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Clinical Depression and Condom Use Attitudes and Beliefs Among African American Adolescent Females

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Abstract

Depression, HIV, and other sexually transmitted diseases (STDs) are growing concerns among African American adolescent females. Theoretical models contribute to identification of mediators of condom use; however, minimal research has addressed the explicit relationship between clinical depression and condom use in African American adolescent females. The authors report results from quantitative surveys with clinically depressed ($n = 64$) and non-depressed ($n = 64$) African American adolescent females in two large metropolitan cities in the eastern United States. Theoretical mediators of condom use in the study sample—attitudes, subjective norms, perceived behavioral control, and intentions—were investigated. Significant differences existed between the groups in condom use frequency ($U = 356.5, p = .037$); however, there were no statistically significant differences in condom use attitudes and beliefs. Although clinically depressed and non-depressed African American adolescent females may hold similar attitudes and beliefs about condom use, differences in condom use frequency may be a psychopathologic occurrence.

Keywords

adolescent females; African American; condom use; depression; HIV; sexual health

Sexually transmitted diseases (STDs), including HIV, are a growing urgent public health concern affecting more than 1 million adolescents and young adults annually (Centers for Disease Control and Prevention [CDC], 2009b). Black adolescent females ages 13 to 19

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experience disproportionate impact, accounting for 69% of estimated HIV/AIDS cases among adolescent females (CDC, 2009a). Further, case rates for chlamydia, gonorrhea, and syphilis among adolescent females ages 15 to 19 are also highest among Blacks; these rates are 7.7 and 3.8 times the rates for Whites and Hispanics respectively (U.S. Department of Health and Human Services, 2009).

According to the 2009 Youth Risk Behavior Surveillance, nearly half of the adolescent population in the United States has reported having sexual intercourse (CDC, 2010). Fifty-eight percent of Black female students reported ever having sexual intercourse, compared to 52.8% and 44.7% of their Hispanic and White counterparts, respectively (CDC, 2010). Further, Black female students reported more HIV risk-related sexual behaviors than Hispanic and White female students: currently sexually active (45% vs 35.4% and 34.1%, respectively), initiation of sexual intercourse before age 13 (5.6% vs 3.7% and 2.2%, respectively), and four or more lifetime sexual partners (18% vs 10.4% and 10%, respectively; CDC, 2010).

Reports have indicated that condom use during last sexual intercourse is greater among White (56.1%) and Black (51.8%) than Hispanic (48%) female students (CDC, 2010). Although approximately half of all female students used a condom the last time they had sex, various factors have emerged as influential in the consistency of adolescents' condom use, including race, gender, partner type, alcohol use, length of the sexual relationship, perception of risk, ability to negotiate power differentials, social influences, and behavior intentions (DiIorio et al., 2001; Munoz-Silva, Sanchez-Garcia, Nunes, & Martins, 2007; Parkes, Wight, Henderson, & Hart, 2007; Wiemann et al., 2009). Among Black adolescent females, decreased communication about sex with partners, perceptions of loss of sexual pleasure with condom use, as well as perceptions concerning negative reactions from partners regarding condoms, increased the likelihood of infrequent condom use (Brown et al., 2008; Crosby et al., 2002).

The influence of depression on condom use is of enormous concern with approximately 2 million adolescents experiencing at least one major depressive episode during the previous year (Substance Abuse and Mental Health Services Administration, 2009). Studies that have explored the relationship between psychological distress and sexual risk have found that reported depressive symptomatology is associated with an increased number of lifetime sexual partners and significantly decreased reported condom use in African American adolescents (Brown et al., 2006; Rubin, Gold, & Primack, 2009). Seth, Raiji, DiClemente, Wingood, and Rose (2009) found that in a sample of 715 African American adolescent females, nearly 45% demonstrated high levels of psychological distress, which was positively correlated with increased rates of confirmed STDs, alcohol or drug use during sex, and inconsistent condom use. Shrier, Walls, Lops, and Feldman (2010) also discovered that adolescents who used sex as a means to cope with negative emotions were significantly more likely to use condoms inconsistently and incorrectly.

Research on psychosocial predictors of condom use have used frameworks such as Social Learning Theory, Social Cognitive Theory, Socio-Personal Model of HIV risk, and the Health Belief Model, and found that reported psychological distress/depression had an independent influence on sexual risk behaviors and condom use (Brown et al., 2006; DiClemente et al., 2008; Laraque, Mclean, Brown-Peterside, Ashton, & Diamond, 1997). Although studies have established a link between psychological distress and sexual behaviors, there is insufficient exploration of these explicit relationships among African American adolescent females currently receiving outpatient mental health treatment for clinical depression. As a result, inadequate focus has been given to specific theoretical mediators of condom use within this population. This has significant implications for the

development of evidence-based HIV/STD prevention interventions because interventions that give attention to psychological sequelae could prove to be most effective for clinically depressed African American adolescent females (Sales, Lang, Hardin, Diclemente, & Wingood, 2010). The purpose of our study is to highlight condom use attitudes and beliefs among clinically depressed and non-depressed African American adolescent females to inform the development of targeted, theoretically-based HIV/STD prevention strategies.

Methods

Study Sample and Design

All study procedures were approved by the institutional review board at the University of Pennsylvania. The study employed a sequential exploratory mixed methods design; additional details on this approach and the qualitative findings are reported elsewhere (Brawner, Gomes, Jemmott, Deatrck, & Coleman, 2011). Data in this paper are reported from a convenience sample of adolescent females ages 13 to 19 years who self-identified as African American and who completed the quantitative measures component of the study ($N = 128$). Clinically depressed participants ($n = 64$) were recruited from outpatient mental health treatment programs, and non-depressed participants ($n = 64$) were recruited from community settings (i.e., shopping malls and beauty salons). All participants were recruited from two large urban cities in the Mid-Atlantic region of the United States. Street outreach, flyers, and provider and peer referrals were all used to recruit participants.

Inclusion criteria for the clinically depressed sample were: self-identify as African American; ages 13 to 19 years; biologic female gender; heterosexual; currently being treated for a clinical diagnosis of major depressive disorder, dysthymic disorder, cyclothymic disorder, or depression not otherwise specified by a licensed mental health professional; and proficient in the English language. Any individual with a diagnosis of co-morbid psychosis or other psychological/developmental concern that might limit her ability to respond to the questions, the presence of current suicidal ideation, court-ordered attendance at the mental health facilities, and/or participation in the prior phase of the study was excluded. Adolescents recruited from community settings were used for a comparison sample and met the same demographic inclusion criteria as the clinically depressed sample. The presumed non-depressed adolescents, however, were screened and excluded if they reported diagnosis of a depressive disorder or had a Patient Health Questionnaire-9 (PHQ-9) score of greater than 10, which would indicate clinical depression (Kroenke, Spitzer, & Williams, 2001).

Procedures

Signed informed consent/assent, and parental permission as required, were obtained for participants who completed face-to-face interviews and survey measures in the qualitative arm of the study ($n = 24$). Verbal consent and a waiver of parental consent were obtained for adolescents who participated in the anonymous, survey-only quantitative arm of the study ($n = 104$). Thus, a total of 128 respondents (64 clinically depressed and 64 non-depressed) completed the survey. Following consent procedures, participants were assigned a unique identification number from a random numbers generator to maintain confidentiality as well as to allow for validation of data entry with the original hard copy.

All participants completed a background information questionnaire; those recruited from the outpatient mental health treatment facilities also completed the PHQ-9. Participants recruited in community settings also completed this measure as part of the screening process. When possible, all participants completed the questionnaires in a private room, at times with other study participants. In the event of this occurrence, participants were seated in a way so that they could not see each other's responses to the questions. In outdoor public

settings, the research team had clipboards and pens available for participants to complete the questionnaires. To ensure privacy, the research team assessed the surrounding environment and moved, if necessary, to a nearby location where participants could have the study and questionnaire verbally explained without others overhearing the conversation.

Completed questionnaires (2 from each participant) were sealed in individual envelopes, and these envelopes were added to envelopes from other participants and opened only for data entry and analysis. Following completion of the measures, face-to-face interview participants were compensated with \$20 in cash; survey-only participants received \$10 for their participation. It took participants an average of 15 to 30 minutes to complete both the background information questionnaire and PHQ-9.

Measures

Background information questionnaire—Demographic data collected included age, education, employment, living arrangements, mean number of adults and children per household, educational attainment, and employment and marital status of parents or guardians. The theoretical framework guiding this research was the Theory of Planned Behavior (TPB; Azjen, 1991). See Figure 1 for a diagram of the TPB. Therefore, the inquiry focused on attitudes, subjective norms, perceived behavioral control, and intentions as mediators of condom use in the study sample. Questionnaire items were compiled from widely used and validated scales (Jemmott, Jemmott, & Fong, 1998).

In accordance with the TPB, theoretical mediators were evaluated as follows: (a) attitudes were measured through hedonistic beliefs; (b) subjective norms were measured through normative beliefs; (c) perceived behavioral control was measured through technical skills beliefs, impulse control beliefs, and negotiation beliefs; and (d) intentions were measured by participants' plans to use a condom in the next 3 months. Mapping to these constructs, sample items included: Sex feels unnatural when a condom is used, Would most people who are important to you approve or disapprove of you using a condom if you have sex in the next three months?, I can put a condom on my partner without turning him off, and I plan to use condoms if I have sex in the next 3 months. The questions were assessed on 5-point Likert scales. The response options ranged from 0 to 4 and were reflective of (a) how much participants agreed or disagreed with the statements, (b) whether referent others would approve or disapprove of certain behaviors, (c) how easy or hard it would be for participants to enact condom use, and (d) how likely or unlikely participants were to have sex and use condoms. Higher scores on these scales were reflective of more positive condom use attitudes, beliefs, and intentions. As seen in Table 1, Cronbach's α reliability estimates calculated for the scales ranged from .69 to .86 in the sample.

To determine self-reported condom use, participants were asked two questions (*yes/no*) related to whether or not a condom was used the first time they had sex and/or the last time they had sex. Open-ended response options were provided for (a) the number of lifetime unprotected sexual encounters, (b) unprotected sexual encounters in the previous 3 months, (c) number of times got high on an alcoholic drink or another drug and then had sex without using a condom in the previous 3 months, and (d) number of times felt depressed/sad/lonely/stressed and then had sex without using a condom in the previous 3 months. The proportion of condom use in the past 3 months was calculated by dividing the number of times a condom was used during sex in the past 3 months by the total number of sexual encounters in the past 3 months. There were also categorical response options for likelihood to use condoms during different sexual activities (*vaginal, anal, or oral sex*) and condom use frequency (*never, sometimes, every time*). Testing for and diagnosis of STDs was also used as a proxy for condom use with questions asked about whether participants had ever been tested for an STD or ever tested positive for an STD (*yes/no*).

Patient Health Questionnaire-9—The brief, 9-item PHQ-9 is a self-report depression screening tool that is scored to facilitate the diagnosis of depression, assess symptom severity, and evaluate treatment response (Kroenke et al., 2001). Each of the nine depression diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 2000) are scored from 0 (*not at all*) to 3 (*nearly every day*). Total scores range from 0 to 27, representative of depression severity from *none* (score of 0-4) to *severe depression* (score of 20-27; Kroenke et al., 2001). The instrument has good reliability and validity in adult populations (Martin, Rief, Klaiberg, & Braehler, 2006), with high sensitivity (89.5%) and specificity (77.5%) for detecting major depression in adolescents (Richardson et al., 2010). The instrument also had acceptable reliability in this sample (Cronbach's $\alpha = .89$).

Data Analysis

All data were managed and analyzed using SPSS Statistics 17.0. Data were described through descriptive statistics and categorical data were compared using Fisher's exact test. The Likert scales were scored to create the condom use study variables. Mann-Whitney U tests were used to compare condom use scale means between the clinically depressed and non-depressed samples.

Results

Sample Characteristics

Sample demographics are presented in Table 2. The average age of participants was 15.3 years ($SD = 1.8$) and the majority (93%) were currently in school. There were an average of 1.9 ($SD = 1.03$) adults and 2.5 ($SD = 1.86$) children per household, and the majority (78.4%) did not live with their mothers and fathers in the same household. There were no statistically significant socio-demographic differences between the clinically depressed and non-depressed groups, with the exception of reports on parental educational attainment. Fewer clinically depressed participants reported that their mothers and fathers finished high school (66.1% and 50%) than non-depressed participants (91.1% and 67.3%; $p = .003$ and $p = .037$, respectively). Clinically depressed participants had significantly higher PHQ-9 total scores ($M = 12.3$, $SD = 6.1$ vs. 3.0 , $SD = 2.9$), a value indicative of mild depression.

Sexual Experience

Approximately 2 in 3 participants reported ever having had sex (68.8%). The average age of first vaginal intercourse within the entire sample was 14.3 years ($SD = 1.4$). Participants had an average of five close friends who had ever had sex ($SD = 5.2$), and the average age of their friends' sexual debut was 13.9 ($SD = 2.2$). Clinically depressed participants were more likely to report having engaged in sexual intercourse (78.1% vs. 59.4%, $p = .022$), were younger at first vaginal sex ($M = 13.8$, $SD = 1.5$ vs. $M = 15.2$, $SD = 1.9$, $p = .001$), and had friends with younger sexual debut ($M = 13.2$, $SD = 2.5$ vs. $M = 14.5$, $SD = 1.5$, $p = .001$).

Condom Use

Condom use frequency within the overall sample was low, with less than 40% of participants reporting that they used a condom every time they had sex. Reported condom use during the first act of sexual intercourse was lower in the clinically depressed sample (52% vs. 73.7%, $p = .039$). Although reports of condom use at last act of sexual intercourse were slightly higher among non-depressed participants, this difference was not statistically significant (54.1% vs. 50%, $p = .708$). Table 3 represents a comparison of condom use and STD testing and diagnosis within the study sample. The proportion of condom use in the previous 3 months was significantly lower among clinically depressed participants.

Clinically depressed participants also reported a significantly greater number of unprotected sexual encounters under the influence of alcohol or another drug. Although there were differences in reports of likelihood to use condoms during different sexual activities as well as condom use frequency, none were statistically significant. While not statistically significant, more clinically depressed participants reported having been tested for an STD and having tested positive for an STD. However, having tested positive for an STD did approach statistical significance ($X^2 = 3.6, p = .051$).

Condom Use Attitudes, Beliefs, and Intentions

In a comparison of the study variables—hedonistic beliefs, normative beliefs, technical skills beliefs, impulse control beliefs, negotiation beliefs, and plan to use condoms in the next 3 months—there were no statistically significant differences between the clinically depressed and non-depressed groups (see Table 4). Clinically depressed participants had lower scale score means across the theoretical mediators than non-depressed participants; representative of less favorable attitudes and beliefs toward condom use. Impulse control beliefs, which represent perceived behavioral control, were the only items that approached significance ($p = .094$).

Discussion

The relationship between depressive symptomatology and non-condom use is well established. Less is known, however, in clinically depressed populations. The results of this study contribute to the literature by revealing critical information concerning condom use behaviors, and attitudes and beliefs about condoms among clinically depressed African American adolescent females. Clinically depressed participants in this study reported a greater number of unprotected sexual encounters and used condoms less frequently than non-depressed participants. However, there were no statistically significant differences in condom use *attitudes* and *beliefs*. These unique findings challenge the premise of the study's guiding theoretical framework. According to the TPB, an individual's attitudes and beliefs toward a given behavior shape his or her intention to perform that behavior, and intention ultimately leads toward the enactment of that behavior (Ajzen, 1991). This study demonstrated that clinically depressed and non-depressed African American adolescent females held similar attitudes and beliefs about condom use; however, key psychological and social differences existed in this sample, which may have influenced condom use behaviors.

Depressed adolescents may use sex, alcohol, and drugs as coping strategies to satisfy unmet psychological and emotional needs (Bachanas et al., 2002; Coleman & Cater, 2005; Tice, 2001). Inopportunely, substance use alters one's judgment and leads to behaviors that increase risk for HIV and other STDs. In our study, substance use prior to sexual activity and sexual activity during episodes of depression were linked with non-condom use, and more prevalent among clinically depressed adolescents. If an individual's desire is to self-medicate her psychological distress with substances and sexual pleasure, condom negotiation and condom use may be viewed as barriers to fulfill this need. Face-to-face interviews for this study supported this claim, as clinically depressed participants shared their fears of abandonment as a reason they might not advocate for condom use in sexual relationships (Brawner et al., 2011).

Researchers have documented the impacts of family support networks (Nappi et al., 2009), peer influences (Maxwell, 2002), and economic resources (Dunkle, Wingood, Camp, & DiClemente, 2010) on condom use. In our study, less than one fourth of the sample lived with both mother and father in the same household, and the clinically depressed sample was less likely to report having both parents in the home. Overall, study participants had an

average of five close friends who had ever had sex; however, the clinically depressed sample had friends with significantly earlier sexual debut. Most of the study participants lived in female-headed households. Using mother's educational attainment and current employment status as a proxy for the participants' socioeconomic status, clinically depressed participants were more likely to report that their mothers had not finished high school and were not currently employed.

The authors of this paper posit that psychological sequelae among African American adolescent females dealing with clinical depression lead them to experience external influences of socially determined circumstances in varied ways. In turn, this may also shape condom use behaviors. The clinically depressed sample reported lower score means regarding their ability to negotiate condom use, control impulses in various situations to use a condom, and to use a condom skillfully. Difficulty in communication and navigation of power dynamics with male sexual partners has been documented by other researchers (Seth, Raiji, DiClemente, Wingood & Rose, 2009) and warrants further investigation.

Our study indicated that clinically depressed African American adolescent females believed in condom use and intended to use condoms during sexual activity; conversely, they were facing barriers that prevented condom use from being fully realized. Power dynamics in sexual relationships, household composition, peer influences, and lower socioeconomic status may have further exacerbated underlying psychological symptoms and contributed to non-condom use in the clinically depressed sample. The authors propose that the experience of clinical depression in the absence of adequate social buffers, such as positive peer influences and economic stability, substantially impacts the sexual decision-making process for African American adolescent females. Therefore, it is imperative to provide HIV/STD prevention and skills-building strategies in a fashion relevant to the context of the target populations' lived experiences.

The psychological and emotional needs of African American adolescent females as such require scientific attention. In particular, HIV/STD risk reduction strategies for clinically depressed African American adolescent females should be focused to target the effects of depressive psychopathology on sexual decision-making and risk-taking behaviors. According to our findings, sex may be viewed as a means to alleviate experiences of clinical depression, and depressive symptoms may lead African American adolescent females to perceive less control over condom negotiation and subsequent use. Thus, skills-building techniques, which include a comprehensive safety assessment that acknowledges psychological and emotional needs fulfilled through sexual activity, may be required. Personal mood evaluation would also be an important component. Program participants could be trained to delay sexual activity or proactively navigate and enforce condom use while taking care of individual psychological and emotional requirements. To achieve efficacy, this information should be delivered in a gender and culturally relevant, developmentally and psychologically appropriate manner, which also addresses relationship power dynamics and teaches participants to navigate power differentials while managing depression.

Nursing is a practice-oriented profession underpinned by tenets of research, leadership, and service. Nurses take pride in the delivery of holistic care. Thus, they are positioned to provide essential sexual health assessment and behavioral interventions for clinically depressed African American adolescent females. Through a comprehensive approach to care delivery, nurses can use knowledge and expertise to identify and target various factors (i.e., psychopathology, gender norms, and cultural practices) that increase an individual's risk for HIV/STDs. This includes advocacy for evidence-based assessment and intervention programs for underserved, marginalized populations, as well as for the design and

implementation of contextualized behavior change strategies to prevent the spread of HIV/STDs. Nurses who interact with African American adolescent females can use the findings from this study to tailor HIV/STD risk assessment and education initiatives, specifically, providing equally weighted evaluation of primary care patients for psychiatric symptoms and assessing psychiatric patients for HIV/STDs. Behavioral risk factors for HIV/STDs should be examined in both settings, with education and skills-building strategies tailored to meet the patients' developmental, psychological, and emotional needs.

There are several limitations of this study. Given the cross-sectional design, causality cannot be inferred. Although this study had a sizeable sample ($N = 128$), the number of participants per group ($n = 64$) may have limited the ability to discern group differences. Further, the study was conducted with a convenience sample from large urban areas, which limits the generalizability of the findings to other populations.

Even so, the findings bear great significance for HIV prevention science. The results of this study indicate that clinically depressed African American adolescent females engage in behaviors which place them at heightened risk for HIV/STDs. Additionally, the findings demonstrate that interventions for the target population need to address more than the participants' attitudes, beliefs, and intentions. Favorable attitudes and intentions toward condom use sharply contrasted with the enactment of safer sexual behaviors, and this warrants further investigation. Through a focus on equitable, holistic care, nurses have the potential to pave the way to ensure that the unique, unmet sexual health needs of underserved adolescents with mental illnesses are addressed.

Clinical Considerations

- Adolescents with mental illnesses have unique, unmet sexual health needs.
- The psychopathology of depression affects the decisions clinically depressed African American adolescent females make about condom use, placing them at heightened risk for HIV/STIs.
- Nurses are pivotal points of access for this population, and can design, implement and advocate for contextualized behavior change strategies to prevent the spread of HIV/STIs among African American adolescent females with mental illnesses.

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References

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR). Fourth ed. American Psychiatric Association; Washington, DC: 2000.
- Azjen I. The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*. 1991; 50(2):179–211.
- Bachanas PJ, Morris MK, Lewis-Gess JK, Sarett-Cuasay EJ, Flores AL, Sirl KS, Sawyer MK. Psychological adjustment, substance use, HIV knowledge, and risky sexual behavior in at-risk minority females: developmental differences during adolescence. *Journal of Pediatric Psychology*. 2002; 27(4):373–384. [PubMed: 11986360]

- Brawner, BM.; Gomes, M.; Jemmott, LS.; Deatrick, J.; Coleman, CL. Clinical depression and HIV risk-related sexual behaviors among African American adolescent females: Unmasking the numbers. 2011. manuscript under review
- Brown LK, DiClemente R, Crosby R, Fernandez MI, Pugatch D, Cohn S, Schlenger WE. Condom use among high-risk adolescents: anticipation of partner disapproval and less pleasure associated with not using condoms. *Public Health Reports*. 2008; 123(5):601–607. [PubMed: 18828415]
- Brown LK, Tolou-Shams M, Lescano C, Houck C, Zeidman J, Pugatch D, Project SHIELD Study Group. Depressive symptoms as a predictor of sexual risk among African American adolescents and young adults. *Journal of Adolescent Health*. 2006; 39(3):444e441–444e448. [PubMed: 16919811]
- Centers for Disease Control and Prevention. HIV/AIDS Surveillance Supplemental Report. 2009a; 14(2) Retrieved from http://www.cdc.gov/hiv/surveillance/resources/reports/2009supp_vol14no2/.
- Centers for Disease Control and Prevention. [Retrieved August 5, 2010] Sexual and Reproductive Health of Persons Aged 10–24 Years--United States, 2002–2007. 2009b. from <http://www.cdc.gov/mmwr/pdf/ss/ss5806.pdf>
- Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance — United States, 2009 *Surveillance Summaries*, June 4, 2010. MMWR. 2010; Vol. 59
- Coleman LM, Cater SM. A qualitative study of the relationship between alcohol consumption and risky sex in adolescents. *Archives of Sexual Behavior*. 2005; 34(6):649–661. [PubMed: 16362249]
- Crosby RA, DiClemente RJ, Wingood GM, Cobb BK, Harrington K, Davies SL, Oh MK. Condom use and correlates of African American adolescent females' infrequent communication with sex partners about preventing sexually transmitted diseases and pregnancy. *Health Education & Behavior*. 2002; 29(2):219–231. [PubMed: 11942716]
- DiClemente RJ, Crittenden CP, Sales JM, Wingood GM, Crosby RA, Salazar LF. Psychosocial predictors of HIV-associated sexual behaviors and the efficacy of prevention interventions in adolescents at-risk for HIV infection: what works and what doesn't work. *Psychosomatic Medicine*. 2008; 70(5):598–605. [PubMed: 18541908]
- Dilorio C, Dudley WN, Kelly M, Soet JE, Mbwarra J, Potter JS. Social cognitive correlates of sexual experience and condom use among 13- through 15-year-old adolescents. *Journal of Adolescent Health*. 2001; 29(3):208–216. [PubMed: 11524220]
- Dunkle KL, Wingood GM, Camp CM, DiClemente RJ. Economically Motivated Relationships and Transactional Sex Among Unmarried African American and White Women: Results from a US National Telephone Survey. *Public Health Reports*. 2010; 125:90–100. [PubMed: 20626196]
- Jemmott JB 3rd, Jemmott LS, Fong GT. Abstinence and safer sex HIV risk-reduction interventions for African American adolescents: a randomized controlled trial. *Journal of the American Medical Association*. 1998; 279(19):1529–1536. [see comment]. [PubMed: 9605896]
- Kroenke K, Spitzer RL, Williams JBW. The PHQ-9 - Validity of a brief depression severity measure. *Journal of General Internal Medicine*. 2001; 16(9):606–613. [PubMed: 11556941]
- Laraque D, Mclean DE, Brown-Peterside P, Ashton D, Diamond B. Predictors of reported condom use in central Harlem Youth as Conceptualized by the Health Belief Model. *Journal of Adolescent Health*. 1997; 21(5):318–327. [PubMed: 9358295]
- Martin A, Rief W, Klaiberg A, Braehler E. Validity of the Brief Patient Health Questionnaire Mood Scale (PHQ-9) in the general population. *General Hospital Psychiatry*. 2006; 28(1):71–77. [PubMed: 16377369]
- Maxwell KA. Friends: The role of peer influence across adolescent risk behaviors. *Journal of Youth and Adolescence*. 2002; 31(4):267–277.
- Munoz-Silva A, Sanchez-Garcia M, Nunes C, Martins A. Gender differences in condom use prediction with Theory of Reasoned Action and Planned Behavior: the role of self-efficacy and control. *AIDS Care*. 2007; 19(9):1177–1181. [PubMed: 18058403]
- Nappi CM, Thakral C, Kapungu C, Donenberg GR, DiClemente R, Brown L, Group PSS. Parental monitoring as a moderator of the effect of family sexual communication on sexual risk behavior among adolescents in psychiatric care. *Aids and Behavior*. 2009; 13(5):1012–1020. doi: DOI 10.1007/s10461-008-9495-9. [PubMed: 19085102]

- Parkes A, Wight D, Henderson M, Hart G. Explaining associations between adolescent substance use and condom use. *Journal of Adolescent Health*. 2007; 40(2):180e181–180e118. [PubMed: 17259059]
- Richardson LP, McCauley E, Grossman DC, McCarty CA, Richards J, Russo JE, Katon W. Evaluation of the Patient Health Questionnaire-9 Item for Detecting Major Depression Among Adolescents. *Pediatrics*. 2010 peds.2010-0852. doi: 10.1542/peds.2010-0852.
- Rubin AG, Gold MA, Primack BA. Associations between depressive symptoms and sexual risk behavior in a diverse sample of female adolescents. *Journal of Pediatric Adolescent Gynecology*. 2009; 22(5):306–312. [PubMed: 19592279]
- Sales JM, Lang DL, Hardin JW, Diclemente RJ, Wingood GM. Efficacy of an HIV prevention program among African American female adolescents reporting high depressive symptomatology. *Journal of Women's Health*. 2010; 19(2):219–227. doi: 10.1089/jwh.2008.1326.
- Seth P, Raiji PT, DiClemente RJ, Wingood GM, Rose E. Psychological distress as a correlate of a biologically confirmed STD, risky sexual practices, self-efficacy and communication with male sex partners in African-American female adolescents. *Psychology, Health & Medicine*. 2009; 14(3):291–300.
- Seth P, Raiji PT, DiClemente RJ, Wingood GM, Rose E. Psychological distress as a correlate of a biologically confirmed STI, risky sexual practices, self-efficacy and communication with male sex partners in African-American female adolescents. *Psychology Health & Medicine*. 2009; 14(3): 291–300. doi: Doi 10.1080/13548500902730119.
- Shrier LA, Walls C, Lops C, Feldman HA. Correlates of incorrect condom use among depressed young women: an event-level analysis. *Journal of Pediatric and Adolescent Gynecology*. 2010 in press.
- Substance Abuse and Mental Health Services Administration. [Retrieved November 1, 2009] The NSDUH Report: Major Depressive Episode and Treatment among Adolescents. 2009. from <http://www.oas.samhsa.gov/2k9/youthDepression/MDEandTXTforADOL.pdf>
- Tice DM, Bratslavsky E, Baumeister RF. Emotional distress regulation takes precedence over impulse control: if you feel bad, do it! *Journal of Personality & Social Psychology*. 2001; 80(1):53–67. [PubMed: 11195891]
- U.S. Department of Health and Human Services. Centers for Disease Control and Prevention. National Center for HIV, STD and TB Prevention (NCHSTP). Division of STD/HIV Prevention. [Retrieved December 20, 2010] Sexually Transmitted Disease Morbidity for selected STDs by age, race/ethnicity and gender 1996-2008. 2009. from CDC WONDER On-line Database <http://wonder.cdc.gov/controller/datarequest/D46;jsessionid=09ED729FD13FE86B8BB0A1C723BD9257>
- Wiemann CM, Chacko MR, Kozinetz CA, DiClemente R, Smith PB, Velasquez MM, von Sternberg K. Correlates of consistent condom use with main-new and main-old sexual partners. *Journal of Adolescent Health*. 2009; 45(3):296–299. [PubMed: 19699427]

Figure 1. Application of the Theory of Planned Behavior (Azjen, 1991) in understanding theoretical mediators of condom use.

Table 1

Description of Condom Use Measures

Condom Use Measure	Description	Cronbach's α		
		Entire Sample ($N = 128$)	Clinically Depressed ($n = 64$)	Non-depressed ($n = 64$)
Hedonistic Beliefs	6 items, beliefs that condoms do not interfere with sexual pleasure	.83	.87	.74
Impulse Control Beliefs	3 items, beliefs about ability to control impulses in variant situations to use condoms	.81	.85	.74
Negotiation Beliefs	3 items, beliefs about ability to negotiate condom use with sexual partners	.85	.83	.87
Normative Beliefs	4 items, beliefs regarding referent others' approval of using condoms	.69	.64	.74
Technical Skills	3 items, beliefs about ability to use condoms skillfully	.75	.69	.81
Intentions	3 items, intention to use a condom during sex in the next 3 months	.86	.91	.74

Note: All measures were assessed on 5-point Likert scales, with response options ranging from 0 to 4.

Table 2

Sample Demographic Characteristics

Demographic	Clinically Depressed		Non-Depressed		Test Statistic	p-value
	<i>M (SD)</i>		<i>M (SD)</i>			
Age	15.80 (1.73)		16.20 (1.98)		$U = 1797.00$	.226
# of adults in household	1.89 (1.06)		1.91 (1.02)		$U = 2002.50$	.817
# of children in household	2.60 (1.82)		2.31 (1.90)		$U = 1639.50$	.314
Currently in school	<i>n</i>	%	<i>n</i>	%		
Yes	62	96.9%	57	89.1%	$\chi^2 = 2.99$	.084
No	2	3.1%	7	10.9%		
Parent/guardian ever married						
Yes	26	41.3%	22	36.7%	$\chi^2 = .274$	.601
No	37	58.7%	38	63.8%		
Mother working						
Yes	32	60.4%	35	64.8%	$\chi^2 = .225$	.635
No	21	39.6%	19	35.2%		
Father working						
Yes	26	53.1%	31	63.3%	$\chi^2 = 1.153$	.562
No	20	40.8%	15	30.6%		
Mother finished high school						
Yes	37	66.1%	51	91.1%	$\chi^2 = 11.783$	.003
No	13	23.2%	5	8.9%		
Father finished high school						
Yes	28	50%	37	67.3%	$\chi^2 = 6.603$	.037
No	8	14.3%	10	18.2%		
Mother and father living in same house						
Yes	10	17.9%	14	25.5%	$\chi^2 = .945$	.331
No	46	82.1%	41	74.5%		
Participant working						
Yes	18	30%	19	38.0%	$\chi^2 = .782$	.377
No	42	70%	31	62.0%		

	Clinically Depressed	Non- Depressed	Test Statistic	p-value
Do not live with mother or father	8 6.3%	9 7%	$\chi^2 = 1.613$	.806

Note. M = mean; SD = standard deviation

Table 3

Comparison of Condom Use and STD Testing and Diagnosis

Item	Clinically Depressed		Non-Depressed		Test Statistic	p-value
	M (SD)		M (SD)			
Number of lifetime unprotected sexual encounters	13.9 (27.7)		3.3 (4.5)		U = 475.0	.149
Proportion of condom use in the past 3 months	.5 (.4)		.7 (.4)		U = 356.5	.037
# of times got high on an alcoholic drink or another drug and then had sex, <i>without</i> using a condom in the past 3 months	8.1 (8.4)		1.5 (.9)		U = 32.5	.050
# of times felt depressed/sad/lonely/stressed and then had sex, <i>without</i> using a condom in the past 3 months	6.5 (7.7)		4 (2.2)		U = 49.0	.945
In the past 3 months, during which activity less likely to use condoms	n	%	n	%	$\chi^2 = 2.7$	.609
I did not use condoms	8	16.3%	5	13.5%		
Vaginal sex	12	24.5%	8	21.6%		
Anal sex	2	4.1%	0	0.0%		
Oral sex	12	24.5%	8	21.6%		
I used condoms the same way for each sexual activity	15	30.6%	16	43.2%		
Condom use frequency					$\chi^2 = 4.1$	.132
Never	12	25.5%	7	20.0%		
Sometimes	21	44.7%	10	28.6%		
Every time	14	29.8%	18	51.4%		
Tested for STDs					$\chi^2 = .7$	.403
Yes	37	74.0%	25	65.8%		
No	13	26.0%	13	34.2%		
Tested positive for an STD					$\chi^2 = 3.6$	.051
Yes	18	47.4%	7	24.1%		
No	20	52.6%	22	75.9%		

Note. M = mean; SD = standard deviation

Table 4

Comparison of Condom Use Attitudes, Beliefs, and Intentions Among Clinically Depressed and Non-Depressed Participants

Condom Use Measure	Maximum Possible Scale Score	Entire Sample <i>M</i> (<i>SD</i>)	Clinically Depressed <i>M</i> (<i>SD</i>)	Non-depressed <i>M</i> (<i>SD</i>)	<i>p</i> -value
Hedonistic Beliefs	24	14.3 (5.48)	13.9 (6.15)	15.2 (4.43)	.803
Impulse Control Beliefs	12	7.6 (3.43)	7.2 (3.58)	8.3 (3.05)	.094
Negotiation Beliefs	12	8.6 (3.23)	8.3 (3.32)	9.0 (3.12)	.187
Normative Beliefs	16	13.6 (2.85)	13.5 (2.74)	13.7 (2.98)	.537
Technical Skills	12	8.1 (3.11)	7.8 (3.15)	8.8 (3.02)	.163
Intentions	12	9.4 (2.96)	9.3 (3.30)	9.8 (2.40)	.864

Note. *M* = mean; *SD* = standard deviation