



## Original article

## No association between body size and frequency of sexual intercourse among oral contraceptive users



Larissa R. Brunner Huber PhD<sup>a,\*</sup>, Whitney A. Stanley MSPH<sup>a</sup>, Leah Broadhurst MSPH<sup>a</sup>, Jacek Dmochowski PhD<sup>b</sup>, Tara M. Vick MD<sup>c</sup>, Delia Scholes PhD<sup>d</sup>

<sup>a</sup> Department of Public Health Sciences, UNC Charlotte, Charlotte, NC

<sup>b</sup> Department of Mathematics and Statistics, UNC Charlotte, Charlotte, NC

<sup>c</sup> Department of Obstetrics and Gynecology, Carolinas Medical Center, Charlotte, NC

<sup>d</sup> Group Health Research Institute, Group Health Cooperative, Seattle, WA

## ARTICLE INFO

## Article history:

Received 26 June 2013

Accepted 11 June 2014

Available online 17 June 2014

## Keywords:

Coitus

Contraceptives

Oral

Obesity

## ABSTRACT

**Purpose:** This study aimed to describe the frequency of sexual intercourse and whether body size was associated with weekly sexual intercourse among a diverse group of women using oral contraceptives.

**Methods:** This longitudinal prospective cohort study recruited participants ( $n = 185$ ) from several clinics in Charlotte, NC. Body mass index (BMI) and waist-to-hip ratio (WHR) were used as measures of body size and sexual intercourse frequency was determined from self-reported information provided on daily diaries. Mean monthly frequencies of sexual intercourse were calculated and linear mixed models were used to assess if means remained constant over time. Generalized estimating equations were used to calculate odds ratios (ORs) and 95% confidence intervals (CIs).

**Results:** Mean monthly frequency of sexual intercourse was similar for women classified as normal or underweight or obese by BMI during each month of data collection but was highest for women classified as overweight. After adjustment, obesity–sexual intercourse associations were attenuated (BMI  $\geq 30$  vs.  $< 25.0$ : OR = 0.78; 95% CI, 0.43–1.42 and WHR  $\geq 0.85$  vs.  $< 0.85$ : OR = 1.11; 95% CI, 0.62–2.01).

**Conclusions:** This study found no association between BMI or WHR and weekly sexual intercourse. However, more research is warranted given the importance of this possible relationship for future studies of fertility, contraceptive effectiveness, and sexual health.

© 2014 Elsevier Inc. All rights reserved.

## Introduction

Sexual intercourse has garnered the attention of investigators since the 1980s for its primary role in studies of sexually transmitted infections, pregnancy, and contraceptive use [1]. In the context of contraceptive research interpretation, the risk of pregnancy is not influenced by method efficacy alone [2]. In particular, further examination of the possible association between body size and frequency of sexual intercourse may be important because studies of the obesity–oral contraceptive failure have been inconsistent [3–8], and many studies have been unable to adjust for this potentially important confounder [3,4,6–8].

Many women who use oral contraceptives are concerned that the use of this method will cause weight gain; however, a recent review found little evidence to support a strong association between oral contraceptive use and weight gain [9]. Other research

has focused on whether the use of oral contraceptives affects a woman's sexual function and desire. According to several comprehensive reviews of this literature, it appears that although oral contraceptives may have both positive and negative impacts on sexuality, most users are unaffected [10–12].

Despite research on how oral contraceptive use may impact weight or sexual function and desire, little has been published on how body size may affect frequency of sexual intercourse among oral contraceptive users. Previous studies on female sexuality have focused primarily on sexual frequency in relation to marital status or health conditions, such as body image, pregnancy, and cancer [13–19]. Available research suggests that there is an association between obesity and lack of enjoyment of sexual activity, sexual desire, difficulties with sexual performance, and avoidance of sexual encounters [20], but that a measure such as waist-to-hip ratio (WHR) has no correlation [21]. Studies that have investigated the body size–sexual frequency association have had inconsistent findings [20,22–26]. Some studies have found that obese and overweight women reported a lower monthly frequency of sexual intercourse compared with their normal weight counterparts [22,25], whereas others have found that body mass index (BMI) is

\* Corresponding author. 9201 University City Blvd, UNC Charlotte, Department of Public Health Sciences, Charlotte, NC 28223-001. Tel.: +1 704 687 8719; fax: +1 704 687 6122.

E-mail address: [lrhuber@unc.edu](mailto:lrhuber@unc.edu) (L.R. Brunner Huber).

not significantly associated with the frequency of sexual intercourse [23,24,26]. A number of these prior studies of sexual function and frequency have had limited generalizability to US populations because of the use of restrictive age ranges (e.g., only 40–69 year old women) [25] and international populations [21,22]. The purpose of this study was two fold: (1) to describe the frequency of sexual intercourse and (2) to determine whether body size, as measured by BMI and WHR, was associated with weekly sexual intercourse among a racially and socioeconomically diverse group of adult women using oral contraceptives.

## Methods

### *Study design and population*

The Fertility and Oral Contraceptive Use Study is a longitudinal prospective cohort study that recruited participants from several clinics in the Charlotte, NC area that specialized in family medicine, obstetrics/gynecology, and family planning. The study protocol was approved by the local institutional review boards. The primary objective of the Fertility and Oral Contraceptive Use Study was to explore methodological issues related to the successful execution of a long-term study to investigate the possible obesity–oral contraceptive failure association, including whether obesity influences sexual intercourse frequency. Eligible participants were women aged between 18 and 40 years who spoke English or Spanish, were currently using oral contraceptives, had never been told by a physician that they would be unable to get pregnant and/or carry a pregnancy to term, and who planned on remaining in the area for the next year. Both active and passive methods of recruitment were used. Trained research assistants approached women entering the clinics to invite them to participate in the study. In addition, recruitment flyers were placed inside clinics, and letters were sent to a subset of women who had recently been seen at the clinics for routine care. These flyers and letters invited women to contact the research staff to learn more about the study and to schedule a baseline interview.

Eligible women who agreed to participate and provided written informed consent completed an in-person interview that took approximately 15 to 20 minutes to complete. During the interviews, information on demographics, oral contraceptive use, frequency of sexual intercourse, and other reproductive factors were collected. The trained interviewers also obtained anthropometric measurements, including height, weight, waist circumference, and hip circumference using standardized methods. Specifically, calibrated scales and stadiometers were used to measure height and weight, and tape measures were used to obtain waist and hip circumferences. Women were also provided with three monthly diaries and asked to complete them on a daily basis. These diaries collected daily information on sexual intercourse and oral contraceptive use. On completion of the baseline interview and the monthly diaries, women were provided with gift cards to a local grocery store chain to compensate them for their time. Ultimately, a total of 185 women completed baseline interviews.

### *Measurement of exposure and covariates*

Both BMI and WHR were used as measures of obesity. BMI ( $\text{kg}/\text{m}^2$ ) was categorized according to the World Health Organization's International Classification: less than 18.5 (underweight), 18.5 to 24.9 (normal), 25.0 to 29.9 (overweight), and 30.0 or greater (obese) [27, 28]. Because of the small number of women ( $n = 6$ ) in the underweight category, we further collapsed these categories into underweight or normal ( $<25.0$ ), overweight (25.0–29.9), and obese ( $\geq 30$ ). WHR (waist circumference divided by hip circumference)

was categorized as less than 0.85 or 0.85 or greater [29]. The following self-reported variables were considered as potential confounding factors: age, marital status, education, income, number of individuals residing in household, race/ethnicity, alcohol consumption, smoking, parity, use of oral contraceptives to prevent pregnancy, use of oral contraceptives to lessen cramps, and use of oral contraceptives to regulate menstrual cycles.

### *Identification of outcome*

Sexual intercourse resulting in vaginal penetration was determined from the self-reported information provided on the daily diaries. If a woman indicated that she had sexual intercourse at least once during a week, she was considered to have been sexually active [24].

### *Analysis*

Women were excluded from the analysis if they did not return at least one diary ( $n = 41$ ), if they declined to have their weight measured ( $n = 1$ ), or if they were missing information on smoking ( $n = 1$ ). Ultimately, this analysis considered a total of 394 monthly diaries returned by 142 women. These diaries represented a total of 1558 weeks of information ( $n = 18$  weeks deleted because women did not mark sexual intercourse information). Frequencies and percentages were obtained to describe the overall study population and to determine monthly frequency of sexual intercourse. Additionally, mean monthly frequencies of sexual intercourse were calculated for each of the BMI and WHR groups and linear mixed models were used to assess if these means remained constant over time. Because the diary data were collected at multiple time points for each participant, a generalized estimating equations approach was used to calculate unadjusted odds ratios (ORs) and 95% confidence intervals (CIs) to provide an unadjusted measure of the association between obesity and weekly sexual intercourse. Multivariate models of the obesity–sexual intercourse association were also based on a generalized estimating equations approach. Backward elimination was used to retain only those covariates with  $P$  less than or equal to .15, whereas the exposures of interest were forced into the models independently of their significance. All analyses were performed using the SAS System for Windows Version 9.2 (SAS Institute, Cary, NC).

## Results

Most study participants were aged between 25 and 35 years, non-Hispanic black, single, and well educated (Table 1). Nearly 36% of the diary weeks represented weeks when women did not have vaginal intercourse. During the first month of diary collection, similar percentages of women reported having sexual intercourse 0, 1 to 3, 4 to 6, and 7 to 9 d/mo (0 d/mo: 20.4%, 1–3 d/mo: 17.6%, 4–6 d/mo: 23.2%, and 7–9 d/mo: 19.7%). Nearly 9% of women reported having sexual intercourse 10 to 12 d/mo, and 9.9% indicated that they had sexual intercourse more than 12 d/mo (data not shown in table). Findings were similar for the second and the third months of diary collection. Mean monthly frequency of sexual intercourse was similar for women classified as normal or underweight or obese by BMI during each month of data collection (Table 2). For all months, the mean monthly frequency of sexual intercourse was highest for women classified as overweight. Changes in mean monthly frequency of sexual intercourse were only statistically significant for women in the overweight category ( $P = .005$ ). WHR results were similar with mean monthly frequencies of sexual intercourse being highest for women with a WHR 0.85 or more. Changes in mean monthly frequency of sexual intercourse according to WHR categories were not statistically significant.

Download English Version:

<https://daneshyari.com/en/article/6147827>

Download Persian Version:

<https://daneshyari.com/article/6147827>

[Daneshyari.com](https://daneshyari.com)