

The Association of Adiposity and Overactive Bladder Appears to Differ by Gender: Results From the Boston Area Community Health Survey

Carol L. Link,* William D. Steers,† John W. Kusek and John B. McKinlay‡,§

From the New England Research Institutes (CLL, JBM), Watertown, Massachusetts, University of Virginia Health System (WDS), Charlottesville, Virginia, and National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health (JWK), Bethesda, Maryland

Purpose: We investigate the association of different measures of adiposity (waist circumference, hip circumference, waist-to-hip ratio and body mass index) with overactive bladder (urinary frequency and urgency), whether the association varies by gender or age and whether it persists when models are adjusted for other confounders.

Materials and Methods: Data were from the Boston Area Community Health epidemiological survey, a random sample of 5,503 Boston, Massachusetts, residents 30 to 79 years old with equal representation from 3 racial/ethnic groups (black, Hispanic and white). Statistical analysis involved nonparametric loess models and multivariate logistic regression.

Results: We noted distinct patterns by gender for the association of various adiposity measures with overactive bladder. Waist-to-hip ratio was not significantly associated with overactive bladder in either gender. In women the prevalence of overactive bladder increased as waist (OR adjusted for other confounders 1.10/10 cm increase) or hip circumference (OR 1.12/10 cm increase) or body mass index (OR 1.03/kg/m² increase) increased. In men the prevalence of overactive bladder decreased as adiposity increased (OR 0.65/10 cm increase in waist circumference, OR 0.71/10 cm increase in hip circumference and OR 0.87/kg/m² in body mass index) but only to a certain point (waist circumference 100 cm, hip circumference 115 cm and body mass index 27.5 kg/m², respectively). At that point the prevalence of overactive bladder increased with increasing adiposity (OR 1.19/10 cm increase in waist circumference, OR 1.16/10 cm increase in hip circumference and OR 1.08/kg/m² in body mass index).

Conclusions: The relationship between adiposity and overactive bladder varies by gender.

Key Words: urinary bladder, overactive; urination disorders; obesity; female; male

LOWER urinary tract symptoms, including urinary urgency, frequency and leakage, are common in men and women,^{1,2} adversely affect individual quality of life³ and the prevalence increases with age.⁴ There has been considerable interest recently in lifestyle risk factors for LUTS, including

physical activity, alcohol intake and obesity.⁵ The importance of excess weight has received particular attention, given the substantial increase in the prevalence of obesity in the United States in the last 2 decades.⁶ A number of studies have shown that being overweight or obese increases

Abbreviations and Acronyms

BACH = Boston Area Community Health

BMI = body mass index

BPH = benign prostatic hyperplasia

LUTS = lower urinary tract symptoms

OAB = overactive bladder

Submitted for publication March 1, 2010.

Study received New England Research Institutes institutional review board approval.

Supported by Cooperative Agreement U01 DK56842 from the National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, Maryland.

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Diabetes and Digestive and Kidney Diseases or National Institutes of Health.

* Correspondence: New England Research Institutes, 9 Galen St., Watertown, Massachusetts 02472 (telephone: 617-923-7747; e-mail: clink@neriscience.com).

† Financial interest and/or other relationship with Elsevier/American Urological Association, American Board of Urology, National Institutes of Health, Food and Drug Administration, Allergan, and American Board of Obstetrics and Gynecology.

‡ Requests for reprints: New England Research Institutes, 9 Galen St., Watertown, Massachusetts 02472 (telephone: 617-923-7747; jmckinlay@neriscience.com).

§ Financial interest and/or other relationship with New England Research Institutes.

For another article on a related topic see page 1123.

the risk of LUTS associated with benign prostatic hyperplasia in men,⁵ urinary incontinence in women⁷ and OAB.⁸ In addition, a recent clinical trial of lifestyle modification, including weight loss, decreased the number of incontinence episodes in overweight and obese women.⁷ Although a number of measures of adiposity are available, including waist or hip circumference, waist-to-hip ratio and BMI, which account for different aspects of obesity, they have rarely been evaluated together for their association with urological symptoms in a community based sample.

The BACH survey examines population prevalence and risk factors for a broad range of urological symptoms. This community based sample includes each gender and is racially and ethnically diverse with approximately equal numbers of black, Hispanic and white participants. A wide range of potential risk factors have been obtained by participant self-report and adiposity has been directly measured by interviewers.

OAB is a common, costly condition in the United States that adversely affects quality of life and work productivity.^{9,10} The questions of interest in this study were whether 1) there is an association between various measures of adiposity and OAB, 2) this association varies by age or gender, 3) there is a dose-response effect with greater adiposity associated with higher OAB and 4) the association is robust to adjustment by various potential confounders.

METHODS

The BACH survey is a prospective epidemiological survey of Boston, Massachusetts residents 30 to 79 years old at baseline. Detailed methods of the study design were described previously.¹¹ A stratified 2-stage cluster sample was used to randomly sample Boston residents with the goal of an approximately equal number of participants by gender, race/ethnicity (black, Hispanic and white) and age group (30 to 39, 40 to 49, 50 to 59 and 60 to 79 years). A

total of 5,503 adults were recruited, including 1,767 black, 1,877 Hispanic and 1,859 white individuals, and 2,301 men and 3,202 women, who provided baseline data from 2002 to 2005. The response rate was 63.3% of screened eligible participants, which is typical of an epidemiological field survey requiring a lengthy in home interview and phlebotomy. After obtaining written informed consent data were collected during a 2-hour interview in English or Spanish, usually in the home of the respondent. All protocols and procedures were approved by the New England Research Institutes institutional review board.

Anthropometrics

Following well tested field methods¹² the interviewer measured respondent height, weight, waist and hip circumference. BMI and waist-to-hip ratio were calculated.

Urological Symptoms

Urological symptoms were assessed during the last month before survey administration. We defined OAB as urinary frequency and urgency or urge leakage. Respondents were considered to have urinary frequency if they reported urinating more frequently than every 2 hours, urinating frequently during the day (fairly often, usually or almost always), or urinating 8 or more times daily. They were considered to have urgency if they reported difficulty postponing urination, had a strong urge to urinate (fairly often, usually or almost always) in the last month or a strong urge to urinate in the last 7 days (4 or more times). Respondents were considered to have urge leakage if they reported 1 or more occasions when they "accidentally leaked urine in the last week when you had the strong feeling that you needed to empty your bladder but you could not get to the toilet fast enough."

Sociodemographics

Race/ethnicity was determined by self-report using Office of Management and Budget classifications (Executive Office of the President of the United States, Federal Register Notice, 1997). Socioeconomic status was determined as a combination of education and income, and categorized such that 1/4 of the study population was lower, 1/2 was middle and 1/4 was upper.¹³

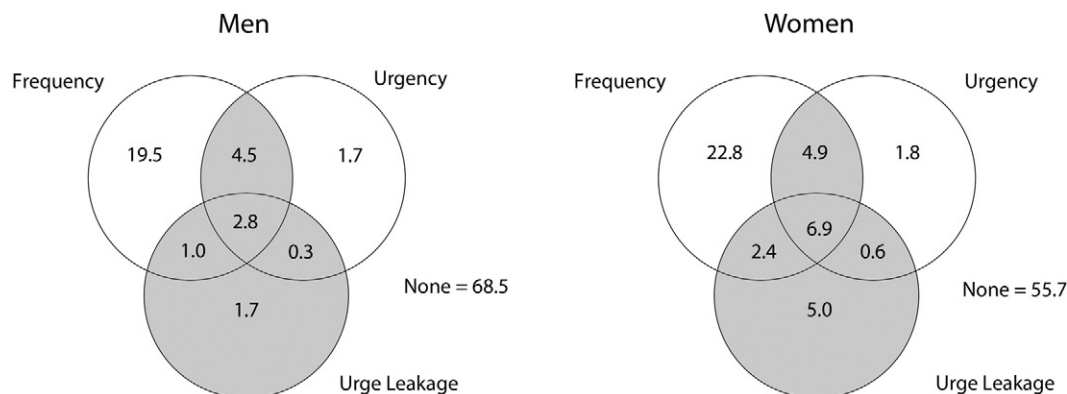


Figure 1. Venn diagrams show percent of urinary frequency, urgency and urge leakage by gender. Shaded areas indicate our definition of overactive bladder.

Download English Version:

<https://daneshyari.com/en/article/3864453>

Download Persian Version:

<https://daneshyari.com/article/3864453>

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