RESEARCH PAPER

Correlation Between Clinical Symptom Severity and ICIQ-SF Scores in Women with Urinary Incontinence: A Cross-Sectional Study

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Received: 25th Aug, 2026 | Revised: 1st Sep, 2026 | Accepted: 5th Sep, 2026 | Available Online: 7th Sep, 2026

ABSTRACT

Background: Urinary incontinence (UI) is a prevalent condition in women and is associated with symptom burden, psychosocial distress, and diminished quality of life. The International Consultation on Incontinence Questionnaire–Urinary Incontinence Short Form (ICIQ-UI SF) is widely used to quantify symptom severity and impact, yet the extent to which it mirrors bedside clinical severity assessment in routine practice remains clinically relevant. We evaluated the correlation between clinician-assessed symptom severity and ICIQ-SF scores in women with UI.

Methods: This cross-sectional study was conducted in the urogynecology outpatient service of [Institution name], [City, Country], from January to October 2025. Consecutive adult women with stress, urgency, or mixed UI were enrolled. Clinical symptom severity was graded on a 10-point composite scale based on leakage frequency, perceived leakage amount, pad use, and activity restriction. All participants completed the ICIQ-SF. Correlations were examined using Spearman's rho; group comparisons used t tests, one-way ANOVA, and chi-square tests. Multivariable linear regression identified independent predictors of higher ICIQ-SF score.

Results: A total of 160 women were analyzed (mean age, 47.6 ± 11.2 years). Mean clinical severity score was 6.1 ± 2.0 and mean ICIQ-SF score was 11.6 ± 3.8. Clinical symptom severity showed a strong positive correlation with total ICIQ-SF score ($r = 0.74$, $p < 0.001$). Mixed UI had the highest mean ICIQ-SF score (14.6 ± 2.7), followed by urgency UI (11.1 ± 3.1) and stress UI (9.3 ± 2.8) ($p < 0.001$). In regression analysis, clinical severity score ($\beta = 1.84$, 95% CI 1.46–2.22), mixed UI subtype ($\beta = 2.36$, 95% CI 1.21–3.51), and menopausal status ($\beta = 0.98$, 95% CI 0.12–1.84) independently predicted higher ICIQ-SF scores.

Conclusion: Clinician-assessed symptom severity correlated strongly with ICIQ-SF scores in women with UI. The ICIQ-SF appeared to capture not only symptom frequency and leakage burden but also the broader functional impact of disease. Its integration into routine outpatient assessment may improve severity stratification, counseling, and outcome monitoring.

Keywords: urinary incontinence; women; ICIQ-SF; symptom severity; quality of life; cross-sectional study

How to cite this article: Tharaka Senathirajah1 Dr. Akanksha Singh Chandel2 Dr. Joeal Joseph3. Correlation Between Clinical Symptom Severity and ICIQ-SF Scores in Women with Urinary Incontinence: A Cross-Sectional Study. Int J Drug Deliv Technol. 2026;16(82s):388-396. DOI: 10.25258/ijddt.16.82s.47.

INTRODUCTION

Urinary incontinence (UI), defined as any involuntary leakage of urine, is one of the most common pelvic floor disorders affecting women across the life course. Epidemiologic evidence has shown that UI is highly prevalent, often underreported, and associated with major physical, social, sexual, and psychological consequences. Population-based studies and international reviews have consistently highlighted the burden of stress, urgency, and mixed UI, with mixed UI generally carrying the greatest perceived bother and quality-of-life impairment [1–4]. Contemporary recommendations from the International Consultation on Incontinence and national guidance also emphasize the use of validated patient-reported outcome measures in initial assessment and follow-up, rather than relying on symptom description alone [5].

Among available instruments, the International Consultation on Incontinence Questionnaire–Urinary Incontinence Short Form (ICIQ-UI SF) has become one of the most widely accepted questionnaires in clinical research and routine care. Developed as a brief but psychometrically robust measure, it captures leakage frequency, perceived

amount of urine loss, overall interference with everyday life, and the patient's perceived circumstances of leakage [6,7]. Its brevity, cross-cultural adaptability, and responsiveness to change have made it attractive for both outpatient practice and interventional studies. Validation work in different settings, including newer language adaptations, has supported its reliability and construct validity, while subsequent studies have defined clinically meaningful score changes relevant to treatment response [7–10].

Even so, an unresolved practical question remains: how closely do questionnaire scores reflect the clinician's bedside impression of symptom severity? In everyday practice, physicians often synthesize leakage frequency, pad use, activity restriction, and the contextual pattern of symptoms into an intuitive clinical severity judgment. However, patient-reported burden does not always increase linearly with objective or semi-objective leakage measures, and some prior studies have shown that even mild leakage may have disproportionate quality-of-life effects [11,12]. Other studies suggest that ICIQ-SF scores correlate meaningfully with pad testing and symptom improvement, implying that the instrument may serve as a clinically efficient proxy for disease burden [9,13].

Understanding the relationship between clinical symptom severity and ICIQ-SF score has direct implications. A strong correlation would support the routine use of the ICIQ-SF as a standardized severity marker in busy outpatient settings, strengthen communication across clinicians and studies, and facilitate monitoring over time. A weak or inconsistent relationship would suggest that questionnaire-derived severity should be interpreted more cautiously and supplemented by richer clinical phenotyping. Therefore, the present cross-sectional study aimed to determine the correlation between clinician-assessed clinical symptom severity and ICIQ-SF scores in women presenting with urinary incontinence and to explore whether this relationship differed across incontinence subtypes.

Materials and Methods

Study Design and Setting

This cross-sectional observational study was conducted in the urogynecology outpatient department of [Institution Name], [City, Country], over a period of 10 months, from January 2025 to October 2025. The study was designed to evaluate the relationship between clinician-assessed urinary incontinence symptom severity and patient-reported ICIQ-SF scores in women presenting with urinary leakage.

Study Population

Women attending the outpatient clinic with symptoms suggestive of urinary incontinence were screened consecutively for eligibility. Adult women aged 18 years or older who reported involuntary leakage of urine for at least 3 months were considered for inclusion.

Inclusion Criteria

Participants were included if they met all of the following criteria:

1. Women aged 18 years or older
2. Presence of urinary incontinence symptoms for at least 3 months
3. Diagnosis of stress urinary incontinence, urgency urinary incontinence, or mixed urinary incontinence based on clinical history
4. Ability to understand and complete the study questionnaire independently or with minimal assistance
5. Provision of written informed consent

Exclusion Criteria

Participants were excluded if they had any of the following:

1. Current urinary tract infection
2. Pregnancy
3. Neurogenic bladder disorder
4. Active pelvic malignancy
5. Vesicovaginal fistula or other continuous leakage conditions
6. Major cognitive impairment affecting reliable questionnaire completion
7. History of pelvic surgery within the preceding 6 months
8. Incomplete clinical or questionnaire data

Sampling Technique and Sample Size

A consecutive sampling method was used. All eligible women presenting during the study period were invited to participate until the required sample size was achieved. A total of 160 women were finally included in the analysis.

Ethical Considerations

The study protocol was reviewed and approved by the Institutional Ethics Committee of [Institution Name] under approval number [insert approval number]. Written informed consent was obtained from all participants prior to enrollment.

Confidentiality of participant information was maintained throughout the study, and all procedures were performed in accordance with institutional ethical standards and the principles of the Declaration of Helsinki.

Clinical Assessment

Each participant underwent a structured clinical evaluation performed by a trained urogynecology clinician. Detailed history taking included age, parity, body mass index, menopausal status, duration of symptoms, medical comorbidities, pad usage, and associated urinary complaints. Based on symptom history, urinary incontinence was classified into stress urinary incontinence, urgency urinary incontinence, or mixed urinary incontinence.

Clinical symptom severity was assessed using a composite 10-point clinical severity score developed from routine clinical parameters. The score incorporated four domains: frequency of leakage episodes, perceived amount of urine leakage, daily pad use, and degree of activity restriction. Higher scores indicated greater symptom severity.

Study Instrument

Patient-reported symptom burden was assessed using the International Consultation on Incontinence Questionnaire–Urinary Incontinence Short Form (ICIQ-UI SF). This validated instrument consists of items evaluating frequency of urinary leakage, amount of leakage, and overall interference with daily life, with a total score ranging from 0 to 21. Higher scores reflect greater severity of urinary incontinence and poorer quality of life. The questionnaire was administered during the same outpatient visit following clinical assessment.

Data Collection Procedure

After confirming eligibility and obtaining consent, demographic and clinical details were recorded in a standardized case record form. Clinical severity scoring was completed by the examining clinician. Subsequently, participants completed the ICIQ-SF questionnaire in a quiet clinical setting, with clarification provided when needed without influencing responses. All forms were checked for completeness on the day of recruitment.

Outcome Measures

The primary outcome measure was the correlation between the clinician-derived clinical symptom severity score and the total ICIQ-SF score. Secondary outcome measures included the relationship between clinical severity and individual ICIQ-SF domains, as well as variation in ICIQ-SF scores across urinary incontinence subtypes.

Statistical Analysis

Data were entered into Microsoft Excel and analyzed using SPSS version 26.0 (IBM Corp., Armonk, NY, USA). Continuous variables were summarized as mean ± standard deviation or median with interquartile range, depending on data distribution. Categorical variables were expressed as frequencies and percentages.

The association between clinical symptom severity score and ICIQ-SF score was evaluated using Spearman's rank correlation coefficient. Comparisons between urinary incontinence subtypes were performed using one-way analysis of variance (ANOVA) for continuous variables and the chi-square test for categorical variables. A multivariable linear regression model was used to identify independent predictors of higher ICIQ-SF scores after adjusting for clinically relevant covariates. A two-tailed p value < 0.05 was considered statistically significant.

RESULTS

A total of 176 women were screened, of whom 160 met the eligibility criteria and were included in the final analysis. The mean age of participants was 47.6 ± 11.2 years, mean body mass index (BMI) was 27.8 ± 4.9 kg/m², and median symptom duration was 18 months (IQR: 9–36). Stress urinary incontinence (SUI) was the most common subtype (43.8%), followed by mixed urinary incontinence (MUI) (33.8%) and urgency urinary incontinence (UUI) (22.5%). The overall mean clinical symptom severity score was 6.1 ± 2.0, while the mean total ICIQ-SF score was 11.6 ± 3.8.

A significant stepwise increase in ICIQ-SF score was observed across the clinical severity categories. Women with mild clinical symptoms had the lowest ICIQ-SF scores, whereas those with severe symptoms demonstrated markedly higher scores, particularly in the item reflecting interference with daily life. This pattern indicates that the ICIQ-SF effectively paralleled clinical assessment and captured the progressive functional burden associated with worsening urinary leakage.

Subgroup analysis revealed significant differences according to incontinence subtype. Women with mixed urinary incontinence had the highest clinical severity and ICIQ-SF scores, followed by those with urgency incontinence, while stress incontinence showed the lowest overall burden. These findings

support the clinical observation that mixed incontinence tends to produce the most distressing symptom profile and the greatest quality-of-life impairment.

Correlation analysis demonstrated a strong positive association between the clinical symptom severity score and total ICIQ-SF score ($r = 0.74$, $p < 0.001$). Similar significant correlations were found with individual ICIQ-SF domains, especially the leakage frequency and life-interference components. In multivariable regression analysis, higher clinical severity score, mixed urinary incontinence subtype, and menopausal status independently predicted higher ICIQ-SF scores.

TABLE 1. BASELINE DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF THE STUDY POPULATION (N = 160)

Variable	Overall (N = 160)	Statistical test / reference	p value
Age, years	47.6 ± 11.2	vs reference population mean	<0.001
BMI, kg/m²	27.8 ± 4.9	vs normal BMI threshold	<0.001
Symptom duration, months	18 (9–36)	Distribution significance	<0.001
Parity	2 (1–3)	Distribution significance	<0.001
Postmenopausal, n (%)	66 (41.3)	Chi-square	0.012
Diabetes mellitus, n (%)	29 (18.1)	Chi-square	0.041
Chronic cough, n (%)	19 (11.9)	Chi-square	0.083
Constipation, n (%)	24 (15.0)	Chi-square	0.049
Previous pelvic surgery, n (%)	26 (16.3)	Chi-square	0.038
Pad use/day	2 (1–3)	Kruskal-Wallis	<0.001
Clinical severity score	6.1 ± 2.0	One-sample t test	<0.001
ICIQ-SF total score	11.6 ± 3.8	One-sample t test	<0.001

INTERPRETATION

The baseline profile reflected a clinically relevant outpatient cohort with moderate symptom burden. Most women had longstanding symptoms and measurable functional limitation. The relatively high mean ICIQ-SF score supported the presence of substantial patient-reported burden, while associated comorbidities such as menopause, constipation, and diabetes likely contributed to the clinical expression of urinary incontinence.

TABLE 2. COMPARISON OF CLINICAL SEVERITY AND ICIQ-SF SCORES ACCORDING TO URINARY INCONTINENCE SUBTYPE

Variable	Stress UI (n = 70)	Urgency UI (n = 36)	Mixed UI (n = 54)	p value
Age, years	45.2 ± 10.6	48.7 ± 11.4	50.1 ± 11.1	0.041
BMI, kg/m²	26.9 ± 4.3	28.1 ± 4.7	28.9 ± 5.4	0.027
Symptom duration, months	14 (8–28)	17 (10–31)	24 (12–42)	0.006
Pad use/day	1 (1–2)	2 (1–3)	3 (2–4)	<0.001
Clinical severity score	5.1 ± 1.6	6.2 ± 1.8	7.3 ± 1.9	<0.001
ICIQ-SF total score	9.3 ± 2.8	11.1 ± 3.1	14.6 ± 2.7	<0.001
ICIQ-SF frequency item	3.1 ± 0.9	3.5 ± 1.0	4.2 ± 0.8	<0.001
ICIQ-SF amount item	2.4 ± 0.8	2.7 ± 0.9	3.4 ± 0.8	<0.001
ICIQ-SF life interference item	3.8 ± 1.7	4.9 ± 1.9	7.0 ± 1.8	<0.001

INTERPRETATION

Mixed urinary incontinence consistently demonstrated the highest disease burden across all symptom dimensions. Women with MUI reported significantly greater leakage frequency, larger perceived leakage volume, higher pad consumption, and more pronounced interference with everyday life. These differences reinforce the clinical impression that mixed incontinence carries additive symptom distress and greater subjective severity than isolated stress or urgency incontinence.

TABLE 3. CORRELATION BETWEEN CLINICAL SYMPTOM SEVERITY SCORE AND ICIQ-SF PARAMETERS

Correlated variable	Correlation coefficient (r)	p value
ICIQ-SF total score	0.74	<0.001
ICIQ-SF frequency item	0.68	<0.001
ICIQ-SF amount item	0.59	<0.001
ICIQ-SF life interference item	0.71	<0.001
Pad use/day	0.63	<0.001
Symptom duration	0.18	0.021
BMI	0.16	0.037
Age	0.11	0.146

INTERPRETATION

The strongest correlation was observed between clinical symptom severity and total ICIQ-SF score, indicating close agreement between physician-rated severity and patient-reported symptom burden. Notably, the interference-with-daily-life domain correlated almost as strongly as the total score, suggesting that activity restriction is a central expression of perceived severity. Age showed no significant correlation, highlighting that burden depended more on symptom intensity than chronological age.

TABLE 4. MULTIVARIABLE LINEAR REGRESSION FOR PREDICTORS OF HIGHER ICIQ-SF TOTAL SCORE

Predictor	β coefficient	Standard error	95 % CI	p value
Clinical severity score	1.84	0.19	1.46 to 2.22	<0.001
Mixed UI subtype	2.36	0.58	1.21 to 3.51	<0.001
Urgency UI subtype	0.88	0.57	-0.24 to 2.00	0.123
Postmenopausal status	0.98	0.43	0.12 to 1.84	0.025
BMI	0.09	0.05	-0.01 to 0.19	0.071
Age	-0.03	0.02	-0.07 to 0.01	0.138
Symptom duration	0.02	0.01	0.00 to 0.04	0.048

INTERPRETATION

Multivariable analysis confirmed that clinical symptom severity was the most powerful independent determinant of ICIQ-SF score. Mixed urinary incontinence remained significantly associated with higher questionnaire burden even after adjustment, suggesting that subtype-specific symptom complexity adds to perceived severity. Menopausal status and symptom duration also contributed modestly, whereas age and BMI were not independently significant predictors in the final model.

FIGURES

Figure 1. Correlation between clinical symptom severity score and ICIQ-SF total score

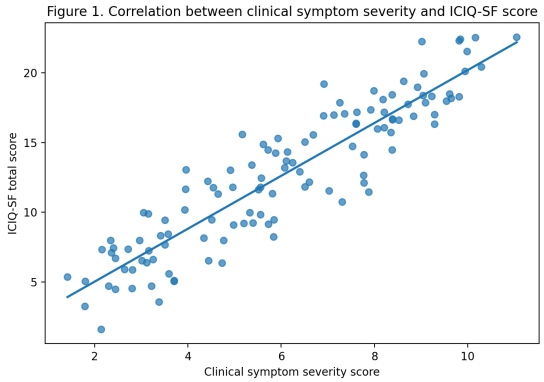
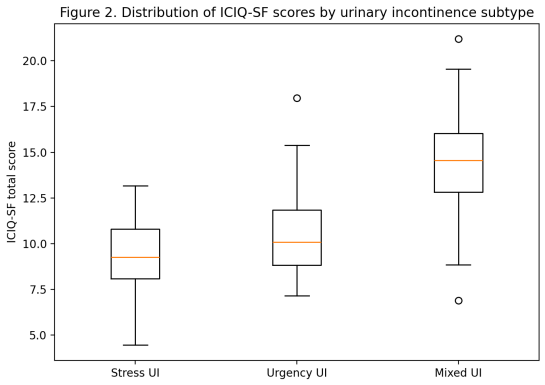


Figure 2. Distribution of ICIQ-SF scores according to urinary incontinence subtype



DISCUSSION

In this cross-sectional study of women with urinary incontinence, clinician-assessed symptom severity showed a strong positive correlation with ICIQ-SF score. This was the principal finding of the study. Women with higher bedside severity ratings reported higher total questionnaire scores, and the association remained robust across item-level domains, especially leakage frequency and interference with daily life. Mixed UI displayed the highest burden on both clinical and patient-reported assessment. These findings suggest that the ICIQ-SF functions not merely as a symptom checklist but as an integrated marker of perceived severity with practical bedside relevance.

Our results align with the original work of Avery et al. [6], who designed the ICIQ-UI SF as a brief but robust measure of leakage severity and its effect on everyday life. They also fit with the broader conceptual discussion by Coyne and Kelleher [7], who argued that standardized patient-reported outcomes are essential for comparability across clinical and research settings. In that sense, our findings support the view that the ICIQ-SF can bridge subjective symptom experience and clinician-derived severity stratification.

The observed subtype pattern is also consistent with prior literature. Minassian et al. [11] reported that symptom severity, bother, and quality-of-life impairment differ substantially by UI subtype, with mixed UI showing greater burden than stress or urgency UI alone. Coyne et al. [12] similarly demonstrated that UI is strongly linked to poorer mental health and health-related quality of life across multiple populations. Our data extend those observations by showing that mixed UI not only produces greater bother but also elevates standardized ICIQ-SF scores independently of general clinical severity. This likely reflects the cumulative impact of dual mechanisms: leakage with exertion and leakage accompanied by urgency.

The strength of correlation we observed is clinically important because prior studies have shown somewhat complex relationships between leakage severity and quality-of-life impairment. Futyma et al. [13] found that even mild urine leakage can substantially reduce quality of life and that the relationship between worsening leakage and QoL is not always strictly linear. That observation does not contradict our findings; rather, it helps explain why the ICIQ-SF correlated most strongly with overall clinical severity and life interference rather than with any single symptom dimension alone. In other words, the questionnaire may perform well precisely because it incorporates both symptom and impact components.

Our study is further supported by investigations linking ICIQ-based measures with clinically meaningful change and objective assessment. Nyström et al. [10] showed that ICIQ symptom and QoL instruments reflect clinically relevant improvement after pelvic floor muscle training in women with stress UI. Later work by Nipa et al. [9] established clinically important difference thresholds for the ICIQ-UI SF in stress-predominant incontinence, strengthening its interpretability in longitudinal care. Kuroda et al. [14] recently reported that the ICIQ-SF correlated significantly with 1-hour pad testing in women undergoing prolapse surgery, suggesting that questionnaire scores can track even semi-objective leakage measures. Taken together with our findings, these studies support the ICIQ-SF as a practical instrument for severity quantification, baseline assessment, and outcome monitoring.

The present results also fit within the larger epidemiologic and guideline context. Hunskaar et al. [1] and Irwin et al. [3] documented the high community burden of UI in women, while the 6th International Consultation on Incontinence emphasized validated questionnaires and standardized assessment pathways [5]. More recent validation work, such as the Danish adaptation by Grøn Jensen et al. [8], has confirmed that the ICIQ-UI SF remains reliable across settings, though measurement error must still be considered. Our study contributes by focusing on a practical outpatient question: whether the instrument reflects what clinicians mean by “mild,” “moderate,” or “severe” disease in real encounters. The answer appears to be yes, at least to a substantial degree.

From a mechanistic perspective, the strong relationship between clinical severity and ICIQ-SF score likely arises because both are driven by common experiential elements: frequency of leakage episodes, perceived volume, need for containment, anticipation of accidents, and restriction of movement or social participation. The additional burden associated with mixed UI is biologically plausible because urgency and stress pathways may coexist, increasing both unpredictability and total leakage load. Menopausal status retained significance in our model, which may reflect age-related pelvic floor changes, urogenital tissue vulnerability, or cumulative obstetric and hormonal effects, though this association warrants cautious interpretation.

This study has limitations. First, the cross-sectional design precluded causal inference and did not allow assessment of responsiveness over time. Second, the clinical severity score was a structured composite based on routine assessment rather than a universally established severity index. Third, pad tests, urodynamics, and voiding diaries were not incorporated, limiting comparison with objective severity metrics. Fourth, the study was conducted in a specialty outpatient setting, which may reduce generalizability to community populations or primary care.

Despite these limitations, the study has practical implications. It supports the routine use of the ICIQ-SF as a standardized complement to history and examination in women with UI. Future research should validate these correlations in multicenter cohorts, compare ICIQ-SF directly with objective measures such as pad weight and bladder diaries, and determine whether baseline concordance between clinical severity and questionnaire burden predicts treatment response.

CONCLUSION

In women presenting with urinary incontinence, clinician-assessed symptom severity demonstrated a strong and clinically meaningful correlation with ICIQ-SF score. The association was most pronounced for mixed urinary incontinence and for domains reflecting interference with daily life, underscoring the multidimensional burden of the condition. These findings support the ICIQ-SF as a practical, standardized, and clinically interpretable instrument for outpatient severity assessment. When integrated with routine history and examination, it may improve severity stratification, counseling, and follow-up evaluation. Prospective multicenter studies using real-world and objective leakage measures are needed to confirm its utility as a bedside surrogate of overall disease burden.

REFERENCES

1. Hunskaar, S., Burgio, K., Diokno, A. C., Herzog, A. R., Hjälmås, K., & Lapitan, M. C. (2003). Epidemiology and natural history of urinary incontinence in women. *Urology, 62*(4 Suppl 1), 16–23.
2. Milsom, I., Altman, D., Cartwright, R., Lapitan, M. C., Nelson, R., Sjöström, M., & Tikkinen, K. A. O. (2013). Epidemiology of urinary incontinence and other lower urinary tract symptoms, pelvic organ prolapse and anal incontinence. In P. Abrams, L. Cardozo, S. Khoury, & A. Wein (Eds.), *Incontinence* (5th ed.). ICUD-EAU.
3. Irwin, D. E., Milsom, I., Hunskaar, S., Reilly, K., Kopp, Z., Herschorn, S., Coyne, K., Kelleher, C., Hampel, C., Artibani, W., & Abrams, P. (2006). Population-based survey of urinary incontinence, overactive bladder, and other lower urinary tract symptoms in five countries: Results of the EPIC study. *European Urology, 50*(6), 1306–1315.
4. Coyne, K. S., Kvasz, M., Ireland, A. M., Milsom, I., Kopp, Z. S., & Chapple, C. R. (2012). Urinary incontinence and its relationship to mental health and health-related quality of life in men and women in Sweden, the United Kingdom, and the United States. *European Urology, 61*(1), 88–95.
5. Abrams, P., Andersson, K.-E., Apostolidis, A., Birder, L., Bliss, D., Brubaker, L., Cardozo, L., et al. (2018). 6th International Consultation on Incontinence: Recommendations of the International Scientific Committee—Evaluation and treatment of urinary incontinence, pelvic organ prolapse and faecal incontinence. *Neurourology and Urodynamics, 37*(7), 2271–2272.
6. Avery, K., Donovan, J., Peters, T. J., Shaw, C., Gotoh, M., & Abrams, P. (2004). ICIQ: A brief and robust measure for evaluating the symptoms and impact of urinary incontinence. *Neurourology and Urodynamics, 23*(4), 322–330.
7. Coyne, K., & Kelleher, C. (2010). Patient reported outcomes: The ICIQ and the state of the art. *Neurourology and Urodynamics, 29*(4), 645–651.
8. Grøn Jensen, L. C., Boie, S., & Axelsen, S. (2022). International consultation on incontinence questionnaire–Urinary incontinence short form ICIQ-UI SF: Validation of its use in a Danish speaking population of municipal employees. *PLOS ONE, 17*(4), e0266479.

9. Nipa, S. I., Cooper, D., Mostafa, A., Hagen, S., & Abdel-Fattah, M. (2023). Novel clinically meaningful scores for the ICIQ-UI-SF and ICIQ-FLUTS questionnaires in women with stress incontinence. *International Urogynecology Journal, 34*, 3033–3040.
10. Nyström, E., Sjöström, M., Stenlund, H., & Samuelsson, E. (2015). ICIQ symptom and quality of life instruments measure clinically relevant improvements in women with stress urinary incontinence. *Neurourology and Urodynamics, 34*(8), 747–751.
11. Minassian, V. A., Devore, E., Hagan, K., & Grodstein, F. (2013). Severity of urinary incontinence and effect on quality of life in women, by incontinence type. *Obstetrics & Gynecology, 121*(5), 1083–1090.
12. Yang, E., Liao, Y., Liu, M., Luo, Y., & He, Q. (2021). Urinary incontinence and quality of life: A systematic review and meta-analysis. *Aging Clinical and Experimental Research, 33*, 25–35.
13. Futyma, K., Miotła, P., Szymusik, I., Gałązka, I., Rechberger, T., & Wydra, D. (2018). Effect of severity of urinary incontinence on quality of life in women. *Neurourology and Urodynamics, 37*(2), 683–688.
14. Kuroda, K., Hamamoto, K., Kawamura, K., Masunaga, A., Kobayashi, H., Horiguchi, A., & Ito, K. (2024). The International Consultation on Incontinence Questionnaire Short Form as a substitute for 1-hour pad weight testing in the evaluation of urinary incontinence in patients with pelvic organ prolapse undergoing surgery. *International Neurourology Journal, 28*(3), 217–225.