

## EDUCATING ADULT WOMEN ABOUT BLADDER HEALTH: THE TRANSLATING UNIQUE LEARNING FOR UI PREVENTION (TULIP) PROJECT

### Hypothesis / aims of study:

Prior work shows effectiveness of a face-to-face bladder health class for preventing urinary incontinence (UI) (1). Class content included the education on healthy bladder habits, dietary and fluid modification, behavioral techniques of bladder training and the pelvic floor muscle training techniques of repetitive exercise and knack squeeze trick. The *Translating Unique Learning for UI Prevention (TULIP)* study followed and aimed to determine if the same content delivered by take-home DVD was equally effective for primary prevention. The aim of the study was to compare early- and long-term outcomes of participants randomized to either a face-to-face bladder health class (2-hrClass) or to an abbreviated video of the same content on DVD (20-minDVD). The DVD presented essentially the same preventive practices content covered in the BH Class

### Study design, materials and methods:

This was a RCT. The study was powered for non-inferiority, enabling us to test the hypothesis that there would be no difference in incidence of UI at 2 year post instruction between a face-to-face 2-hrClass and a 20-minDVD delivery of the intervention. Inclusion criteria included community-dwelling females, continent, and > 55 years old. This multi-site study included research centers at University of Michigan School of Nursing and University of Pennsylvania Division of Urology. Recruitment was accomplished using a commercial mailing list of 50,000 per sites with enriched sampling from urban settings and representation of African American women by zip code indicators. Participants completed baseline battery of questionnaires that included the International Consultation on UI-Short Form (ICIQ-SF) questions 1-3 and the Indevus Urgency Severity Scale (2), underwent the Paper Towel Test (3), and pelvic floor muscle assessment. Of the 647 women enrolled, 332 participants were randomized to the 2-hrClass (BHC) and 315 participants were randomized to the 20-minDVD (see Table 1). Follow-up data points included 3 months, 1 year, 2 years post-intervention. The primary outcome was self-reported UI, as measured by the ICIQ-SF. Statistical modeling adjusted for covariates of BMI at baseline, age, race/ethnicity, education, employment status, income, and marital status.

### Results:

This study was able to recruit and retain a population of which one-third was African-American and the remainder Caucasian (see Table 2). Participants ranged in age from 55-87 years with a mean age of 63 years. Study retention rate was 84% continuing through the 24-month data point. Dropout was not associated with race, age, BMI, education, or socio-economic status. Controlling for the covariates of BMI at baseline, age, race/ethnicity, education, employment status, income, and marital status, no differences were demonstrated on UI incidence demonstrated between the two interventions on the ICIQ-SF (see Table 3) from baseline at 3-, 12-, or 24-month follow-up. Although a trend for greater improvement was seen in the BHC group.

### Interpretation of results:

UI incidence tends to rise annually in this age group. Thus, the two-year outcome of no change in UI or overactive bladder symptoms of urgency and frequency is persuasive evidence of the benefits to be obtained by women who have access to instruction in self-management practices to prevent UI. It is encouraging to observe that the outcomes following exposure to education about preventive self-management practices for bladder health presented in a 20-min self-instructional by DVD provided were no different than those following attendance at a two-hour face-to-face class. Based on the results produced, the DVD yields suitable information that can be provided at the point of well women care (annual visit).

### Concluding message:

For the purposes of primary prevention, a 20-min self-instructional by DVD provided a learning method equally effective to a 2-hour face-to-face class on techniques for bladder health and has ramifications for public health initiatives to address prevention of UI in the high prevalence population of adult women.

Table 1: Site Screening and Randomization

	University of Pennsylvania	University of Michigan
Number of Participants Screened	399	416
Number of Participants Randomized	320	327
Number of Participants Screened Failed at Baseline	79	88

Table 2: Breakdown by Race and Site

	University of Pennsylvania	University of Michigan
Caucasian	200	239
African American	105	76
Hispanic	5	2
Other	10	10

Table 3 ICIQ-SF Comparison by Randomized Group

	<b>DVD</b> Mean or mean diff (SE)	<b>BHC</b> Mean or mean diff (SE)	Mean difference DVD versus BHC	P-Value
Baseline	3.13(0.15)	3.11 (0.15)	-0.095	0.92
3-month Baseline vs	-0.44(0.2)	0.39 (0.45)	1.69	0.09
12-month Baseline vs	-0.23(0.2)	-0.30(0.19)	0.24	0.81
24-month Baseline vs	-0.37 (0.23)	-0.05 (0.31)	0.78	0.44

**References**

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**Disclosures**

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