



Is Nocturia the Hidden Link Behind Worsening Sleep Quality, Increased Symptoms, Chronotype Differences and Deteriorating Quality of Life in Urinary Incontinence?

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AIM & HYPOTHESIS

Aim: To compare sleep quality, chronotype, pelvic-floor symptoms, quality of life and fatigue between women with and without nocturia among patients with urinary incontinence (UI).

Hypothesis: Women with nocturia will have poorer sleep quality, a different chronotype, more severe pelvic-floor symptoms, lower quality of life and higher fatigue than women without nocturia. Study design & participants

Design: Case-control study at routine Gulhane outpatient gynecology clinics.

METHODS

Sample size: Calculated with G*Power → n = 102 (51 per group) for 80% power at α = 0.05.

Women aged 18 and older diagnosed with UI were included. The presence of nocturia was determined based on self-reported.

- Incontinence type: 3-Incontinence Questionnaire.
- Sleep quality: Pittsburgh Sleep Quality Index (PSQI).
- Chronotype: Morningness-Eveningness Questionnaire (MEQ).
- Pelvic-floor symptoms: Global Pelvic Floor Bother Questionnaire.
- Quality of life: CONTILIFE questionnaire.
- Fatigue: Fatigue Severity Scale (FSS).

Statistical analyses were performed using SPSS v25. Data are presented as mean ± SD, with chi-square tests for categorical variables, Mann-Whitney U tests for non-normally distributed continuous variables, and independent t-tests for normally distributed continuous variables. Statistical significance was set at p < 0.05.

RESULTS

A total of 169 individuals were invited. Exclusions: sleep disorder 1, neurological disease 2, kidney disease 1, diabetes 19, hormone therapy 5, recent urinary tract infection 1, recent pelvic surgery 2, cancer 2, sleeping pills 7, antidepressants 10, UI meds 2, did not volunteer 15

102 patients included: Nocturia group (n=51; SUI 28, Urge 22, Mixed 1); Non-nocturia group (n=51; SUI 31, Urge 12, Mixed 4, Other 4).

	Nocturia (n=51)	Non-nocturia (n=51)	p
Age (years)	47.25± 12.12	45.59± 13.05	(p = 0.224)
BMI (kg/m ²)	28.96±4.17	27.40±4.28	(p = 0.660)
Symptom duration UI (months)	42.09±49.86	57.02±75.65	(p = 0.535)
Gravida	2.76±1.76	2.69±1.73	(p = 0.861)

There was no significant difference chronotype (p=0.815) between the groups. However, significant differences were observed in sleep quality (p=0.025), pelvic floor symptoms (p=0.002), quality of life (p=0.034), and fatigue (p=0.017).

INTERPRETATION OF RESULTS

Nocturia was not associated with chronotype changes, but it was associated with poorer sleep quality, more severe pelvic-floor symptom burden, reduced quality of life and greater fatigue.

CLINICAL MESSAGE / CONCLUSION

In clinical practice, nocturia should be recognized as a significant factor affecting sleep, pelvic floor health, and overall well-being, and addressed comprehensively given its multifactorial impact on patient health.

Early diagnosis and multidisciplinary approach (urology, gynecology, physiotherapy...) are important for the treatment of nocturia in women with urinary incontinence.