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## CONDOM USE AT LAST SEX AS A PROXY FOR OTHER MEASURES OF CONDOM USE: IS IT GOOD ENOUGH?

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### Abstract

Condom use at last sex is a widely used indicator in sexual behavior research; however, there is little empirical research validating this indicator. This study examined whether a single-event recall period (the last time coitus occurred) was consistent with longer recall periods (14 days and 60 days) for a sample of African American adolescent females ( $N = 566$ ). The findings from this study demonstrate that condom use at last coitus is a valid proxy for condom use behaviors spanning longer time periods.

### INTRODUCTION

Condom use provides substantial protection against unintended pregnancies and the transmission of sexually transmitted infections (STIs) including the human immunodeficiency virus (HIV) (CDC, 2003). To assess condom use frequency, researchers must rely on self-report. The decision confronting researchers is to determine the appropriate length of the recall period for self-reported condom use. Unfortunately, few studies have addressed this question (Cantania et al., 2002; McFarland et al., 1999; Rietmeijer, 2002; Shew, Remafedi, Bearinger, Taylor, & Resnick, 1997). Previous research suggests that self-reported condom use may be subject to recall bias caused by telescoping (i.e., assigning events to the recall period that occurred prior to or after that period) (Ostrow & Kessler, 1993; Shew et al., 1997). To minimize recall bias, a common practice is to use “the last time sex occurred” as that period (CDC, 2003).

Despite the intuitive appeal of using “last sex” as the recall period, it is not known whether this proxy event is a valid representation of adolescents’ condom use behaviors over longer periods of time. Epidemiologic findings indicate that African American adolescent females experience disproportionately higher rates of unintended pregnancies (Ostrow & Kessler, 1993), STIs, and HIV infection through heterosexual intercourse (CDC, 2004). As a result, African American adolescent females have been purported to have highly variable rates of sexual contact over time (Rietmeijer, 2002). The validity and reliability of a condom use at last sex indicator with expanded recall periods is purported to be compromised by highly variable rates of sexual contact over time in populations such as African American adolescents (Cantania et al., 2002). Accordingly, this study examined whether a single-event recall period (the last time coitus occurred) was consistent with longer recall periods (14 days and 60 days) for a sample of African American adolescent females.

## **METHOD**

### **Participants**

Baseline data collected from 715 African American adolescent females enrolled in a randomized trial of an HIV prevention program were analyzed. Recruiters at clinic sites screened potential participants for eligibility. Eligibility criteria were: African American female, aged 15–21 years, and reporting sexual activity in the previous 60 days. Exclusion criteria were: being married, pregnant, or attempting to become pregnant. Of 1,558 screened, 874 adolescents were eligible and were asked to participate. The Institutional Review Board at Emory University approved the study protocol.

### **Procedures**

Upon completion of informed written consent, data collection consisted of a 40-minute survey administered via audio computer-assisted self-interviewing (A-CASI) technology. Participants were reimbursed \$50 for their time and effort.

### **Measures**

Condom use during the last period of sex with a boyfriend or steady sexual partner was assessed. Participants were asked: (a) “Did you use a condom the last time you had vaginal sex with your boyfriend or steady partner?” Frequency of condom use was assessed by asking: (b) “How many times did you have vaginal sex in the past 14 days and during the past 60 days?” and “How many of these times did you use a condom?” The number of times condoms were used was divided by coital frequency to obtain participants’ percentage of condom use during coitus for two time periods: the past 14 days and the past 60 days.

### **Data Analysis Strategy**

Descriptive and inferential data analysis techniques were conducted to examine the distribution and relationship among the target variables. These analyses included chi-square analyses to determine condom use at last sex status. Mean comparison tests utilizing independent student *t* tests to examine group differences in the continuous past condom use variables based on the dichotomous variable condom use at last sex.

## **RESULTS**

### **Characteristics of the Sample**

The average age of the adolescents was 17.9 years ( $SD = 1.7$ ). The majority of participants (65.3%) were full-time students. Approximately 30% reported having a paying job. The majority (83.6%) reported being in a current relationship.

## Findings

Because of missing data, the sample size used in our analyses was ( $N = 537$ ) for the 14-day recall and ( $N = 566$ ) for the 60-day recall period; 57% of adolescents ( $N = 408$ ) reported not using condoms at last sex. Those reporting condom use at last sex had a higher mean percentage of condom use in the past 14 days ( $M = .87$ ,  $SD = .25$ ) than those who reported not using a condom ( $M = .27$ ,  $SD = .38$ ),  $t(535) = 22.40$ ,  $p < .001$ . They also reported a higher mean percentage of condom use in the past 60 days ( $M = .82$ ,  $SD = .26$ ) in comparison with those not using condoms at last sex ( $M = .29$ ,  $SD = .35$ ),  $t(561) = 20.83$ ,  $p < .001$ .

Among those reporting condom use at past sex, 73% were consistent (100% use) condom users within the past 14 days compared to 16% of those who reported not using condoms at last sex  $\chi^2(1, N = 537) = 180.34$ ,  $p < .001$ ). Similarly, among those using condoms at last sex, 52% were consistent condom users in the past 60 days compared to 7% of those who reported not using condoms at last sex  $\chi^2(1, N = 566) = 148.57$ ,  $p < .001$ ).

## DISCUSSION

The results from this study demonstrate consistency between a single-event measure of condom use and two measures using expanded recall periods. Adolescents using condoms at last sex had significantly higher frequency of condom use and more consistent condom use over two time periods: the past 14 days and the past 60 days. Thus, while there remains no “gold standard” measure of condom use, the findings suggest that a single-event recall period may be a valid proxy measure of condom use among African American adolescent females.

The findings support the use of single-event recall in surveillance or observational studies that may be limited with respect to the number of items that can be posed to adolescents. It must be noted that the findings from this study may not be generalizable to other types of research designs (e.g., testing intervention effects between groups). Additionally, the usefulness of a condom use at last sex item is dependent upon the specific study outcomes. Subsequently, our data suggest that findings from national surveys of youth, such as the Youth Risk Behavior Survey (YRBS) which reported a significant linear increase in the percent of sexually active students who used a condom at last sex from 1991–2005 (46.2%–62.8%) and the 2005 YRBS which observed that African American students (69%) reported higher levels of condom use at last sex in comparison with their White (63%) and Latino counterparts (58%) may be valid (Shew et al., 1997). Further research on the validity and reliability of condom use at last sex is warranted with other populations of adolescents.

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## References

- Cantania JA, Dolcini M, Laumann EO, Osmond D, Bolan G, Canchola J. A response to “developing standards in behavioral HIV/STD surveillance research. *AIDS Education and Prevention* 2002;14(4): 343–347. [PubMed: 12212720]
- CDC. Male latex condoms and sexually transmitted diseases. 2003. Retrieved January 16, 2006. from <http://www.cdc.gov/nchstp/od/condoms.pdf>
- CDC. Youth Risk Behavior Surveillance—United States. (2003). *MMWR* 2004;53(SS2):1–29.
- McFarland W, Busch MP, Kellogg TA, Rawal BD, Satten GA, Katz M, et al. Detection of early HIV infection and estimation of incidence using a sensitive/less-sensitive enzyme immunoassay testing strategy at anonymous counseling and testing sites in San Francisco. *Journal of Acquired Immune Deficiency Syndrome* 1999;22:484–489.

- Micheal, RT.; Joyner, K. Choices leading to teenager births, Sex, love, and health in America. In: Lauman, EO.; Micheal, RT., editors. Private choices and public policies. Chicago: The University of Chicago Press; 2001. p. 72-104.
- Ostrow, DG.; Kessler, RC. Methodological issues in AIDS behavioral research. New York: Plenum; 1993.
- Rietmeijer. The current good should precede the future best: A response to a response. *AIDS Education and Prevention* 2002;14(4):348–350. [PubMed: 12212721]
- Shew M, Remafedi G, Bearinger LH, Taylor B, Resnick MD. The validity of self-reported condom use among adolescents. *Sexually Transmitted Diseases* 1997;24:503–509. [PubMed: 9339967]