

Incomplete Use of Condoms: The Importance of Sexual Arousal

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Abstract The purpose of this study was to identify associations between incomplete condom use (not using condoms from start to finish of sex) and sexual arousal variables. A convenience sample of heterosexual men ($n = 761$) completed a web-based questionnaire. Men who scored higher on sexual arousability were more likely to put a condom on after sex had begun (AOR = 1.58). Men who reported difficulty reaching orgasm were more likely to report removing condoms before sex was over (AOR = 2.08). These findings suggest that sexual arousal may be an important, and under-studied, factor associated with incomplete use of condoms.

Keywords Condoms · Sexual pleasure · Erection · STI risk · Men

Introduction

Studies indicate that incomplete use of male condoms—both delayed application and early removal—is relatively

common [1–4]. Because delayed application and early removal of condoms could compromise protection from sexually transmitted infection, studies identifying the correlates of incomplete use are important. However, little is known about the reasons why individuals, although motivated to use condoms, do not use condoms from start to finish of sex. Assessment of factors associated with incomplete condom use has been relatively limited, and largely restricted to sociodemographic correlates [1, 3].

Particularly under-researched is the possible influence of sexual arousal and sexual pleasure on condom use, although a number of researchers have highlighted the need for greater focus on the role of sexual arousal in unprotected intercourse and HIV prevention efforts [5, 6]. Recent studies have suggested the potential importance of sexual arousal difficulties in incomplete condom use. For example, men reporting erection loss during condom use appear more likely to report incomplete condom use [2, 4, 7].

In addition to problems maintaining sexual arousal being one possible reason why individuals might not use

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condoms from start to finish of sex, difficulties reaching orgasm, perhaps exacerbated by reduced sensation with condom use, might also increase the likelihood that condoms will be removed before sex is over. To our knowledge, no previous study has investigated this possibility. Delayed orgasm is not an uncommon complaint, even in younger men (and women), in part because it is a frequent side effect of many antidepressants [8]. In a sample of men attending an urban public STD clinic, those reporting problems with the fit and feel of condoms were more likely to remove condoms before sex was finished [4].

Regarding delayed application of condoms, there are a number of reasons why individuals might start having sex without using a condom, and then put the condom on later. Individuals may believe that condoms need only be used for ejaculation [9]. One unexplored factor is the experience of high sexual arousal in a sexual encounter. It makes intuitive sense that this might affect an individual's judgment/decision-making about condom use i.e. getting caught up in the "heat of the moment." If this is the case, then individuals who report being more easily aroused in a variety of situations might be more likely to engage in delayed application of condoms.

The purpose of this study was to identify associations between men's self-reports of incomplete condom use (both delayed application and early removal) and problems related to sexual arousal, using an event-specific analysis. It was hypothesized that reports of problems with arousal and orgasm, during the last condom use event, would be associated with a greater likelihood of removing condoms before sex was finished. We also predicted that men scoring higher on a measure of "arousability" would be more likely to start having sex without a condom, and then put one on later.

Methods

Participants and Procedure

Participants were recruited from an electronic mailing list for a large, internet-based sexual enhancement product company; individuals were included on the mailing list if they had either previously purchased products online from the company, or if they had emailed the company regarding one of their products. The mailing list included 65,859 email addresses. Inclusion criteria were: over 18 years of age and able to read English.

An initial recruitment email was sent in January 2006 and a second email sent in February 2006. Recipients were informed that the study was about sexual arousal and sexual health. The email included an embedded link to the study website. Each link included a random number code that could only be activated one time; this prevented

multiple submissions of responses from one individual. Following completion of questionnaires, participants were eligible to enter into a prize draw for one of 10 American Express gift cards valued at \$100.

When individuals clicked on the study link, they were presented with the study information sheet, summarizing information about the study procedures and informing them about participant rights. Individuals provided consent to participate by clicking on a link. The study website was active until March 2006. All study procedures were anonymous and approved by the Human Subjects Committee at the University of Windsor, Ontario.

In total nearly 2,000 individuals ($n = 1,987$) completed the survey. We restricted the current analyses to male respondents who reported being heterosexual and, as stated above, those who had used a condom at least once during the past three months for penile–vaginal or penile–anal intercourse. After excluding female respondents ($n = 426$), men who identified as non-heterosexual ($n = 56$), and those who had not used a condom in the last 3 months for penile–vaginal or penile–anal intercourse ($n = 706$), or had missing data on this variable ($n = 28$), the sample reduced to 771. Nine participants had missing data; the final sample comprised 762 men.

Measures

Incomplete Condom Use

The questions on incomplete use were taken from the Condom Use Errors/Problems Survey (CUES), which is a self-report questionnaire on errors and problems that can be reported during condom use [10]. Assessment focused on the last condom use event. Participants responded (yes/no) to two questions: (1) "The last time you had sex with a condom, was there penetration of the penis in the vagina or anus without the condom, and then it was put on later and penetration continued?"; (2) "The last time you had sex with a condom, was the condom taken off before you finished having sex?"

Sexual Problems

Two questions assessed sexual problems experienced during the last condom use event. Men responded "yes" or "no" to these statements: (1) "I felt my sexual interest was too low" and (2) "I had difficulty becoming aroused/becoming sexually excited."

Orgasm Difficulties

Two questions assessed difficulties related to the experience of orgasm during the last sexual encounter in which a

condom was used. Men responded “yes” or “no” to the following statements: “I had difficulty reaching orgasm/climax” and “It took me longer than I would have liked to achieve orgasm.”

Sexual Excitation/Sexual Inhibition Inventory for Women and Men (SESII-W/M) [11]

This self-report questionnaire was designed to measure individual differences in propensity for sexual excitation (SE) and sexual inhibition (SI). Individual differences in SE and SI have been associated with reports of sexual problems and sexual risk-taking [12]. Items on the SESII-W/M refer to stimulus situations that could affect SE and SI; the response format is a 4-point Likert rating scale, from “strongly disagree” to “strongly agree.” Two subscales from the SESII-W/M were used: Arousability and Inhibitory Cognitions.

The Arousability subscale consists of five items related to ease of arousability to various sexual stimuli. Items refer to arousal in response to thinking about someone who is very sexually attractive, talking about sex, and being physically close to a partner (e.g., “Sometimes I am so attracted to someone, I cannot stop myself from becoming sexually aroused.”). Higher scores on this factor suggest that the individual is more easily aroused. Cronbach’s alpha for this scale was .72 in the Milhausen et al. study.

The Inhibitory Cognitions subscale consists of eight items which relate to cognitions or emotions that inhibit sexual arousal e.g., worry about having an orgasm, worry about taking too long to become aroused, and feeling shy or self-conscious during sex (e.g., “Sometimes I have so many worries that I am unable to get aroused.”). Cronbach’s alpha for this scale was .78 in the Milhausen et al. study.

Data Analysis

Using chi-square tests, we tested the relationships between all of the following demographic variables and both outcome variables (late application and early removal of condoms): marital status (married vs. not); race (white vs. non-white); country of residence (USA vs. non-USA), and lifetime number of sexual partners (median split: 1–10 vs. 11+ lifetime partners). We also tested age and the number of lifetime sexual partners as continuous variables using Mann–Whitney *U* tests.

The separate logistic regression models for late application and early removal of condoms used hierarchical entry, with the first block entering age and the second block using the forward Wald procedure for the measures of Arousability and Inhibitory Cognitions and the four sexual problem variables. In both models, significance was defined by an alpha of .05.

Results

Characteristics of the Sample

Average age of the participants was 36.4 years ($SD = 9.75$), with a range of 19–69 years. The majority (82.%) identified as White, with 4.4% identifying as Black/African American, 3.4% as Asian, and the remainder as members of other races. The large majority (90.5%) resided in the United States; 3.4% resided in Canada, with the remaining participants living in 25 different countries. The majority of the sample (66.8%) was married, and only 4.2% described themselves as “single (not currently involved with anyone).” Regarding lifetime number of vaginal sex partners, 28.5% reported having had three or fewer partners, 30.4% between 4 and 10 partners, 18.8% between 11 and 20 partners, and the remaining 22.3% reported over twenty lifetime partners. Age was significantly related to late application but not to early removal of condoms. None of the other demographic variables were significantly related to either late application or early removal of condoms. Therefore only age was included in the multivariate analyses.

Multivariate Associations

As shown in Table 1, for late application of condoms the age-adjusted odds ratio for the measure of Arousability was 1.58, indicating that men scoring higher on the Arousability subscale were about 1.5 times more likely to apply condoms after penetrative sex had begun. None of the four measures of sexual problems achieved significance for late application of condoms. Also, as shown in Table 1, the only significant correlate of early removal of condoms was difficulty experiencing orgasm. Men who reported difficulty reaching orgasm were about two times more likely to report early removal of condoms.

Discussion

To our knowledge, this is the first published study, using an event-specific analysis, to examine the association between self-reported problems related to sexual arousal and orgasm, and incomplete use of condoms. We found, as expected, that difficulty or delay in reaching orgasm, was associated with a greater likelihood of removing condoms before sex was over. Contrary to our predictions, and to the previous literature [2, 4, 7], there was no association between difficulties becoming sexually aroused and early removal. Our prediction that men who scored high on a measure of “arousability”, indicating greater ease of becoming sexually aroused in a variety of situations, would

Table 1 Significant multivariate associations between assessed correlates and incomplete condom use ($n = 762$)

	AOR ^a	95% CI ^b	<i>p</i>
Late application of condoms			
Correlate			
Age	.97	.95–.99	.001
Arousability	1.58	1.07–2.30	.022
Early removal of condoms			
Correlate			
Difficulty having orgasm	2.08	1.22–3.55	.007

^a Adjusted odds ratio—adjusted for the influence of all other variables in the model

^b Confidence interval

be more likely to start having sex without using a condom, and then put one on later, was supported.

It seems likely that different pathways, related in part to individual differences in vulnerability to sexual arousal problems, may explain incomplete condom use. For some men, condoms may decrease sensation and as a result maintaining an erection, as well as achieving orgasm, may be more difficult. These men may be less motivated to use condoms, knowing that they may augment erectile difficulties. The fact that condom use must be negotiated “in the heat of the moment” may be more challenging for men who are most reactive to sexual stimuli, or easily aroused, and these men may be more at risk for late application of condoms in a sexual encounter.

There are clear implications of these findings. Firstly, health-care providers and educators need to emphasize the importance of using condoms from start to finish of sexual activity. Education about potential challenges of condom use and possible solutions could be discussed. Secondly, health professionals should inquire about possible sexual difficulties men are experiencing in the context of condom use and ways that these might be ameliorated. For example, men who are experiencing difficulties reaching orgasm when condoms are used might be encouraged to try adding lubrication to condoms or experimenting with different types of condoms to find one that suits them best. This study had several limitations, including the use of a convenience sample and reliance on retrospective self-report. Our sample was recruited from the mailing list of a sexual enhancement product company. It is possible that the sample was biased towards those individuals who were more likely to report sexual problems; however, this is not

necessarily the case. Men were informed that the study was about “sexual arousal and health”, not about sexual difficulties. Moreover, we would not assume that men who are on the mailing list of a sexual enhancement product company are necessarily experiencing sexual problems e.g., many may be looking to enhance their sexual life.

Despite the above limitations, the findings point to the potential importance of sexual arousal as an important factor in incomplete condom use and suggest the need for further research, with different populations of men.

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