Psychometric Evaluation of the Urologic Health Self-Management Scale Among Women With Type 2 Diabetes

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Purpose: This study was a prospective psychometric study. Study purposes were to develop the Urologic Health Self-management Scale, and to evaluate the scale’s reliability and validity.

Methods: We obtained a convenience sample of 210 women with type 2 diabetes from two hospitals’ metabolism and endocrinology outpatient departments. Relevant information was collected by a structured questionnaire with 4 sections: individual characteristics and habits, the Urologic Health Self-management Scale, Short Form 36 (SF-36) Health Survey, and 13-item Patient Activation Measure (PAM-13). Collected information was used to examine the reliability and validity of the Urologic Health Self-management Scale. The SF-36 Health Survey and PAM-13 were used to examine the construct validity of the Urologic Health Self-management Scale. The 40 items included in the initial version of the Urologic Health Self-management Scale were generated by three researchers. The 41-item Urologic Health Self-management Scale was generated after the evaluations of the 40-item scale’s content validity and a pilot study. Exploratory factor analysis (EFA) was conducted to identify the latent factorial structure of the developed scale.

Results: The EFA resulted in a 34-item version scale with 8 aspects (factors) which explained 66.62% of the total variance. Based on the EFA results, we estimated the internal consistency and test-retest reliability of the 34-item Urologic Health Self-management Scale. A Cronbach’s alpha value of 0.88 and an Intra-class Correlation Coefficient (ICC) value of 0.99 were obtained. The construct validity of the developed scale was confirmed by obtaining significant Pearson correlation coefficients of the 34-item Urologic Health Self-management Scale with the SF-36 Health Survey (physical component summary \( r = 0.41, p < 0.01 \)/mental component summary \( r = 0.22, p < 0.01 \) and PAM-13 \( r = 0.33, p < 0.01 \).

Conclusions: Adequate reliability and validity of the Urologic Health Self-management Scale were initially obtained from this study and can serve as a basis for further research. The multifactorial nature of urologic health self-management behaviors supports that more studies are needed to clarifying the underlying latent aspects of urologic health self-management. In the future, the Urologic Health Self-management Scale can be used in clinical practice and related research to assess women’s urologic health self-management behaviors or effects of relevant interventions.
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**Keywords:**
Psychometric properties, Self-management and Urologic health

**References:**
Abstract Summary:
Initial reliability and validity of the Urologic Health Self-management Scale were obtained. The Urologic Health Self-management Scale can be used in clinical practice and related research to assess women’s urologic health self-management behaviors or effects of relevant interventions.

Content Outline:
Introduction: Poor urologic health has negative effects on individuals’ general health, daytime functions, and quality of life. Prevalence of lower urinary tract symptoms (LUTS) in women is higher than that in men. However, information related to women’s urologic health self-management behaviors is limited. We generated a scale to assess women’s urologic health self-management behaviors and initially evaluated the scale’s psychometric properties among a sample of women with type 2 diabetes.

Body: The initial version of the Urologic Health Self-management Scale contained 40 items. After the evaluations of the 40-item scale’s content validity and a pilot study, the 41-item Urologic Health Self-management Scale was generated. Exploratory factor analysis (EFA) was conducted to identify latent factorial structure of the developed scale. The EFA resulted in a 34-item version scale with 8 aspects (factors) which explained 66.62% of the total variance. The internal consistency, test-retest reliability, and construct validity of the 34-item Urologic Health Self-management Scale were adequate.

Conclusion: Initial reliability and validity of the Urologic Health Self-management Scale were obtained. The Urologic Health Self-management Scale can be used in clinical practice and related research to assess women’s urologic health self-management behaviors or effects of related interventions.

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