# **ORIGINAL RESEARCH**

# Correlates of Heterosexual Anal Intercourse among Women in the 2006–2010 National Survey of Family Growth

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#### ABSTRACT-

*Introduction.* Heterosexual anal intercourse (HAI) is common among U.S. women. Receptive anal intercourse is a known risk factor for HIV, yet there is a paucity of data on HAI frequency and distribution in the United States. Condom use is lower with HAI vs. vaginal intercourse, but little is known regarding of correlates of HAI with and without condoms.

*Aims.* The aims of this study were to describe recent (past 12 months) and lifetime HAI among sexually active reproductive-aged U.S. women, and to characterize women who engage in HAI with and without condoms.

*Methods.* We analyzed a sample of 10,463 heterosexually active women aged 15–44 years for whom anal intercourse data were available in the 2006–2010 National Survey of Family Growth.

*Main Outcome Measures.* Weighted bivariate and multivariable analyses were used to determine HAI prevalence and correlates. Primary outcomes were lifetime HAI, recent (last 12 months) HAI, and condom use at last HAI.

**Results.** In our sample, 13.2% of women had engaged in recent HAI and 36.3% in lifetime HAI. Women of all racial and ethnic backgrounds and religions reported recent anal intercourse. Condom use was more common at last vaginal intercourse than at last anal intercourse (28% vs. 16.4%, P < 0.001). In multivariable analysis, correlates of recent HAI included: less frequent church attendance, younger age at first intercourse, multiple sexual partners, history of oral intercourse, history of unintended pregnancy, and treatment for sexually transmitted infections (all P < 0.05). Correlates of lifetime HAI were similar, with the addition of older age, higher education, higher income, and history of drug use (all P < 0.05).

*Conclusion.* Women of all ages and ethnicities engage in HAI, at rates higher than providers might realize. Condom use is significantly lower for HAI vs. vaginal intercourse, putting these women at risk for acquisition of sexually transmitted infections. **Benson LS, Martins SL, and Whitaker AK. Correlates of heterosexual anal intercourse among women in the 2006–2010 National Survey of Family Growth. J Sex Med 2015;12:1746–1752.** 

Key Words. Heterosexual Anal Intercourse; Anal Sex; Sexual Behavior; Condoms; HIV Transmission

#### Introduction

H eterosexual anal intercourse (HAI) has long been recognized as a risk factor for transmission of sexually transmitted infections (STIs), including HIV [1,2]. The risk of acquiring HIV is significantly higher for receptive anal intercourse compared with other sexual activities because of increased susceptibility to traumatic abrasions and the lack of the immune protective effect of cervicovaginal secretions [1,3]. HAI is also associated with lower condom use rates and with highrisk sexual behaviors including multiple partners [2,4]. Motivation for condom use by heterosexual couples may decline considerably for sexual acts that do not pose a risk of pregnancy [5]. Among over 2,000 heterosexual patients at an STI clinic, 63% never used condoms for anal intercourse and only 28% of those who engaged in HAI consistently used condoms during anal intercourse [6]. Adolescents in particular do not recognize HAI as risky sexual behavior and are less likely to use condoms during HAI compared with vaginal intercourse [4].

HAI is common among heterosexual women, but there is a paucity of data on its frequency and distribution in the U.S. population. The practice is often underreported and is considered a taboo topic for discussion, even with healthcare providers [7]. Previous studies of adolescent and adult women in the United States have reported rates of HAI ranging from 6% to 38% [4,5,8,9]. Twenty-two percent of the 335 women surveyed in the 2005-2006 National Couples survey reported anal intercourse in the past month [10]. A tabulation of the 2006–2008 National Survey of Family Growth (NFSG) indicated that 31% of U.S. women had ever engaged in anal intercourse with a male partner, but this analysis did not include multivariable-adjusted correlates of HAI or use of condoms during HAI [11].

A growing body of literature has evaluated sociodemographic and behavioral correlates of HAI, with some conflicting findings. Previous studies, including a multivariable analysis of the 2002 NSFG, have found lifetime HAI to be positively associated with white race, higher education, and income level [8,12]. Another study examining HAI within the past 4 weeks found no correlations with age, race or ethnicity, or relationship duration [10]. Other studies suggest a different risk profile, finding higher rates of lifetime HAI among women reporting multiple sexual partners, lack of contraception use with vaginal intercourse, drug use, and exchange of money or drugs for sex [7,8,13]. Similar findings have been reported in non-U.S. populations, including a nationally representative survey of the Czech population that reported an association between lifetime HAI and multiple sexual partners, prostitution, and history of STIs [14]. Further elucidation of correlates of HAI, including unprotected HAI, will lend insights to clinicians and public health practitioners to better target interventions for women at risk of HIV/STIs.

# Aims

The purpose of this study was to characterize U.S. women who engage in HAI, including those who do so with and without protection from

STIs, using a recent and nationally representative sample. This study describes correlates of both recent (past 12 months) and lifetime HAI, as well as correlates of condom use at last HAI.

### Methods

We performed a secondary analysis of the 2006– 2010 NSFG dataset, which is publicly available. The NSFG is a nationally representative probability sample of U.S. men and women aged 15-44 years, with oversampling of women, Hispanics, African Americans, and teens (15- to 19-year-olds) and adjustment for non-response [15]. The NSFG collects data on demographic characteristics, family life, pregnancy, contraception, and health behaviors. In the most recent cycle, in-person interviews were completed in English and Spanish from June 2006 to June 2010 with 22,682 respondents, 12,279 of whom were women. The response rate was 78% for female respondents. The NSFG consists of an in-home survey conducted by female interviewers, with an audio computer-assisted selfinterview (ACASI) portion for more sensitive questions. Informed consent was obtained from all participants and the study was approved by the National Center for Health Statistics Institutional Review Board (IRB). This analysis was granted exempt status by the University of Chicago IRB.

Unadjusted correlates of recent and lifetime HAI were calculated using chi-squared tests for categorical exposure variables. We performed multivariable log-binomial regression to generate adjusted relative risks (RRs) and 95% confidence intervals (CIs) of correlates of both lifetime and recent HAI. Variables that were significant at P < 0.1 in the bivariate analyses as well as those that were clinically and conceptually relevant were included in the multivariable models. In the final models, variables were considered significant if the *P* value of the corresponding regression coefficient was <0.05. All estimates were based on sampling weights designed to produce unbiased population estimates, using the Stata "svy" command to account for the NSFG's complex sampling scheme and survey non-response. All analyses were conducted using Stata/SE 10.1 for Windows (StataCorp LP, College Station, TX, USA).

# Main Outcome Measures

Our analysis sample included all female respondents who had ever engaged in vaginal intercourse Download English Version:

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