6
Experienced symptoms	10.8	8.0
Unprotected sex	8.4	6.0
Testing was suggested by someone	3.6	4.4
Part of participation in a study	3.6	2.8
Was contacted by health care personnel because a partner got an STD	3.6	1.6
Was told by partner that he or she had an STD	3.6	0.4
Other	24.1	17.9
Unknown	0.0	0.4
Total	100.0	100.0

Note: Percentages do not add to 100.0 because of rounding.

Analyses

All analyses were conducted separately for males and females because STD-related stigma may affect adolescents' STD testing behaviors differentially by sex.[2,5] Bivariate analyses were conducted to determine whether study variables differed by gender; assess the level of correlation between variables; and examine the association between STD testing (the outcome) and participants' characteristics and behaviors, including their perceptions of STD-related stigma and expectations of STD-related shame. All variables that were associated with STD testing in bivariate analyses were entered into multiple logistic regression models as single blocks, and odds ratios and 95% confidence intervals were calculated. Generalized estimating equations were used to control for the nonindependence of participants within census block groups.[23] Statistical significance was defined as p<.05. All analyses were performed using STATA Intercooled Version 8.0.

RESULTS

Similarly high proportions of male and female participants—about nine in 10 of each—identified themselves as being black and heterosexual (Table 2, page 227). Males and females also were similar with respect to highest level

TABLE 4. Odds ratios from logistic regression analyses of the likelihood that adolescents had had an STD test in the past year, by selected characteristics, according to gender

Characteristic	Unadjusted		Adjusted	
	Males	Females	Males	Females
Age	1.12*	1.01	1.08	na
Black	4.38*	1.03	3.76*	na
Heterosexual	0.47	0.90	na	na
Lifetime no. sex partners				
1–2 (ref)	1.00	1.00	na	na
3–5	2.36*	3.30*	1.92	3.19*
6–10	1.30	5.78*	1.04	5.56*
>10	4.16*	3.49*	2.75*	3.50*
History of an STD	3.56*	1.19	1.69	na
High perceived stigma	0.49*	0.52*	0.54*	0.48*
High shame	0.75	0.71	na	na

*p<.05. *Notes:* Sample size is 195 for males and 329 for females because of listwise deletion of missing data. Age is a continuous variable; all other characteristics except number of partners are dichotomous. na=not applicable, because characteristic was not included in the model. ref=reference group.

of education achieved by a parent or guardian and anticipated feelings of shame if they were to test positive for an STD. However, a significantly higher proportion of males than of females reported having had more than 10 sex partners, and males perceived a higher level of STD-related stigma than females. Females were significantly older than males (19.6 vs. 18.8 years, on average), and greater proportions of females than of males had been tested for an STD test in the past year (70% vs. 37%) and had had at least one previous STD diagnosis (28% vs. 12%). Education level and age were highly correlated (r=0.55—not shown). Thus, males were more likely than females to have less than a high school education, while females were significantly more likely than males to have completed some higher education.

Among participants who had had an STD test in the past year, the most common reasons for having done so were not related to adolescents' exposure to risk or concerns about their sexual health. Forty-two percent of males and 59% of females who had been tested reported that their tests had occurred in the context of a routine health care visit; another 4% of males and 3% of females said that they had been tested as part of a study (Table 3). Far fewer adolescents reported having sought care because they had experienced symptoms (11% and 8%, respectively), were concerned because they had had unprotected sex (8% and 6%), had been told by a partner that they may be at risk (4% and 0.4%) or had been contacted by health care personnel because they had been exposed (4% vs. 2%).

In bivariate analyses (Table 4), the likelihood that male adolescents had had an STD test in the past year was positively associated with age, being black, having had 3–5 or more than 10 sex partners and having had a previous STD (odds ratios, 1.1–4.4); it was negatively associated with perceived STD-related stigma (0.5). For females, STD testing was positively associated with having had more than two sex partners (3.3–5.8) and negatively associated with perceived STD-related stigma (0.5). STD-related shame was not related to testing among either males or females.

Multivariable logistic regression confirmed that for both male and female adolescents, the higher the level of perceived STD-related stigma, the lower the odds of having been tested for an STD in the past year (0.5 for each). For males, STD testing also remained associated with being black and having had more than 10 sex partners. Similarly, for females, having had more than two partners remained positively associated with having received an STD test.

DISCUSSION

Our findings support the notion that adolescents who perceive STDs as stigmatizing are not as likely as others to undergo regular screening. Furthermore, they suggest that this relationship is not specific to young women, as previously reported.[2,5] Rather, perceived STD-related stigma was negatively associated with both males' and females' odds of having been tested for an STD in the past year. The contradiction between our findings and earlier ones may

be due, in part, to other studies' having been limited to clinic populations. Because females are more likely to seek routine health care than males, young women recruited from clinics likely are more similar than are such young men to the general population of their peers. [24,25] Small sample sizes of adolescent males, combined with males' lower likelihood of having received an STD test in the past year, may also have limited the ability of previous studies to detect this relationship.

Consistent with previous studies,[2,8] our results showed no relationship between STD-related shame and STD testing among adolescents. Findings by Sales and colleagues indicate, however, that STD-related shame, rather than stigma, is associated with female adolescents' engaging in other STD prevention behaviors, such as condom use, and that higher levels of shame predict higher rates of condom-protected intercourse.[26] Collectively, these findings support the notion that some aspects of stigma may be more relevant than others in terms of how they affect primary prevention practices versus care-seeking behaviors.[16] They raise questions, however, regarding how practitioners should address these aspects via clinical interventions. For example, while shame could be used as a motivator to encourage the adoption and maintenance of STD prevention practices such as condom use or abstinence, such a strategy may also perpetuate the perception that testing positive for an STD carries social risks, thereby decreasing some individuals' likelihood of being screened. This is a particularly important consideration given recent years' heavy emphasis on abstinence-only programs. Public health messages that rely on scare tactics or stratify people into "us" and "them" categories, with a negative view of "them," should be avoided.[27]

Our finding that adolescents who had relatively high numbers of sex partners were more likely than those reporting few partners to have had an STD test in the past year may indicate that they perceived themselves to be at higher risk. At least one other study similarly found that young women's likelihood of seeking chlamydia and gonorrhea screening increases after they have experienced a change in partners.[28]

Likewise, our finding that the largest share of participants' STD tests occurred in the context of a routine health care visit or a study protocol is consistent with findings from a study regarding adolescents' HIV testing behaviors.[29] These results support current recommendations that health care providers offer STD screening to all sexually active adolescents, as this may be the most effective means of reaching the general population. The clinic encounter is also a key opportunity for providers to address patients' lack of information or misinformation regarding STDs and other fears they may have if they test positive.[14] Such provider-patient exchanges may help to reduce STD-related stigma and mitigate its negative effects. That many adolescents do not actively seek testing but may take advantage of an opportunity when it is offered also supports expanding the availability of STD tests in nontraditional venues, such as schools, emergency rooms and other community settings.[30,31]

Our study has several limitations. Results are based on self-reported behaviors and therefore are subject to potential recall and social desirability biases. Additionally, some youth may be unclear about what constitutes an STD test. For example, women may consider a Pap test alone an STD test.[32] The cross-sectional nature of this study makes it impossible to assess whether behavior influences perceptions or perceptions influence behavior. Our use of lifetime number of sex partners as a proxy for sexual risk is limited because of the potential biases cited above, as well as the measure's lack of specificity with regard to relationship types (e.g., steady versus casual) and consistency of condom use. The use of dichotomized variables for stigma and shame may have resulted in a loss of information, and this, in turn, may have resulted in a loss of power for statistical analyses. The generalizability of these findings is limited because the sample comprised only adolescents residing in Baltimore and thus may not be representative of those living elsewhere.

Nonetheless, this study contributes to a growing body of literature documenting a negative association between perceived STD-related stigma and STD prevention and control efforts, such as routine screening. However, the results also indicate that many adolescents who are receiving STD tests are not actively seeking screening, thereby raising the question of whether perceived STD-related stigma actually predicts adolescents' care seeking or providers' attention to screening. Providers are more likely to offer testing to high-risk youth than to others;[3] thus, it may not be adolescents' perceptions of the social risk of acquiring an STD, but clinicians' assessments, that matter. As such, health practitioners should be vigilant in asking youth about their sexual behaviors and offering STD screening to all those potentially at risk. Moreover, they should take care to broach this topic with patients in a way that does not add to perceptions of stigma. In particular, rather than focusing on previous mistakes that could have been avoided, messages concerning STD prevention and treatment should be delivered in a supportive manner that promotes future positive sexual experiences.

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Acknowledgment

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