

Objectives

To comprehensively assess condom use errors and problems reported by women who apply condoms, given the lack of data on this aspect of condom use.

Methods

Data from a questionnaire survey, using a 3-month recall period, was analyzed for a convenience sample of 102 college women who put condoms on their male partner(s) for sex (vaginal, anal, or oral). The percentage of the sample reporting that an error or problem occurred at least once is presented.

Results

Fifty-one percent put the condom on after starting sex, and 15% took the condom off before ending sex. Forty-eight percent wanted a condom but didn't have one, 46% did not leave space at the tip, 30% put the condom on wrong side up and had to flip the condom over, 26% did not use a lubricant, and 15% wanted a water-based lubricant and did not have any available. Twenty-five percent reported that their partners lost erections in association with condom use. Twenty-eight percent reported breakage, slippage, or both. Higher error scores were found for those who reported: 1) breakage or slippage, 2) partner erection problems, 3) use of another form of contraception, and 4) not having received instruction in correct condom use.

Conclusion

Educating women as well as men about correct condom use, in addition to promoting consistent condom use, may be an important public health strategy. (*JAMWA*. 2003;58:95-98)

Condom Use Errors and Problems Among Young Women Who Put Condoms on Their Male Partners

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Women are far more likely than men to become infected by the human immunodeficiency virus through heterosexual contact¹⁻⁴ and to experience clinically significant consequences of sexually transmitted infections (STIs).⁵ Consistent and correct use of condoms is a primary strategy recommended for preventing STIs as well as pregnancy.⁵⁻⁸ Male condoms, however, have often been viewed as male controlled, thus little is known about women's experiences putting condoms on their male partners.

Many studies of women have focused on the consistency of condom use.⁹⁻¹⁵ Only a few studies have assessed condom use errors or problems as reported by women,¹⁶⁻²¹ and these did so in a limited fashion, with most focusing on breakage and slippage rather than on practices that might reduce condom efficacy. Clearly, incorrect condom use could compromise efforts to protect against STIs or unintended pregnancy.^{8, 18, 19, 22-27}

The purpose of this exploratory study was to comprehensively assess errors and problems in use of male condoms as reported by women who have put condoms on their partners in the past 3 months. We also tested 5 hypotheses; that women reporting fewer overall errors in condom use will be: 1) more likely to report ever being instructed about correct condom use, 2) primarily reliant on condoms as a method of contraception, 3) less likely to report condom breakage and slippage, 4) less likely to report that their partners had condom-associated erectile problems, and 5) more likely to report consistent use of condoms.

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Methods

Participants

One hundred and two undergraduate women age 18 or older who reported that they (not their male partners) had applied condoms for sex at least once during the previous 3 months completed the survey.

Measures

The questionnaire assessed background variables, number of male sex partners, frequency of sex with men, and condom use. Sex was defined as “when a male partner put his penis in your mouth, vagina, or rectum (anus, butt).” Based on previous research, we used a 3-month recall period.^{9, 28} We used widely cited condom use guidelines^{6, 7} and an earlier study by Warner et al in developing the questionnaire.²³ We also used the female version of the Condom Use Errors Survey (FCUES, The Kinsey Institute 2000), consisting of items assessing 24 errors and 4 problems that might have occurred when using condoms.

Procedures

The Indiana University Bloomington Campus Committee for the Protection of Human Subjects approved the study protocol. Women were solicited for anonymous study participation through health science courses and psychology courses that had not included instruction regarding correct condom use.

Data Analysis

The percentage of times condoms were used for sex during the past 3 months was calculated (consistency of condom use). The percentage of times condoms were put on the male partner by the woman was calculated using her reported frequency of putting the condom on her partner divided by the total number of times a condom was used.

Discrepancies between reported use and ideal use (as established by published guidelines)^{1, 2} were classified as condom errors and problems. We report the percentage of women who indicated that errors or problems had occurred at least once during the recall period. A summative error score was calculated for each woman. One point was given for each error that women reported occurring at least once. One error (not using a new condom when switching between vaginal, oral, or anal sex) was not included in the summative error score because only part of the sample reported switching. Therefore, 23 errors were used to create this summative error score. Problems were classified into 2 types: 1) breakage and slippage during sex, and 2) partner erection problems

Table 1. Condom Use Errors Reported by Women That Occurred at Least Once During Past Three Months, % (n = 102)

Technical errors	
Did not check condom for visible damage	82.7
Did not check expiration date	71.3
Put condom on after starting sex	51.1
Did not hold tip and leave space	45.7
Put condom on the wrong side up (had to flip it over)	29.6
Used condom without lubricant	25.8
Condom slipped off while withdrawing penis	14.9
Took condom off before sex was over	14.8
Ejaculate dripped onto partner's mouth, genitals, or anus	12.5
Started sex before condom was unrolled to base of penis	11.2
Used a condom that was stored > 1 month in a wallet	5.3
Used oil-based lubricant on condom	3.2
Did not store condom in a cool and dry location	1.7
Unrolled condom and then tried to put it on the penis	1.1
Condom contacted sharp object (teeth, jewelry, fingernails)	3.4
Used a condom again during same sexual session	2.3
Knowingly used expired condom	0
Knowingly used a damaged condom	0
Used condom again for another sexual session	0
Availability errors	
Wanted condom, but did not have one	47.9
Had a problem with a condom, another not available	15.1
Wanted a water-based lubricant, but not available	14.9
Communication errors	
Did not discuss condom use before sex	29.8
Technical errors under specific circumstances	
Switched between vaginal, oral, or anal sex	48.8
Of these, did not change to a new condom when switching	75.0
Problems	
Condom broke	19.3
Condom slipped off during sex	19.3
Lost erection after condom was on and sex had begun	20.2
Lost erection before condom was put on	14.3

related to condom use.

The Mann-Whitney U test was used to test hypotheses (Table 2). Spearman's rho rank order coefficients were calculated to test correlations.

Results

Mean age was 19.2 years (standard deviation [SD]=1.2). All participants were single/never married; 62.7% were in sexually exclusive relationships, 17.6% were in nonexclusive relationships, and 19.6% described themselves as not in a sexual relationship. The racial breakdown was similar to the demographics of the undergraduate student body at this

campus: 94.1% identified themselves as white, 3.9% as black or African American, and the remainder as Asian American or Hispanic/Latina. Seventeen percent (16.7%) were from small towns or rural areas.

Condoms were used a mean of 71.9% (SD=31.9) of the times women had sex (condom use consistency). The mean percentage of times the woman (rather than her partner) put the condom on was 59.7% (SD=36.7). Thirty-seven percent of the women applied condoms 100% of the times they were used. Consistent applicators reported a lower frequency of sex ($p<.05$) and a lower overall frequency of condom use ($p<.001$) than those applying condoms less than 100% of the time, but there were no differences in the number of partners.

The 2 most common technical errors were failing to check a condom for visible damage (83%) and not checking the expiration date (71%) (Table 1). Fifty-one percent reported that they started sex before the condom was applied; 15% took a condom off before sex was over. Further, 46% did not leave a space at the tip, and 30% put the condom on upside down and had to turn it over. In contrast, relatively few errors were reported regarding storage and reusing condoms. Several findings suggested a lack of condom availability or communication before sex occurred. For example, 48% reported wanting a condom but not having one available, and 15% had a problem with a condom, but did not have another available. Thirty percent of the sample did not discuss condom use with their partners before sex. About half reported switching between vaginal, oral, or anal sex, and the majority (75%) did not change to new condoms between behaviors as recommended by the Centers for Disease Control and Prevention.⁶

Twenty-eight percent (28.3%) reported condom breakage or slippage or both during sex. About one-quarter (25.3%) reported that their partners lost erections in association with condom use.

The mean summative error score was 4.6 (SD=2.1), with a range of 0 to 13. As seen in Table 2, error scores were significantly higher for women who reported breakage or slippage, partner erection problems in association with condom use, and use of some other form of contraception/protection during the past 3 months. Error scores were significantly lower for women who reported having ever received instruction in condom use. There were no differences in error scores between women who always applied condoms and those who did not always apply condoms. Error scores were positively correlated with the number of times condoms were used (Spearman's $\rho=.334$ $p=.001$) and the number of times women applied condoms (Spearman's $\rho=.221$, $p=.028$), but not with the consistency of condom

Table 2. Mean Error Scores of Women Reporting Selected Events Related to Condom Use (n=102)

Reported Event	Percent	Mean Error Score (SD)	P*
Ever received condom use instruction			
Yes	84.3	4.4 (2.0)	.036
No	15.7	5.6 (2.7)	
Used other form of contraception [†]			
Yes	69.6	4.9 (2.3)	.037
No	30.4	3.9 (1.6)	
Condom breakage or slippage [†]			
Yes	28.3	5.8 (2.3)	.005
No	71.7	4.4 (1.8)	
Erection problems with condom use [†]			
Yes	25.3	5.2 (1.6)	.040
No	74.7	4.4 (2.3)	

*Based on the Mann-Whitney U test statistic.

[†] Past 3 months.

use (Spearman's $\rho=.007$, $p=.944$) or the consistency of women applying the condom (Spearman's $\rho=-.085$, $p=.413$).

Discussion

As with most studies of sexual behaviors and condom use, our findings are limited by the use of retrospective self-reports and a convenience sample. Caution should be used in generalizing these results to other populations. Nonetheless, the findings suggest that young women who apply condoms may do so as often or more often than their male partners do and that many experience errors and problems that could compromise condom efficacy.

On average, women applied the condoms almost 60% of the times they were used, with more than one-third doing so every time. Women who applied condoms 100% of the time made as many errors as those who applied them less often, suggesting that the effort of applying the condom itself is not associated with more effective condom use.

Regardless of how often women applied condoms, they reported numerous errors and problems that could lead to condom failure. Substantial proportions reported starting sex before the condom was put on, not leaving space at the tip, and putting the condom on wrong side up and having to flip it over. Two other studies^{19,20} also have found substantial proportions of condom users applying the condom after sexual contact had already occurred. Nearly 3 out of 10 reported experiencing slippage or breakage, which is within

the range reported in studies of diverse samples.²⁹ One-quarter reported that their partners had lost erections in association with condom use. Erection problems may be an underestimated factor in decisions not to use condoms.²⁷

As hypothesized, fewer errors were reported by those women who: 1) had ever been instructed in correct condom use, 2) relied on condoms for contraception, 3) did not report condom breakage or slippage, and 4) did not report that their partners had condom-associated erectile problems.

The high prevalence of errors and problems reported by these young women who applied condoms suggests that they may be unsuspectingly at risk for STIs and unintended pregnancy. Thus, it is important to provide young women with education that goes beyond merely motivating them to use condoms to actually training them in correct use of male condoms. An adaptation of this questionnaire could be used as a brief needs assessment tool. Some participants in our

study spoke to the researchers after completing the survey to ask about specific items on the questionnaire to clarify how to use condoms correctly. Health care providers and health educators could use items from the questionnaire to assess knowledge of correct condom use or problems with condom use in the particular population they work with, thereby opening a dialogue on correct condom use. Because women may play a substantial role in condom use, these education efforts could be an important public health strategy.

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