



University of Kentucky
UKnowledge

Health, Behavior & Society Faculty Publications

Health, Behavior & Society

12-4-2014

Condom-Associated Erection Problems: A Study of High-Risk Young Black Males Residing in the Southern United States

Cynthia A. Graham

University of Southampton, UK

Richard A. Crosby

University of Kentucky, richard.crosby@uky.edu

Stephanie Sanders

The Kinsey Institute for Research in Sex, Gender, and Reproduction

Robin Milhausen

The Kinsey Institute for Research in Sex, Gender, and Reproduction

William L. Yarber

The Kinsey Institute for Research in Sex, Gender, and Reproduction

Right click to open a feedback form in a new tab to let us know how this document benefits you.

Follow this and additional works at: https://uknowledge.uky.edu/healthbehavior_facpub

 Part of the [Public Health Commons](#)

Repository Citation

Graham, Cynthia A.; Crosby, Richard A.; Sanders, Stephanie; Milhausen, Robin; and Yarber, William L., "Condom-Associated Erection Problems: A Study of High-Risk Young Black Males Residing in the Southern United States" (2014). *Health, Behavior & Society Faculty Publications*. 11.

https://uknowledge.uky.edu/healthbehavior_facpub/11

This Article is brought to you for free and open access by the Health, Behavior & Society at UKnowledge. It has been accepted for inclusion in Health, Behavior & Society Faculty Publications by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.

Condom-Associated Erection Problems: A Study of High-Risk Young Black Males Residing in the Southern United States

Notes/Citation Information

Published in *American Journal of Men's Health*, v. 10, issue 2, p. 141-145.

© The Author(s) 2014

American Journal of Men's Health publishes manuscripts under the [Creative Commons Attribution Non-Commercial license \(CC BY NC 3.0\)](#), which allows others to re-use the work without permission as long as the work is properly referenced and the use is non-commercial.

Digital Object Identifier (DOI)

<https://doi.org/10.1177/1557988314561311>

Condom-Associated Erection Problems: A Study of High-Risk Young Black Males Residing in the Southern United States

American Journal of Men's Health
2016, Vol. 10(2) 141–145
© The Author(s) 2014
Reprints and permissions:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/1557988314561311
ajmh.sagepub.com



Cynthia A. Graham, PhD^{1,3}, Richard Crosby, PhD^{2,4}, Stephanie Sanders, PhD^{2,3}, Robin Milhausen, PhD^{2,5}, and William L. Yarber, HSD^{2,3}

Abstract

Previous research indicates that young men may experience condom-associated erection loss and that these problems may lead to inconsistent or incomplete condom use. The primary aim of this study was to assess, using a retrospective recall period of 2 months, correlates of condom-associated erection problems among young Black men attending sexually transmitted infection (STI) clinics. Data were collected in clinics treating patients with STIs in three southern U.S. cities. Males 15 to 23 years of age who identified as Black/African American and reported recent (past 2 months) condom use were eligible. A total of 494 men participated. Nineteen percent reported that condom-associated erection problems during condom application occurred at least once, and 17.8% indicated erection difficulties occurred during sexual intercourse at least once in the past 2 months. Multivariate analyses identified that condom-associated erection problems were associated with reports of sex with more than one partner during the recall period, reported problems with condom fit and feel, lower motivation to use condoms, and attempts at condom application before having a full erection. Findings suggest that clinic interventions should address possible condom-associated erection problems among young Black men who are at risk of STIs. Encouraging men who may be vulnerable to erection loss when condoms are used to allow sufficient time for sexual arousal to build may be an effective strategy.

Keywords

male contraception, sexuality, men of color, special populations

Introduction

In the United States, young Black men (YBM) continue to be disproportionately likely to acquire sexually transmitted infections (STIs), including infection with human immunodeficiency virus (HIV; Centers for Disease Control and Prevention, 2005, 2006, 2007, 2011, 2013). The problem is most pronounced in the Southern United States (Southern States AIDS/STD Directors Work Group, 2003, 2008).

Condom use remains the primary public health strategy to prevent HIV and other STIs in YBM (Crosby, 2013; Crosby & Bounse, 2012; Crosby, Charnigo, Weathers, Caliendo, & Shrier, 2012; Holmes, Levine, & Weaver, 2004). Evidence strongly suggests that young men may experience issues with condoms that lead to erection loss, either during application or during actual use (Crosby et al., 2013; Crosby, Yarber, Graham, & Sanders, 2010; Crosby, Yarber, Sanders, & Graham, 2005; Graham et al., 2006; Graham, Crosby, Milhausen, Sanders, & Yarber, 2011; Reece et al., 2007; Reece, Briggs, Dodge, Herbenick, & Glover, 2010; Sanders,

Milhausen, Crosby, Graham, & Yarber, 2009). These condom-associated erection problems may be more common among men at risk for STIs and may lead to inconsistent or incomplete condom use (Bancroft et al., 2003; Graham et al., 2006; Richters, Hendry, & Kippax, 2003).

No previous studies have investigated the antecedents to condom-associated erection problems in clinical samples of YBM in the United States. Past studies have reported, however, that young males having multiple sex partners were more likely to also experience condom

¹University of Southampton, Southampton, England

²The Kinsey Institute for Research in Sex, Gender, and Reproduction, Bloomington, IN, USA

³Indiana University, Bloomington, IN, USA

⁴University of Kentucky, Lexington, KY, USA

⁵University of Guelph, Guelph, Ontario, Canada

Corresponding Author:

Cynthia A. Graham, Department of Psychology, Faculty of Social and Human Sciences, University of Southampton, Shackleton Building (B44), Room 44/3016, Highfield, Southampton, Hampshire SO17 1BJ, UK.

Email: C.A.Graham@soton.ac.uk

failures (Crosby, 2013; Crosby, DiClemente, Yarber, & Troutman, 2008), but whether Condom Use Errors/Problems Survey was a factor in the condom failure is not known. Factors such as drinking before sex and lack of motivation to use condoms may also be antecedents, as well as issues with condom fit and feel (Crosby et al., 2013; Sanders et al., 2012). Accordingly, the aim of this study was to first examine the prevalence of condom-associated erection problems and then determine the psychosocial and behavioral correlates of this occurrence in a sample of sexually active young Black male attendees of STI clinics located in three southern U.S. states.

Method

Study Sample

This sample was composed of participants from a larger National Institutes of Mental Health–funded randomized controlled trial of a safer sex intervention program designed for this population (Crosby et al., 2014). Only the baseline data from that trial were used for the current study. Recruitment occurred in clinics that diagnose and treat STIs. Inclusion criteria were (a) self-identification as Black/African American, (b) aged 15 to 23 years, (c) engaged in penile–vaginal sex at least once in the past 2 months, and (d) not knowingly HIV-positive. Recruitment occurred from approximately 2010 through 2012, in a primary site (New Orleans, LA) and two secondary sites (Baton Rouge, LA, and Charlotte, NC). The overall study participation rate was 60.4% ($N = 702$). For this secondary analysis, only YBM who reported recent (past 2 months) condom use were included ($N = 494$).

Study Procedures

After obtaining assent, research assistants asked young men less than 18 years of age for their permission to contact one parent or guardian to obtain consent for study participation. Young men aged at least 18 years old provided written informed consent. After enrollment, an audio-computer assisted self-interview (A-CASI) survey was administered. Participants were instructed in the use of a laptop computer to complete the A-CASI, lasting approximately 30 minutes. The A-CASI was completed in a private area with a research assistant being available to clarify wording if needed. Young men were provided with a \$50 gift card. The study protocol was approved by the institutional review boards at all participating sites.

Measures

Two items taken from the Condom Use Errors Survey (Crosby, Graham, Milhausen, Sanders, & Yarber, 2010)

assessed participants' recent experiences with condom-associated erection problems: (a) In the past 2 months, have you had any problems with losing your erection (staying hard) while putting on a condom? (b) In the past 2 months, did you have any problems with losing your erection (staying hard) once the condom was on and sex had started? Potential correlates of condom-associated erection problems were problems with fit and feel; discussing condoms before use; placing condom on wrong-side up; wanting lubricant but not having any; condom broke, leaked, or slipped off; needing a new condom; attempting application before full erection; using condoms with new partners; drinking alcohol before sex; being high during sex; having multiple sex partners; and really wanting to use a condom. Response alternatives were "no," "yes," or "refuse to answer"; for those participants who indicated "yes," we also asked, "How many times did this happen?"

Data Analysis

For analyses, the two items assessing recent experiences with condom-associated erection problems were added together to create a single variable. This variable, in turn, was divided by the number of times condoms had been used for penile–vaginal sex during the recall period. The resulting proportional variable served as the dependent variable for the analyses. Independent groups *t* tests were used to determine the bivariate significance of the 12 selected correlates with the dependent variable. Correlates testing significant at the bivariate level were then used to construct a hierarchical multiple linear regression model, with age being entered into the first block and with the correlates being entered into the second block using a forward stepwise procedure. Significance was defined by an alpha of .05. All analyses were conducted using SPSS (Version 20.0).

Results

Characteristics of the Sample

The mean age of the analytic subsample ($n = 494$) was 19.6 years ($SD = 1.9$). All the participants reported having used condoms at least once in the past 2 months. The majority reported finishing high school or earning a General Equivalency Diploma ($n = 318$, 64.4%). More than one-half ($n = 253$; 51.2%) reported current school enrollment (information on type of school attended was not collected). The mean age of sexual debut (first time they willingly had penetrative sex) was 13.8 years ($SD = 2.4$). The mean number of lifetime sex partners was 19.1 ($SD = 19.9$), and the mean number of sex partners in the past 2 months was 3.4 ($SD = 6.5$). The mean number of penile–vaginal sex acts reported for the 2-month recall period was 9.5 ($SD = 13.1$).

Nearly one-half ($n = 227$, 46.0%) reported having any unprotected vaginal sex in the past 2 months. Only a small percentage reported never having been diagnosed with an STI ($n = 24$, 4.8%), with 397 men (80.3%) reporting ever being diagnosed with one STI, 66 (13.4%) reporting two diagnoses, and 7 (1.5%) reporting three diagnoses. Regarding the results of our baseline assessments for Chlamydia/gonorrhea, 96 men (19.4%) tested positive for at least one of these infections.

Descriptive Findings

A total of 494 men reported recent (past 2 months) condom use during penile–vaginal sex and also provided valid responses to the two questions assessing condom-associated erection loss. The distribution included 365 indications (74.0%) of zero instances of condom-associated erection loss, 69 indications (14.0%) of problems occurring each time a condom was used, and 60 indications (12.0%) of problems occurring on some occasions.

For the item assessing erection loss during condom application, 94 men (19.0%) indicated this event occurring at least once. The mean was 0.72 times ($SD = 2.36$), with a range of 0 to 30 times. For the item assessing erection loss during sex, 88 (17.8%) indicated this event occurring at least once. The mean was 0.75 times ($SD = 3.81$), with a range of 0 to 56 times. For the combined variable (erection loss during application and during sex), 129 men (26.1%) indicated this event occurring at least once. The mean was 1.45 times ($SD = 4.93$), with a range of 0 to 60 times. In dividing the combined variable by the frequency of condom use for penile–vaginal sex during the same 2-month recall period, the mean was 19.0% ($SD = 35.9$).

Bivariate Findings

The observed bivariate associations are presented in Table 1. As reported, 10 of the 12 associations tested significant at the bivariate level. In each of these 10 associations, a greater mean percentage of condom-associated erection problems was observed for men indicating various occurrences of condom use errors/problems, multiple partners, drinking before sex, or not being highly motivated to use condoms. Also, using Pearson product–moment correlations, a small, but significant, positive association ($p = .001$) was observed between participants' age and the dependent variable ($r = .15$), with advancing age being predictive of a greater percentage of condom-associated erection problems.

Multivariate Findings

The results of the regression model are displayed in Table 2. The model was significant ($F = 15.88$ [5, 469], $p <$

Table 1. Bivariate Associations Between the Percentage of Times Condom-Associated Erection Loss Occurred and Selected Correlates Among 494 Young Black Males.

Correlate	Mean %	t Value	df	p
Problems with fit and feel				
No	14.0	4.39	211.8	<.001
Yes	31.0			
Discussed condom use before sex				
No	20.9	0.94	350.8	.35
Yes	17.7			
Placed condom on wrong side up				
No	17.0	2.07	168.5	.04
Yes	25.5			
Wanted lubricant, but had none				
No	16.1	2.91	182.7	.004
Yes	27.8			
Condom broke, leaked, or slipped off				
No	17.4	2.01	102.48	.047
Yes	27.3			
Needed a new condom				
No	16.2	3.06	122.3	.003
Yes	30.6			
Attempted application before full erection				
No	13.4	4.93	207.0	<.001
Yes	32.8			
Used condoms with new sex partners				
No	15.4	2.63	325.9	.009
Yes	24.7			
Drank alcohol before sex				
No	15.3	2.12	490.8	.035
Yes	22.1			
High during sex				
No	16.8	1.40	453.5	.16
Yes	21.4			
Had multiple sex partners				
No	11.4	4.69	456.2	<.001
Yes	26.3			
"I really want to use condoms"				
Strongly agree	15.3	2.84	319.5	.005
Do not strongly agree	25.2			

.001). As reported, 4 of the 10 correlates retained significance. Having issues with the way condoms fit or felt was independently predictive of an increasingly greater proportional rate of condom-associated erection problems, as was attempting condom application without a complete erection. Those reporting sex with more than one partner during the recall period also had a greater proportional rate of condom-associated erection problems, as did those disagreeing with the statement, "I really want to use condoms." The control variable (age) yielded a significant Beta value in this model (Beta = .12, $t = 2.82$, $p = .005$), indicating greater proportional condom-associated erection problems in YBM with each advancing year of age.

Table 2. Age-Adjusted Multivariate Associations Between the Percentage of Times Condom-Associated Erection Loss Occurred and Selected Correlates.

Correlate	Beta	t Value	p
Problems with fit and feel	.16	3.69	<.001
Attempted application before full erection	.20	4.56	<.001
Had multiple sex partners	.13	2.96	.003
Not agreeing with the statement: "I really want to use condoms"	.10	2.35	.019

Discussion

Overall, a substantial proportion of the young Black male participants in this sample reported losing their erection on at least one occasion in the previous two months, either during condom application (19.0%) or during sexual activity (17.8%).

Consistent with previous studies (Bancroft et al., 2003; Graham et al., 2006; Musacchio, Hartrich, & Garofalo, 2006), having had multiple partners during the 2-month recall period increased the likelihood of condom-associated erection problems occurring. It may be that men who are vulnerable to experiencing erection problems engage in more risky sexual behavior, and with more female partners, in an effort to heighten their sexual arousal. Another possibility is that sexual situations and negotiating condom use with an unfamiliar partner may be anxiety-provoking for some men, which increases the likelihood of erection loss.

Also consistent with prior research, problems with the fit and feel of condoms predicted the likelihood of erection loss during condom application and during sex (Crosby et al., 2013; Graham et al., 2006; Sanders et al., 2012). Men who were less motivated to use condoms were also more likely to report erection loss during condom application or during sex. Previous research has documented that low motivation to use condoms was associated with a greater likelihood of incomplete use (i.e., putting condoms on after starting sex or removing condoms before sex was over; Graham, Crosby, Sanders, & Yarber, 2003), which may be precipitated by erection difficulties. The lack of motivation to use condoms could also be an effect, rather than a cause, of condom-associated erection problems.

A novel finding was that men attempting condom application without a full erection was a significant predictor of reports of condom-associated erection problems. In a recent psychophysiological study of sexual arousal patterns among young heterosexual men, men with and without condom-associated erection problems differed in the ease with which they become sexually aroused (Janssen et al., 2014). Although the erectile responses of these two groups of men were indistinguishable after 3

minutes of exposure to an erotic film, men with a history of condom-associated erection problems needed more time and/or more intense stimulation to become fully aroused. There is also some preliminary evidence that men who report condom-associated erection problems are also more likely to experience erectile difficulties in sexual situations where condoms are not used, that is, they may be more vulnerable to erectile problems (Sanders et al., 2014).

The geographic diversity of the sample is limited to patients attending clinics in three U.S. cities; thus, generalizability of the findings to other populations of young males is problematic. The sample would also not have included men whose erection problems (condom-related or otherwise) led to them avoiding having sex altogether. The study findings are also limited by the validity of participants' self-reports of condom-associated erection problems. It is possible, for example, that men who have multiple sexual partners may report erectile problems with condom use as a way to justify not using condoms.

The findings have clear implications for clinic-based interventions that aim to promote the consistent and correct use of condoms among high-risk YBM. Addressing possible condom-associated erection problems experienced by young men should be included in any interventions, particularly among men who have a history of multiple partners and those who appear less motivated to use condoms. Interventions such as the newly developed Kinsey Institute Homework Intervention Strategy (Milhausen et al., 2011), which emphasizes practice applying, using, and removing condoms alone, in a "low pressure" situation, may be beneficial for this group of men. In addition, men who are vulnerable to experiencing condom-associated erection problems should be encouraged to allow sufficient time during a sexual encounter to become sexually aroused before applying condoms.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study was funded by a grant from the National Institute of Mental Health to the second author (Grant Number: R01MH083621).

References

- Bancroft, J., Janssen, E., Strong, D., Carnes, L., Vukadinovic, Z., & Long, J. S. (2003). Sexual risk-taking in gay men: The relevance of sexual arousability, mood, and

- sensation seeking. *Archives of Sexual Behavior*, 32, 555-572. doi:10.1023/A:1026041628364
- Centers for Disease Control and Prevention. (2005). Health disparities experienced by Black or African Americans, United States. *Morbidity and Mortality Weekly Report*, 54, 1-3.
- Centers for Disease Control and Prevention. (2006). *African Americans and AIDS*. Atlanta, GA: U.S. Department of Health and Human Services.
- Centers for Disease Control and Prevention. (2007). *A heightened national response to the HIV/AIDS crisis among African Americans*. Atlanta, GA: U.S. Department of Health and Human Services.
- Centers for Disease Control and Prevention. (2011). *HIV/AIDS surveillance, 2011* (yearend edition). Atlanta, GA: U.S. Department of Health and Human Services.
- Centers for Disease Control and Prevention. (2013). *HIV/AIDS among African Americans*. Atlanta, GA: U.S. Department of Health and Human Services. Retrieved from <http://www.cdc.gov/hiv/risk/raciaethnic/aa/facts/>
- Crosby, R. A. (2013). State of condom use in HIV prevention science and practice. *Current HIV/AIDS Reports*, 10, 59-64.
- Crosby, R. A., & Bounse, S. (2012). Condom effectiveness: Where are we now? *Sexual Health*, 9, 10-17.
- Crosby, R. A., Charnigo, R. J., Salazar, L. F., Pasternak, R., Terrell, I., Ricks, J., & Taylor, S. (2014). Enhancing condom use among young Black males: A randomized controlled trial. *American Journal of Public Health*, 104, 2219-2225.
- Crosby, R. A., Charnigo, R., Weathers, C., Caliendo, A. M., & Shrier, L. A. (2012). Condom effectiveness against non-viral sexually transmitted infections: A prospective study using electronic daily diaries. *Sexually Transmitted Infections*, 88, 484-488.
- Crosby, R. A., DiClemente, R. J., Yarber, W. L., & Troutman, A. (2008). Young African American men having sex with multiple partners are more likely to use condoms incorrectly: A clinic-based study. *American Journal of Men's Health*, 2, 340-343.
- Crosby, R., Graham, C. A., Milhausen, R., Sanders, S. A., & Yarber, W. L. (2010). Condom Use Errors/Problems Survey. In T. Fisher, C. M. Davis, W. L. Yarber & S. L. Davis (Eds.), *Handbook of sexuality-related measures* (3rd ed., pp. 153-159). New York, NY: Taylor & Francis.
- Crosby, R. A., Milhausen, R. R., Mark, K. P., Yarber, W. L., Sanders, S. A., & Graham, C. A. (2013). Understanding problems with condom fit and feel: An important opportunity for improving clinic-based safer sex programs. *Journal of Primary Prevention*, 34, 109-115.
- Crosby, R. A., Yarber, W. L., Graham, C. A., & Sanders, S. A. (2010). Does it fit okay? Problems with condom use as a function of self-reported poor fit. *Sexually Transmitted Infections*, 86, 36-38. doi:10.1136/sti.2009.036665
- Crosby, R. A., Yarber, W. L., Sanders, S. A., & Graham, C. A. (2005). Condom discomfort and associated problems with their use among university students. *The Journal of American College Health*, 54, 143-147.
- Graham, C. A., Crosby, R. A., Milhausen, R. R., Sanders, S. A., & Yarber, W. L. (2011). Incomplete use of condoms: The importance of sexual arousal. *AIDS and Behavior*, 15, 1328-1331.
- Graham, C. A., Crosby, R. A., Sanders, S. A., & Yarber, W. L. (2003). Motivation of self, partner, and couple to use male condoms: Associations with condom use errors and problems. *Health Education Monograph*, 20, 60-64.
- Graham, C. A., Crosby, R. A., Yarber, W. L., Sanders, S. A., McBride, K., Milhausen, R. R., & Arno, J. N. (2006). Erection loss in association with condom use among young men attending a public STI clinic: Potential correlates and implications for risk behavior. *Sexual Health*, 3, 255-260.
- Holmes, K. K., Levine, R., & Weaver, M. (2004). Effectiveness of condoms in preventing sexually transmitted infections. *Bulletin of the World Health Organization*, 82, 454-461.
- Janssen, E., Sanders, S. A., Hill, B. J., Amick, E., Oversen, D., Kvam, P., & Ingelhart, K. (2014). Patterns of sexual arousal in young, heterosexual men who experience condom-associated erection problems (CAEP). *Journal of Sexual Medicine*. Advance online publication. doi:10.1111/jsm.12548
- Milhausen, R. R., Sanders, S. A., Crosby, R. A., Yarber, W. L., Graham, C. A., & Wood, J. (2011). A novel, self-guided, home-based intervention to promote condom use among young men: A pilot study. *Journal of Men's Health*, 8, 274-281.
- Musacchio, N. S., Hartrich, M., & Garofalo, R. (2006). Erectile dysfunction and Viagra use: What's up with college-age males? *Journal of Adolescent Health*, 39, 452-454.
- Reece, M., Briggs, L., Dodge, B., Herbenick, D., & Glover, R. (2010). Perceptions of condom fit and feel among men living with HIV. *AIDS Patient Care and STDS*, 24(43), 5-40.
- Reece, M., Dodge, B., Herbenick, D., Fisher, C., Alexander, A., & Satinsky, S. (2007). Experiences of condom fit and feel among African-American men who have sex with men. *Sexually Transmitted Infections*, 83, 454-457. doi:10.1136/sti.2007.026484
- Richters, J., Hendry, O., & Kippax, S. (2003). When safe sex isn't safe. *Culture, Health, & Society*, 5, 37-52.
- Sanders, S. A., Hill, B. J., Janssen, E., Crosby, R. A., Milhausen, R. R., & Graham, C. A. (2014). General erectile functioning among young, heterosexual men who do and do not report condom-associated erection problems (CAEP). Manuscript submitted for publication.
- Sanders, S. A., Milhausen, R. R., Crosby, R. A., Graham, C. A., & Yarber, W. L. (2009). Do phosphodiesterase Type 5 inhibitors protect against condom-associated erection loss and condom slippage? *Journal of Sexual Medicine*, 6, 1451-1456.
- Sanders, S. A., Yarber, W. L., Kaufman, E. L., Crosby, R. A., Graham, C. A., & Milhausen, R. R. (2012). Condom use errors and problems: a global view. *Sexual Health*, 9, 81-95.
- Southern States AIDS/STD Directors Work Group. (2003). *Southern States manifesto*. Retrieved from <http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/documents/pdf/FinalSouthernManifesto.pdf>
- Southern States AIDS/STD Directors Work Group. (2008, July 21). *Southern States manifesto: Update 2008*. Retrieved from http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/documents/SAC_Manifesto_Update_2008.pdf