

## **DOES THE MEDICAL EPIDEMIOLOGIC SOCIAL ASPECT OF AGING (MESA) URINARY INCONTINENCE QUESTIONNAIRE (UIQ) PREDICT THE SEVERITY OF THE SELF-REPORTED INCONTINENCE?**

### **Aims of Study**

To determine the relationship between the MESA UIQ on stress incontinence and urge incontinence score ratios to the severity of the reported urine loss based on pad use, self-estimated volume loss (EVL), description of urine loss (DUL), and voiding frequencies.

### **Methods**

A random sample of 150 incontinent adult patients who completed the MESA UIQ at the office of the senior author as part of their outpatient visit evaluation were analyzed. The MESA UIQ starts by asking whether he/she has lost urine beyond his/her control in the last 12 months. If they reported positively to urine loss, the patient then continued to answer six urge incontinence type questions followed by nine stress incontinence type questions. The response to each question ranged from never, rarely, sometimes to often. Each response was scored 0 for never, 1 for rarely, 2 for sometimes and 3 for often. For urge questions, a maximum score of 18 is possible and for stress questions 27. The scores were converted into ratios by dividing the score by the number of questions answered, a maximum of 6 for urge and 9 for stress. The score ratio for urge and stress were categorized as mild (1-33%), moderate (34-67%) and severe (68-100%). The MESA UIQ also contained questions about the self-reported frequency of voiding while awake and the frequency of waking up to void, number of pad use per day, estimate volume of urine loss (EVL) with each episode scored as 1-drops, 2-teaspoon, 3-tablespoon, 4-cup, and lastly description of urine loss (DUL) scored as 1-moist, 2-wet underwear, 3-trickle thigh, 4-wet floor. The urge and stress ratios were correlated with the voiding frequencies, pad use, EVL and DUL. All statistical testing was conducted at an alpha level of 0.05.

### **Results**

There were statistically significant differences between the urge groups and the stress groups when correlated with the three severity measures of pad use ( $p < 0.001$ ), estimated volume of urine loss ( $p < .001$ ), and description of urine loss ( $p < .001$ ). The urge groups, but not the stress groups, showed significant difference with night ( $p = 0.02$ ) and day ( $p = 0.003$ ) frequencies. Bonferroni post-hoc comparison for the urge and the stress group demonstrated significant differences between severity grades in several outcome measures. For pad use for stress groups, mild-1.87 (SD1.07) pads, moderate-3.14 (SD0.97) pads, severe-4.51 (SD3.55) pads. For urge - pad use for mild, moderate, and severe were 2.28 (SD 2.34), 2.48 (SD 2.33), 6.47 (SD3.40) respectively. In this pad use category for both urge and stress, there was significant difference between mild and moderate vs. the severe group. The strongest distinction between the three severity measures was observed in the self-reported description of urine loss. For urge, the mean score (max. 4) for the mild, moderate and severe levels were 2.15 (SD 0.63), 2.6 (SD 0.87), and 3.38 (SD0.77) respectively. The three severity grades were all statistically significant at  $p = 0.005$  (mild vs. moderate) to  $p < 0.001$  (mild vs. severe and moderate vs. severe). Likewise, for stress of mild, moderate, and severe levels the scores were 2.17 (SD0.78), 2.60 (SD0.83) and 3.00 (SD0.85) respectively. The p values ranged from  $p = 0.029$  between mild to moderate,  $p < 0.001$  for mild vs. severe and  $p = 0.045$  moderate vs. severe. Regression analysis indicated that for every 1% increase in urge and stress ratio, there is a corresponding increase of 0.06 unit and 0.04 unit of pad use respectively.

### **Conclusions**

The MESA UIQ urge and stress ratio demonstrated predictive validity in incontinent patients' self-assessment of the severity of their urine loss.