

# # 539: Validation of electronic (web-based & smartphone) administration of measures of pelvic floor dysfunction

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**Objective:** To validate responses on electronically administered (web-based and smartphone) validated instruments of pelvic floor dysfunction with responses on the same paper instruments

**Methods:**

- Women presenting for evaluation of pelvic floor disorders at 5 FPMRS clinic sites invited to participate
- Excluded if had intervention in the 2 weeks between initial and repeat questionnaire completion
- Randomized order of completion (electronic versus paper) of 4 validated questionnaires (PFDI-20, PFIQ-7, PISQ-12, Bristol Stool Scale) 2 weeks apart
- Power analysis: 54 subjects per arm (108 total) to detect effect size 0.5, 80% power, 2-tailed alpha 0.05.
- Analysis: Continuous variables compared with paired and student t-test; categorical values with chi-square; Pearson's & Spearman's coefficients used for correlation

**Results:**

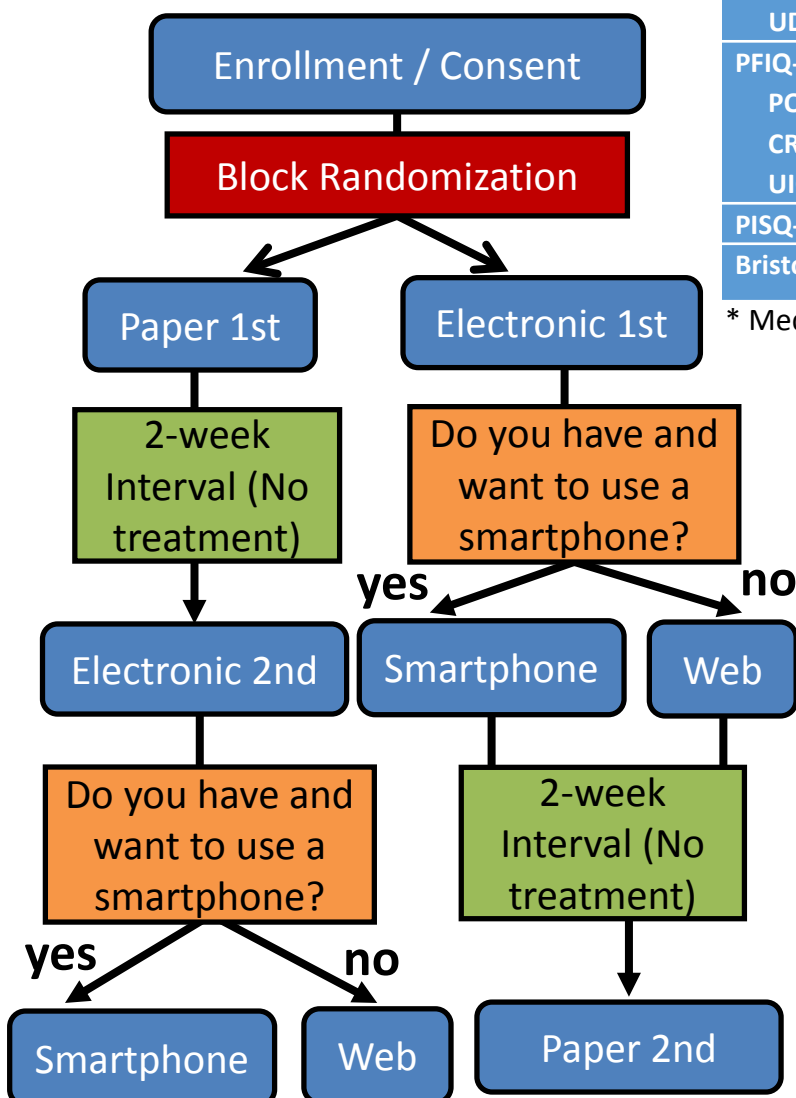
- 234 subjects enrolled; 132 (56%) completed study with no intervening treatment
- Mean age 58 (+15) years-old, BMI 28 (+6), parity 2, 77% white, 10% other, 7% Asian, 6% African-American
- Complaints: 58% urinary, 37% prolapse, 5% bowel
- No differences in demographics between those who completed data collection vs those who did not
- No age difference between those who completed electronic version on web vs smartphone
- No significant difference in responses for each total scale and individual scale between time points (first and second administration)

**Table 1: Correlation of paper versus electronic responses obtained 2 weeks apart**

Questionnaire	Score Mean (std dev)	Correlation r, p-value
PFDI-20	77.5(47.6)	0.74, <0.001
POPDI	22.2 (18.8)	0.67, <0.001
CRADI	16.8 (15.5)	0.66, <0.001
UDI	32.5 (23.5)	0.77, <0.001
PFIQ-7	48.9 (51.7)	0.63, <0.001
POPIQ	11.7 (18.1)	0.50, <0.001
CRAIQ	11.3 (19.4)	0.68, <0.001
UIQ	25.9 (24.8)	0.72, <0.001
PISQ-12	18.1 (16.4)	0.86, <0.001
Bristol Stool Scale	4 (3,4)*	0.58, <0.001

\* Median (25<sup>th</sup> %ile, 75<sup>th</sup> %ile)

**Figure 1: Randomization scheme**



**Conclusion:**

- Scales of pelvic floor dysfunction have moderate to strong correlations when administered electronically versus on paper.
- Our results support prior work demonstrating strong correlation between paper-based and electronic administration of PFDI-20 and PFIQ-7 and further demonstrates strong correlation for the PISQ-12 and moderate correlation for the Bristol Stool Scale.
- Our study is unique in demonstrating correlation between paper and web-based or smartphone administration.
- Electronic questionnaires, administered via the web or on a smartphone, provide an acceptable alternative to paper based forms for both research and clinical practice.

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