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RELATIONSHIP OF STD-RELATED SHAME AND STIGMA TO FEMALE ADOLESCENTS' CONDOM-PROTECTED INTERCOURSE

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Abstract

Purpose—Shame and stigma associated with sexually transmitted diseases (STDs) are barriers to adolescents seeking prompt and appropriate diagnosis and treatment. However, little is known about how these constructs are related to STD-protective behaviors, such as condom-protected intercourse. Thus, we prospectively examined the relationship between shame and stigma and condom-use in adolescent females.

Methods—192 African American females age 17.4 ± 1.7 years (range 15–21) were recruited for the study from local teen oriented health clinics. At baseline, participants completed demographic and psychosocial measures (including STD-related shame and stigma), and chart or laboratory confirmed history of STDs was obtained. At six months follow-up, rate of condom-protected intercourse in past 14 days prior to follow-up was assessed. Participants' baseline shame and stigma scores, prior history of STDs, and select demographic and theoretically important psychosocial variables were entered into a hierarchical linear regression model to predict condom-protected intercourse in the 14 days prior to the 6 month follow-up assessment.

Results—After controlling for variables identified in bivariate correlations, STD-related shame was significantly predictive of condom-protected intercourse in the 14 days prior to follow-up, with higher shame predicting higher rates of condom-protected intercourse.

Conclusions—Future prevention efforts attempting to reduce adolescents' risks for STDs and HIV may benefit from addressing STD-related shame and stigma in addition to explicitly linking health-promoting behavior changes (condom use) to a decreased likelihood of future infection with STDs.

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Keywords

Adolescents; shame and stigma; STDs; condom-protected intercourse

Introduction

Despite recently observed declines in the proportion of U.S. high school students who reported being sexually experienced, the proportion of adolescents initiating intercourse at younger ages increased^{1, 2}, and the prevalence of sexual behavior that puts them at risk remained high.³ Consequently, the incidence and prevalence of sexually transmitted diseases (STDs) among adolescents is statistically significant.⁴ Furthermore, the Center for Disease Control (CDC) has identified adolescents as a vulnerable population for HIV infection, with approximately one-half of all new HIV infections occurring among young people under the age of 25 and one-quarter of incident HIV infections occurring among people age 21 or younger.⁵ Thus adolescents as a population are at elevated risk of STD/HIV infection. However, among adolescents, African American adolescent females are disproportionately impacted by the STD/HIV epidemic relative to same-aged peers from other ethnic/racial groups.⁶ Thus, identifying the determinants of STD/HIV preventive behavior (e.g., consistent condom use during sexual intercourse), especially for African American females, has become a public health priority.

A number of psychosocial constructs have been associated with condom use among adolescents. However, a central construct grounded in Social Cognitive Theory, among others, and supported by empirical evidence has been adolescents' attitudes and beliefs about sex and issues related to sex (see DiClemente and Crosby for an extensive review).⁷ Negative beliefs and feelings, such as the level of shame and stigma associated with contracting an STD, influence adolescents' STD/HIV protective behaviors. STD-related shame is amenable to clinical intervention⁸, and can possibly be used as a motivator to enhance the adoption and maintenance of STD/HIV-preventive practices, such as condom-protected intercourse. Such a strategy could also possibly serve as a means to reduce or alleviate the concomitant feelings of shame associated with acquisition of an STD. According to Bandura⁹, in order to motivate change, an individual must believe that not changing will pose a threat to his/her well-being (either physical or emotional well-being) and that changing will reduce this threat. Additionally, gender specific theories (The Theory of Gender and Power¹⁰) posit that shame and stigma relate to young women's risk of HIV. Specifically, this theory suggests that reducing emotional sequelae associated with not using condoms may be an effective intervention strategy for young women in particular.

Fortenberry and colleagues¹¹ have described STD-related stigma as an individual's external "expectation of isolation and adverse social judgment associated with STD" (p. 379), and STD-related shame refers to an individual's internal "sense of shame and contamination associated with STD" (p.379) and can be the internalization of STD-related stigma. In both adults and adolescents, STD-related stigma was a barrier to individuals seeking prompt and appropriate diagnosis and treatment for STDs.^{8,11,12} Adolescents with higher levels of STD-related stigma were more likely to delay seeking STD services.¹² However, there is little empirical data characterizing the association between STD-related shame, STD-related stigma, and STD-protective behaviors, like consistent condom use, among adolescents in general or African American adolescent females, who are disproportionately impacted by STD/HIV infections, specifically. Thus, the purpose of the current study was to prospectively examine the relationship between STD-related shame and stigma and subsequent rate of condom-protected intercourse for adolescent African American adolescent females seeking services at local teen-oriented health clinics.

Methods

Population

African American adolescent women were recruited from the control arm of a larger STD/HIV randomized control trial in Atlanta, Georgia. From March 2002 through August 2004, recruiters screened self-identified African American adolescent females seeking reproductive and sexual health services at 3 local teen-oriented community health agencies. Eligibility criteria included being: African American, female, 15-21 years of age, and sexually active (reporting vaginal intercourse in the previous 60 days). Adolescents who were married, currently pregnant, intentionally not using condoms or birth control to become pregnant, or who were in a detention center were excluded. All participants provided written, informed consent. The Emory University Institutional Review Board (IRB) and the advisory boards of the teen-oriented clinical settings approved the study protocol and waiver of parental consent prior to implementation.

Sample Characteristics

Our sample was comprised of 192 African American participants (mean age: 17.9 ± 1.7 years; range 15-21) from three sites: a county health department STD clinic ($n = 51$), a hospital-based adolescent clinic ($n = 99$), and a Planned Parenthood clinic ($n = 42$).

Data Collection

Only participants in the control arm of the intervention trial were offered enrollment in this study to minimize confounding effects due to participating in the parent study intervention. As part of the control condition's baseline interview, an additional self-administered questionnaire assessed participant's STD-related shame and stigma. Six months post-baseline assessment, participants returned to complete a follow-up self-administered questionnaire.

Measures

Baseline—The primary predictor variables (STD-related shame and stigma) along with other measures that have been either theoretically (i.e., Social Cognitive Theory) and/or empirically associated with condom-protected intercourse in African American adolescent females (i.e., self-esteem, social support, depression, condom-use self-efficacy, and locus of control) were assessed at the baseline interview. In addition, at the baseline assessment, participants completed several questions pertaining to demographic characteristics (i.e., neighborhood quality index and family aid index). Additionally, each participant's medical record was reviewed by a nurse to determine whether they had been recently diagnosed with one of three common STDs; Chlamydia, trichomoniasis, or gonorrhea (within the 2 months prior to participation in our study). Finally, the day baseline data were collected, all participants provided self-collected vaginal swab specimens that were analyzed using a DNA amplification test for the same three STDs.

Shame and Stigma Scale: STD-related shame and stigma were assessed by the Shame and Stigma Scale developed by Fortenberry and colleagues.¹¹ Participants were asked to rate their agreement on a 5-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree, for each of the 11 separate items. This 11 item scale produces two scores; *STD-related stigma* (5 items, range 5-20; $\alpha = .80$, for this sample), which reflects the participant's perception of the adverse social judgment affiliated with STDs or STD infected individuals (e.g., "Getting examined for a sexually transmitted disease makes people think I have poor morals"), and *STD-related shame* (6 items, range 6-30; $\alpha = .81$, for this sample), which reflects the participant's shame associated with STDs (e.g., "People with sexually transmitted diseases should be ashamed of themselves"). Higher scores for both dimensions reflect higher

STD-related shame or stigma. In this sample, STD-related shame and STD-related stigma were correlated ($r = .66$), suggesting that they measure separate but related constructs.

Self-esteem: Self-esteem was measured using Rosenberg's Self-Esteem Scale (RSES).¹³ This 10-item scale measures global self-esteem with four response categories ranging from 1 ("strongly agree") to 4 ("strongly disagree"). Sample items included: "I feel that I am a person of worth", and "I take a positive attitude toward myself". Scores range from 10-40, with higher scores indicating higher levels of self-esteem. This scale has been widely used with diverse samples including adolescent African American females,¹⁴ and has demonstrated satisfactory validity and reliability.¹⁵ Cronbach's alpha for the scale was .86.

Locus of Control: Locus of control was measured by a 4-item scale. The items referred to generalized locus of control (e.g., "I have little control over the things that happen to me"). Each item was answered on a 4-point Likert-type scale; with responses ranging from *strongly disagree* to *strongly agree*. Responses were coded so that higher scores indicated a greater external locus of control. Scores ranged from 4 to 16. Cronbach's alpha for the scale was .64.

Social Support: Social support was assessed with the Multidimensional Scale of Perceived Social Support.¹⁶ The scale contains 11 items that probe the individuals perceived level of social support across three domains: family, friends, and special person. Sample items included: "My family really tries to help me", "I can count on my friends when things go wrong", and "There is a special person who is around when I am in need". Scores range from 11 to 44, with higher scores indicating more perceived social support. The scale has demonstrated satisfactory construct validity and reliability.¹⁶ Cronbach's alpha for the total scale was .88.

Depressive symptomatology: Depressive symptoms were assessed with the 8 item, Center for Epidemiological Studies-Depression Scale (CES-D).¹⁷ The CES-D assesses presence of depressive symptoms in the past 7 days, and has been shown to be a valid measure of depression in diverse populations, including African Americans.^{18,19} Sample items included: "During the past week I thought my life had been a failure," "During the past week my sleep was restless," and "During the past week I had crying spells". Each item was answered on a 4-point Likert-type scale with responses ranging from 1 (*less than 1 day*) to 4 (*5 to 7 days*). Scores range from 8 to 32. Responses were coded so that higher scores indicated higher levels of depressive symptoms. Cronbach's alpha for the scale was .88.

Condom Application Self-Efficacy: The perceived ability to apply and correctly use a condom was assessed with the Condom Application Self-Efficacy Scale (CASES).²⁰ The CASES consists of nine questions which all began with the stem "How much of a problem would it be for you to," followed by questions like: (1) put a condom on a hard penis?, or (2) unroll a condom down correctly the first time? Each item was answered with a 5-point Likert-type scale, with responses ranging from 1 (A lot) to 5 (None). Scores range from 9 to 45; higher scores reflect lower condom application self-efficacy. Cronbach's alpha for the scale was .83.

Neighborhood Quality: Neighborhood quality was assessed by asking adolescents 3 questions with the same stem, "On your street, are there any of the following?" (1) Abandoned homes or apartments, (2) Buildings with broken windows, and (3) Homes with bars on the windows and doors. Response choices were *yes* (1) or *no* (0). Responses for all three questions were summed to create an index of neighborhood quality, with higher scores indicating poorer neighborhood quality.²¹ Scores ranged from 0 to 3. This construct was included as an approximation of SES.

Family Aid: Receiving federal assistance for living expenses was assessed by four questions. Adolescents were asked, “In the past 12 months, did you or anyone you live with receive any money or services from any of the following?”, (1) Welfare (including TANF (Temporary Assistance to Needy Families) or SSI, (2) Food stamps, (3) WIC (Women, Infants, and Children), and (4) Section 8 housing (Housing subsidies). Response choices were *yes* (1) or *no* (0). Responses to each question were summed to create an index of family aid, with higher scores indicating receipt of more family aid. Scores ranged from 0 to 4. This construct was included as another approximation of SES.

Follow-up Interview—At the 6 month follow-up assessment participants completed the following previously assessed variables: shame and stigma, self-esteem, locus of control, social support, depressive symptomatology, and condom-application self-efficacy. The intercorrelations between baseline and 6-month follow-up scores for each measure (e.g., baseline self-esteem scores were correlated with 6-month follow-up self-esteem scores) were statistically significant at the $p = .001$ level for all measures (r 's ranged from .38 to .60), indicating adequate reliability. Additionally, participants provided information regarding condom use during sexual intercourse:

Condom-protected sex in past 14 days: Condom use was assessed over a relatively brief time period to enhance accurate reporting.²² Participants were asked to report: a) How many times they had vaginal sex in the last 14 days? Participants were then asked: “How many of these times did you use a condom?” These questions provide a proportional measure of condom use²³, by calculating the number of times condoms were used divided by the number of times the participant reported sexual intercourse. Scores ranged from 0 to 100%.

Data Analyses—First, descriptive analyses (means, standard deviations, and ranges) were conducted for all continuous variables. Next, bivariate analyses included two-tailed Pearson correlations to examine the associations among STD-related shame and stigma and demographic, psychosocial, and behavioral measures. Finally, hierarchical multiple linear regression analysis was used to examine whether baseline STD-related shame and stigma levels predicted the proportion of condom-protected sex at the 6 month follow-up assessment, while controlling for demographic and psychosocial factors related to condom-protected sex. We used this particular hierarchical technique in order to control for demographic and psychosocial factors also related to condom-protected sex, but more importantly to gain access to the amount of unique variance explained by STD-related shame and stigma particularly. SPSS 13.0 software was used for all data analyses.

Results

Descriptive analyses

Table 1 describes the means, standard deviations, and ranges for all measures. At baseline, 36 % of participants had tested positive for either gonorrhea, Chlamydia or trichomoniasis.

Bivariate Analyses

Participants' STD-related shame was significantly associated with self-esteem and locus of control. Participants with higher self-esteem had lower levels of STD-related shame. Also, participants with a more external locus of control had higher levels of STD-related shame (see Table 2). Participants' STD-related shame was positively correlated with proportion of condom-protected sex at 6-month follow-up assessment ($r = .24$; $p < .01$). STD-related stigma was significantly associated with self-esteem, locus of control and social support (Table 2). Participants with higher self-esteem and more social support had lower STD-related stigma scores, and participants with a more external locus of control had higher STD-related stigma

scores. Additionally, of the demographic and psychosocial variables assessed, only neighborhood quality and social support were significantly associated with participants' proportion of condom-protected sex at 6-month follow-up assessment (Table 2). Participants residing in poorer quality neighborhoods reported less condom-protected sex, and participants with more social support reported less condom-protected sex. Finally, being diagnosed with an STD at baseline was significantly associated with poorer neighborhood quality ($r = .16$; $p < .05$), but was not significantly associated with participants' proportion of condom-protected sex at 6-month follow-up assessment ($r = .16$; $p < .09$). However, the participants diagnosed with an STD at baseline reported slightly more condom-protected sex, thus indicating that STD history should be controlled for in regression analyses.

Hierarchical multiple linear regression

A regression model was constructed predicting proportion of condom-protected sex at 6-month follow-up. Potential confounders, such as prior history of STDs, and variables that were significantly correlated with either STD-related shame and stigma or proportion of condom-protected sex, were entered as covariates in the model. Finally, scores on the STD-related shame and stigma scales, the primary predictors of interest in this analysis, were entered into the model.

In the first block of the regression model, history of STDs and neighborhood quality were simultaneously entered into the model to control for demographic and personal history characteristics. In the second block, self-esteem and social support were simultaneously entered into the model to control for psychosocial influences on proportion of condom-protected sex. At the final block, the primary predictor variables, STD-related shame and stigma, were simultaneously entered. The overall model which included all three blocks (as opposed to block one only or blocks one and two only), was significant and provided the best fit for the data ($F(7, 110) = 2.17$; $p < .05$), and the addition of STD-related shame in the final block of the model accounted for a significant increase in the overall variance explained by the model (R^2 change = .06; F change = 3.70, significant F change = .03). Betas for the overall model are presented in Table 3, along with R^2 and R^2 change values at each block in the model. In sum, the only variable in the final model that was significantly predictive of proportion of condom-protected sex after controlling for the other predictors was STD-related shame. Participants with higher levels of STD-related shame at baseline reported a higher proportion of condom-protected sex events at the 6-month follow-up assessment.

Discussion

This prospective study found STD-related shame as predictive of condom-protected intercourse at 6-month follow-up assessment in a sample of African American adolescent females seeking services at sexual health clinics. Specifically, participants with higher STD-related shame, assessed at baseline, were more likely to use condoms during intercourse 6 months later.

Prior work with adolescents indicates that STD-related *stigma* is a barrier to STD-related care: ¹² adolescents with higher stigma were more likely to delay seeking STD services. However, the present findings indicate that STD-related *shame*, rather than stigma, is an important factor in female adolescents' use of STD protective behaviors (i.e., condom-protected intercourse). The current findings suggest that some females maybe engaging in a self-evaluative process in which they use the unpleasant feelings associated with "shame" as a lever to initiate health-promoting behavior changes designed to reduce the likelihood of subsequent STD infection (i.e., condom use). Thus, while shame is an unpleasant feeling, it can be a positive force motivating behavior change when used in a constructive manner. For example, by encouraging young women to use condoms as a way to avoid or decrease the unpleasant feeling of "shame"

associated with contracting an STD. Future STD/HIV prevention efforts with adolescent females may benefit from assessing STD-related shame and stigma over time to observe any changes in STD-related shame and stigma that may be related to intervention efforts or to contracting an STD. Moreover, incorporating a “self-evaluative” component into interventions that explicitly links the unpleasant feelings associated with STD-related shame to STD-preventive practices (i.e., condom use) as a possible means to decrease the likelihood of contracting an STD and thereby experiencing the resultant feelings of shame may be a beneficial intervention technique. Yet more research is needed to clearly understand the complicated relationship between STD-related shame and stigma and health related behaviors (i.e., condom-use and treatment seeking) because, while STD-related shame is shown to increase condom use, in other studies STD-related stigma has been related to delayed or deferred diagnosis and treatment.

This study is not without limitations. First, the sample consisted of young women who were already seeking services at teen health clinics, and therefore may not be generalizable to individuals who are not visiting similar clinics. Second, our sample was comprised of African American females, thus findings may not generalize to other racial/ethnic groups also seeking services at teen health clinics. Finally, it is important to acknowledge that several potentially important factors were not assessed that could be associated with STD-related shame and stigma. Important next steps to address these limitations is for future studies to examine the relationship between STD-related shame and stigma and condom use in samples of adolescent males, individuals recruited from non-clinic settings, and ethnically diverse adolescent populations.

The present investigation identified STD-related shame as an important factor affecting the subsequent condom-protected intercourse among African American female adolescents seeking services at teen health clinics. Thus, future preventive efforts attempting to reduce young people’s risks for STDs and HIV may benefit from incorporating measures assessing STD-related shame and stigma over extended follow-up periods (i.e., 12- and 18-month follow-ups). Moreover, prevention efforts, especially aimed towards adolescent African American females, should address STD-related shame and stigma in addition to explicitly linking health-promoting behavior changes to a decreased likelihood of future infection with STDs.

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Table 1

Means, standard deviations and ranges for measures included in analyses.

Measure	Mean (S.D.)	Range (explanation)
Family Aid	.90 (1.05)	0–4 (higher score = more aid)
Neighborhood Quality	.59 (.94)	0–3 (higher score = poor quality)
Self-esteem	33.43 (5.34)	18–40 (higher score = better esteem)
Locus of control	7.36 (2.33)	4–16 (higher score = more external locus of control)
Social support	35.00 (6.53)	11–44 (higher score = more support)
Condom-use self-efficacy	15.81 (6.20)	9–45 (higher score = great problem using condoms)
Depression	16.26 (6.84)	8–32 (higher score = more depressed)
Shame	11.42 (4.24)	6–30 (higher score = more shame)
Stigma	10.67 (4.06)	5–20 (higher score = more stigma)
% condom-protected sex	55 % (.47)	0–100%

Table 2

Bivariate analyses (2-tailed Pearson correlations).

	<u>Shame Score</u>	<u>Stigma Score</u>	<u>% Condom-protected sex¹</u>
Variable			
Family aid	-.03	-.11	.08
Neighborhood quality	.08	-.09	-.19*
Self-esteem	-.22**	-.28**	.02
Locus of control	.15*	.20**	-.06
Social support	-.10	-.17*	-.41**
Condom-use self efficacy	.05	.11	-.01
Depression	.03	.12	-.12

**
= $p < .01$

*
= $p < .05$

Table 3

Predictors of Rate of Condom-Protected Intercourse at 6 month follow-up: Hierarchical Multiple Linear Regression

	β^a	R^2	ΔR^2	P value
First Step		.06	.06	.04
History of STD	.16			.08
Neighborhood	-.17			.07
Second Step		.07	.01	.87
Self-esteem	.01			.97
Locus of control	-.10			.43
Social support	-.01			.91
Third Step		.13	.06	.03
Shame score	.30			.01
Stigma score	-.08			.57

^a = Betas are from the overall model at the final step in the model.