

THE TIME OF NOCTURIA IN PATIENTS WITH LUTS: AN IMPORTANT FACTOR IN QUALITY OF LIFE.

Hypothesis / aims of study

Nocturia has been defined by ICS as waking at night to void, applying to any number of voids at any time during a night's sleep (each void is preceded and followed by sleep, the person awake before voiding). This symptom has shown a significant effect in productivity, vitality and well-being of individuals (1). It's also one of the most bothering urinary symptoms and a strong predictor of quality of life (QoL) in patients with lower urinary tract symptoms (LUTS). Primary aim: to assess more specific clinical details of the symptom (moment of appearance: first hours of sleep vs the second part of the sleep) and relate them to a more specific tool for QoL evaluation: the *Nocturia Quality of Life Questionnaire* (N-QoL) (2). Secondary aim: assess the internal consistency and validity of the NQoL in the Spanish outpatient population, and its relation to the IPSS. The results of this study may provide fundamental clues to a more complete understanding of the impact of nocturia in quality of life.

Study design, materials and methods

This study was observational, descriptive and transversal. Participants were men older than 50 years old attending to 450 outpatient urologic units from Spain for LUTS. They completed the Spanish versions of the *International Prostate Symptom Score* (IPSS) and the (N-QoL). Those patients with IPSS score greater than 11 and two or more episodes of nocturia (IPSS item 7) were included. N-QoL was scored as total, and two sub-scales: Sleep/energy (S/E) and Bother/concern (B/C). N-QoL score was converted to a 1-100 scale, higher values indicating better QoL. Additional questions included the duration of nocturia and time at which it occurred predominantly (first or second half of the night), number and type of medication and other medical conditions. Previous prostatic surgery, neurologic diseases affecting bladder function or insulin-dependent diabetes were exclusion criteria. Patients were informed about the risks and benefits of participation and provided verbal consent. Relation between qualitative measures was analyzed by χ^2 test and between quantitative by Student's t-test and correlational analysis.

Results

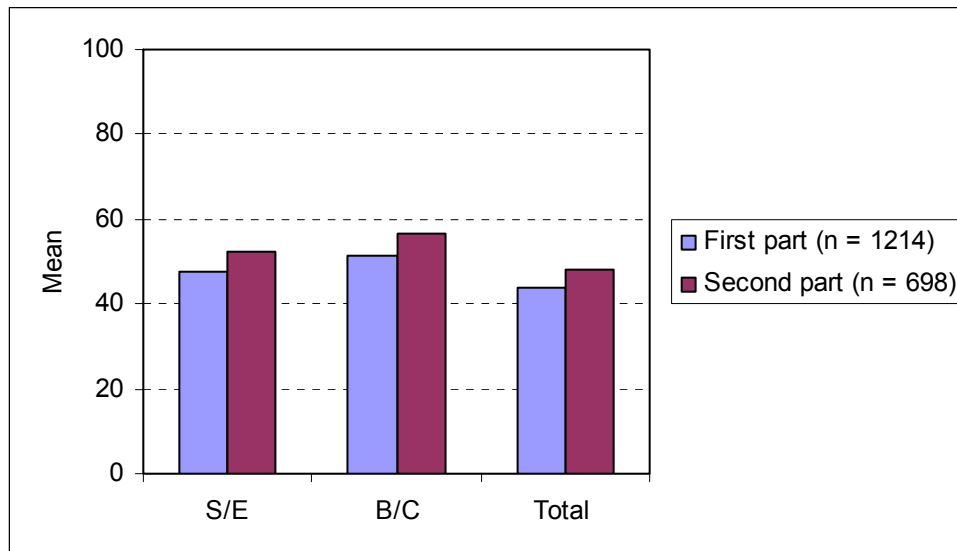
The sample consisted of 1948 patients aged 51 to 91 (M=66.44; SD= 7.34). 1219 patients reported voiding in the first part of the night (63%) and 699 in the second part (37%), and over 50% said the symptom had been going on for years. Mean IPSS was 19.26 (SD=4.66) indicating a moderate to severe symptom population (Table1). Age correlated significantly with IPSS ($r=0.20$; $p < 0.001$) and with the S/E subscale of the N-QoL ($r=-0.08$; $p < 0.01$). Scores in 4 IPSS items were significantly higher when the number of urologic drugs taken by the patients were 3 comparing with those taking less than 3. Those reporting nocturia in the first half of sleep were significantly older ($t=2.39$; $p < 0.05$) and reported a higher IPSS than those reporting in the second part ($t=6.19$; $p < 0.001$). Missing data on concomitant diseases enabled any analysis on that issue.

Primary aim: Statistically significant worse scores of N-QoL ($p < 0.001$; both total and sub-scales) were found among those who reported nocturia during the first part of the night (Figure 1). Secondary aim: N-QoL showed a good internal consistency confirming previous studies. IPSS and N-QoL (subscales and total score) showed significant correlations ($p < 0.001$), the range of correlation values was -0.45 to -0.51.

Table 1. Descriptive data and internal consistency for IPSS and N-QoL

	n	Mean	SD	n	α
IPSS	1948	19.26	4.66	1948	0.76
N-QoL	1942				
Total		49.47	15.93	1903	0.90
Sleep/Energy		53.40	17.02	1938	0.86
Bother/Concern		45.53	17.35	1907	0.84

Figure 1. Moment of appearance of nocturia and quality of life (N-QoL)



Interpretation of results

Patients suffering from nocturia mainly during the first part of the night presented more severe LUTS, and worse QoL. They reported diminished energy, disturbed sleep and more bother/ concern about their condition. Nocturia follows the general trend of other sleep disturbances. The high correlation of nocturia with all of the IPSS items suggests that in most instances it's not a separate condition.

Concluding message

Episodes of nocturia appearing during the first part of sleep are directly related to more severe of LUTS and worse QoL. The N-QoL showed good psychometric properties of reliability and validity in Spanish outpatient population.

References

- (1) British Journal of Urology (2003) 91; 190-195.
- (2) Urology (2004) 63; 481-486.

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HUMAN SUBJECTS: This study was approved by the IRB. CM Teknon. and followed the Declaration of Helsinki Informed consent was obtained from the patients.