

Title of Research Severity of incontinence symptoms in smokers and role of tobacco exposure and respiratory symptoms

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This research will be presented as a poster

Abstract

Objective or Hypothesis The goal of this study was to examine the relationship between urinary incontinence and two conditions - respiratory symptoms and tobacco exposure - in a sample of smokers. It is hypothesized that increased respiratory symptoms and tobacco exposure would be associated with increased urinary incontinence.

Population Men and women, ages 18-70, who smoked 10-40 cigarettes daily for the past year

Methods Men and women, ages 18-70, who smoked 10-40 cigarettes daily for the past year, were recruited to participate in a smoking cessation study. At screening, participants reported smoking behavior history, urinary symptoms via two validated International Consultation on Incontinence Questionnaires (ICIQ), respiratory symptoms, medical history and demographics. Height and weight were obtained along with urine sample (for analysis of cotinine, a metabolite of nicotine and measure of tobacco exposure). Descriptive statistics and ANOVA/ANCOVAs, adjusting for sex, BMI, age, diuretics, and current health problems, were conducted using SAS 9.2.

Main Results Participants (n=202) were, on average, 47.3±11.7 years old, 58% female, and smoked an average of 19.3±7.3 cigarettes per day. Compared to men and women with reported symptoms of stress incontinence (SI), those who reported no SI symptoms had significantly lower urinary cotinine values (5018.4±2433.6 ng/mL vs. 3753.8±2143.3 ng/mL, respectively, p=0.004) and there was a trend indicating they may have a lower self-rated cough (4.5±2.4 vs. 3.6±2.4, respectively, p=0.060). A trend was noted where those with no symptoms of urge incontinence had fewer pack-years (28.5±15.6 vs. 31.0±19.3 p=0.060). There was a sex by ICIQ score interaction, where men with no urinary symptoms had higher cotinine values compared to men with mild and moderate symptoms (4576.13±2201.9 vs. 3900.7±2451.5 vs. 3776.6±2614.4, respectively); the same was not observed in women (3138.7±1731.6 vs. 4777.3±2222.6 vs. 3437.7±2494.6; p=0.032).

Conclusions There is an association between increased self-reported cough and urinary incontinence symptoms. Further, increased tobacco exposure, as defined by urinary cotinine, appears to be associated with stress incontinence symptoms while a more chronic tobacco exposure, as defined by pack-years, is associated with urge incontinence symptoms. The sex difference with ICIQ score suggests that higher cotinine levels may affect men and women differently. More research is needed with a larger cohort to further explore the relationships between tobacco exposure, urinary symptoms, and respiratory symptoms.

IRB Approval **HIPAA Compliance**

Mentor(s) Alicia Allen, PhD, MPH; Sharon Allen, MD, PhD

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