

**Association of overactive bladder and C-reactive protein levels.**

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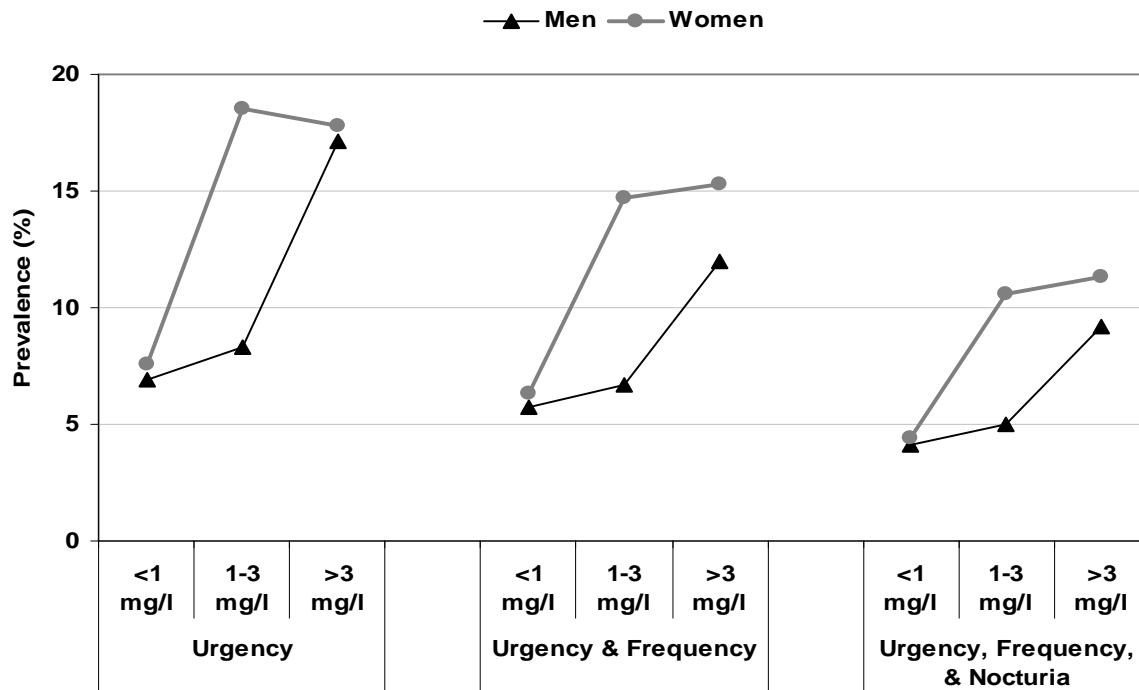
**Introduction and Objectives.** Overactive bladder (OAB) is a common problem in aging men and women and has substantial impact on quality of life. Evidence of chronic inflammation in benign prostatic hyperplasia suggests a possible role of inflammation in the development of OAB. The objective of this study was to investigate the association between OAB and C-reactive protein (CRP) levels in a population-based sample of men and women.

**Methods.** The Boston Area Community Health (BACH) Survey used a multistage stratified design to recruit a random sample of 5,503 adults age 30-79. Analyses were conducted on 1,898 men and 1,854 women with complete data on CRP levels. As the distribution of CRP levels was skewed, log (base 10) transformations were used. Additionally, CRP levels were categorized into three groups: <1 mg/l, 1-3 mg/l, >3 mg/l. The International Continence Society defines OAB as “Urgency with or without urge incontinence, usually with frequency and nocturia”. Thus analyses were conducted with OAB defined as: 1) urgency, 2) urgency with frequency, and 3) urgency with frequency and nocturia.

**Results.** Prevalence of OAB increased with CRP levels in both men and women. This increase was observed for CRP levels >3 mg/l in men while in women an increase was observed at lower CRP concentrations (1-3 mg/l). Multivariate analyses adjusting for age, race/ethnicity, BMI, heart disease, diabetes, hypertension, physical activity, smoking and alcohol consumption show statistically significant associations between increasing CRP levels and OAB in men regardless of the definition used. Adjusted odds ratios (OR) and 95% confidence intervals (95%CI) per unit change of Log<sub>10</sub>(CRP) levels were 1.92 (95%CI: 1.25, 2.95) with OAB defined as urgency, 1.72 (95%CI: 1.09, 2.70) with OAB as urgency and frequency, and 2.04 (95%CI: 1.18, 3.55) with OAB as urgency, frequency, and nocturia. A similar pattern was observed among women with ORs of 1.58 (95%CI: 1.10, 2.26) for OAB defined as urgency, 1.63 (95%CI: 1.10, 2.42) for OAB as urgency and frequency, and 1.53 (95%CI: 0.97, 2.41) for OAB as urgency, frequency, and nocturia.

**Conclusions.** Results show a consistent association of increasing CRP levels and OAB among both men and women. These results support the hypothesized role of inflammation in the development of OAB.

Prevalence of OAB by C-reactive protein levels (<1, 1-3, and >3 mg/l) in men and women.



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## Relative contributions of modifiable risk factors to erectile dysfunction.

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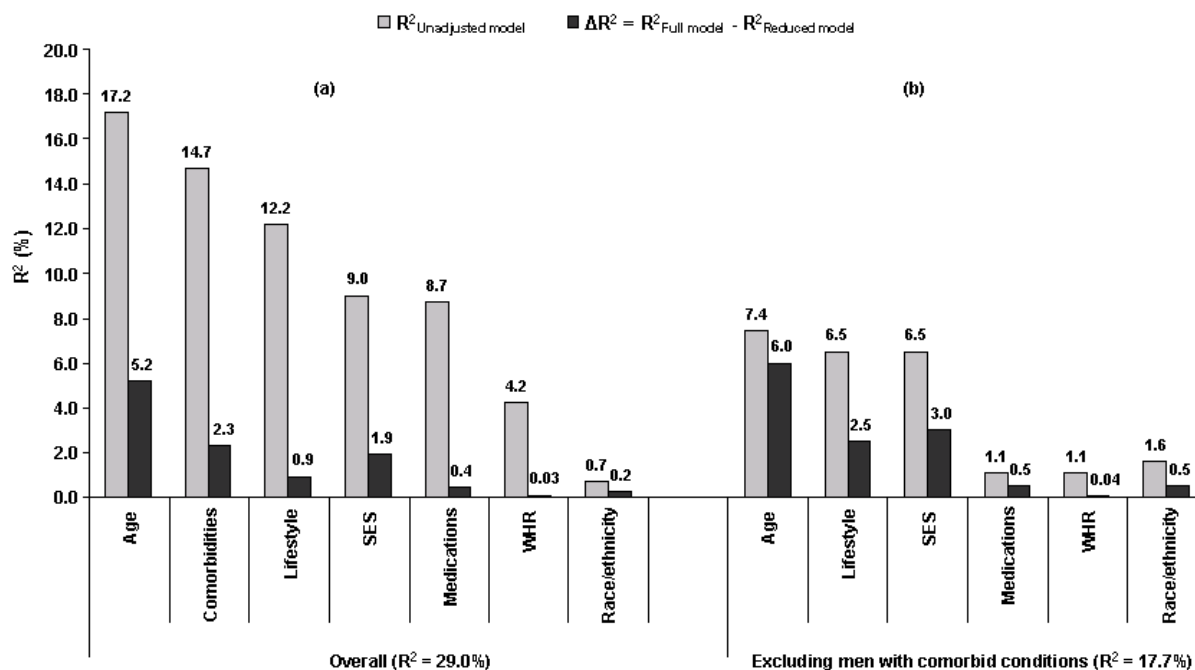
**Introduction and Objectives:** Although the magnitude of the association of lifestyle factors on erectile dysfunction (ED) is modest relative to the effect of comorbid conditions such as heart disease or diabetes, these factors represent a pathway for intervention by behavior modification for prevention and improvement of ED. The objective of this study was to determine the relative contribution of modifiable risk factors (physical activity, smoking, and alcohol consumption) to inter-subject variation in ED.

**Methods.** The Boston Area Community Health (BACH) Survey used a multistage stratified random sample to recruit 2,301 men age 30-79 years from the city of Boston between 2002 and 2005. ED was assessed using the 5-item International Index of Erectile Function (IIEF-5). Multiple linear regression models and  $R^2$  were used to determine the proportion of the variance explained by modifiable risk factors. Covariates included in the analysis are age, race/ethnicity, socioeconomic status, body mass index, waist to hip ratio (WHR), comorbid conditions (heart disease, diabetes, hypertension, depression), and prescription medications use.

**Results.** In unadjusted analyses, lifestyle factors accounted for 12.2% of the variability in IIEF-5 scores, comparable to the proportion explained by comorbid conditions (14.7%) and socioeconomic status (9%). Lifestyle factors were also significantly associated with age, comorbid conditions and socioeconomic status (SES). A multivariate model including all covariates associated with ED explained 29% of the variance, with lifestyle factors accounting for 0.9% over and above all other covariates in the model. Analyses repeated in a subgroup of 1,215 men without comorbid conditions, show lifestyle factors accounting for 2.5% of the variance after accounting for all other variables in the model.

**Conclusions.** Results of the present study demonstrate the contribution of modifiable lifestyle factors to the prevalence of ED. These results suggest a role for behavior modification in the prevention of ED.

Explained variance in IIEF-5 scores due to each group of variables over and above all other covariates determined as the difference between the  $R^2$  from the full model including all covariates and a reduced model with the group or variable of interest removed:  $\Delta R^2 = R^2_{\text{Full model}} - R^2_{\text{Reduced model}}$ .



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