

## NOCTURNAL POLYURIA IN A NURSING HOME & EFFECT ON QUALITY OF LIFE

### Hypothesis / aims of study

Nocturnal polyuria (NP) is a condition with a high prevalence in the elderly population and thus also in nursing homes. It can present as nocturia or nocturnal incontinence, both highly bothersome urological complaints. But although there is a high prevalence and a distinct impact on quality of life and quality of sleep, research on this topic within the setting of a nursing home is lacking.

### Study design, materials and methods

Fifty-five out of 190 residents of a Belgian nursing home were included in this study. A 24h voiding chart and validated questionnaires on urological symptoms (ICIQ-FLUTS and ICIQ-MLUTS) and on quality of life (SF-36) were analysed.

### Results

The prevalence of NP within this study population is 84%, characteristics are described in table 1.

Variables	NP group (N=45)	Control group (N=9)	P-value
<i>General</i>			
Age (years)	87 ± 6,5	88 ± 5,1	0,459
Male/female	8/38	2/7	0,737
Nocturnal bedrest (h)	13 ± 1,5	15 ± 2,1	0,007*
Nocturnal incontinence	17 (37%)	1 (11%)	0,131
Incontinence material: (N,%)			0,023*
- No	- 22 (48%)	- 8 (89%)	
- At night	- 17 (37%)	- 1 (11%)	
- Day and night	- 7 (15%)	- 0 (0%)	
<i>Voiding chart</i>			
Drinking volume (ml)	1048 ± 326	1313 ± 388	0,045*
Total urine volume (ml)	1500 ± 1331	1286 ± 451	0,637
Nocturnal urine volume (ml)	898 ± 814	328 ± 144	0,042*
Nocturnal polyuria index (%)	60 ± 15	26 ± 6,1	0,000*
Polyuria (ml/kg)	24 ± 15	18 ± 7,3	0,315

Twenty-two residents with NP do not use incontinence material, of whom 100% reports nocturia and 27% nocturnal incontinence; 23 residents use incontinence material, 72% reports nocturnal incontinence. Comparing residents with and without incontinence material, a higher nocturnal volume is found ( $p < 0,020$ ) and a significant lower score for several domains of quality of life (see table 2).

Variable	No incontinence material	Incontinence material	P-value
Physical functioning	46 ± 30	27 ± 34	0,069
Role limitations physical functioning	57 ± 30	36 ± 35	0,039*
Role limitations emotional functioning	78 ± 31	36 ± 43	0,001*
Energy and fatigue	55 ± 15	44 ± 20	0,062
Emotional well being	61 ± 17	49 ± 17	0,014*
Social functioning	77 ± 40	76 ± 25	0,857
Pain	72 ± 24	50 ± 31	0,011*
General health	61 ± 17	57 ± 20	0,444

### Concluding message

Nocturnal polyuria is a highly prevalent condition in the elderly population of a nursing home. This excessive nocturnal urine production cannot be attributed to a longer sleep duration or a higher drinking volume, so it must be related to hormonal disturbances during nighttime.

Forty-eight percent of the residents with nocturnal polyuria do not use incontinence material, and all of them report nocturia; 52% of the NP group uses incontinence material, although not everyone experiences urinary incontinence. However, this latter group has significantly higher nocturnal urine volumes and experiences a more pronounced influence on quality of life compared to those who can get up at night to void. And although the need for incontinence material might not only depend on bladder related problems, it seems that reducing the nocturnal urine volume might improve quality of life within the subgroup of patients wearing incontinence material because of nocturnal incontinence by reducing the need for incontinence material.

### Disclosures

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