

NON-DRUG LIFESTYLE MEASURES FOR THE MANAGEMENT OF NOCTURIA

Hypothesis / aims of study

Nocturia has a great impact on people's quality of life, affects numerous aspects of health, contributing to fatigue, memory deficits, depression, increased risk of heart disease, gastrointestinal disorders, and so forth. Nocturnal polyuria, global polyuria and reduced nocturnal bladder capacity are the possible causes of nocturia. Variety of medications such as anticholinergic agents, desmopressin and time release diuretics are recommended as treatment options, depending on the diagnosis and underlying causes (1). With growing awareness about nocturia and ageing of population, number of patients is increasing. Medical therapy is often considered as first line treatment, however, medication has a potential risk of adverse effects and would also cause problems with national medical expenditures. Lifestyle modifications such as fluid restriction, sleep enhancement etc are expected to be helpful, but effectiveness of this strategy has not been established. The aim of this study was to test the efficacy of non-drug lifestyle measures as the first step to treat nocturia.

Study design, materials and methods

We enrolled patients who visited our outpatient clinic with a chief complaint of nocturia from October 2005 to January 2007. After the initial screening with history taking / urinalysis / physical examination and frequency volume chart (FVC), the patients were encouraged to modify their lifestyle in order to improve nocturia. We paid attention to avoid too strict measures for the patients and made a brochure for easier understanding of what to do. Patients who strongly sought medical treatment were excluded. Lifestyle modifications consisted of four measures - restriction of fluid intake, to avoid too long sleeping hours, moderate daily exercise and to keep warm in bed. The International Prostate Symptom Score (IPSS), MOS Short-Form 36-Item Health Survey (SF-36), Pittsburgh Sleep Quality Index (PSQI) and FVC before and after (2- to 4- weeks) the intervention were used to assess the efficacy of the therapy. Non-responders received further medical therapy.

Results

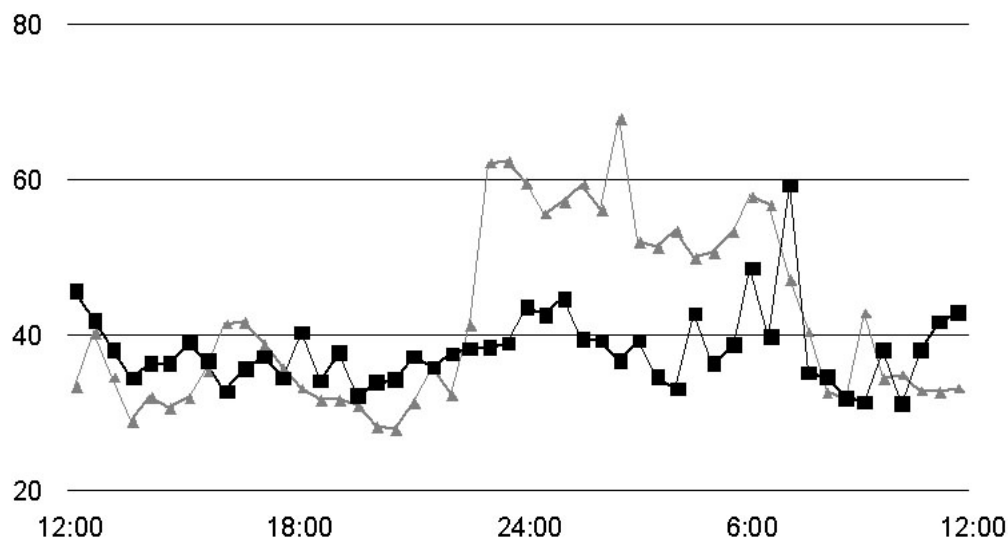
Data from 20 patients (17 men and 3 women) were evaluable. The mean age was 73.9±5.69 years (range 59-83). Mean number of nocturia, determined from IPSS question 7, and IPSS-QoL before and after the intervention were 3.7 and 2.5 ($p<0.001$) and 4.3 and 3.2 ($p=0.002$), respectively. In 8 of 20 patients (40%), 2 or more times decrease in the number of nocturia was achieved. In 6 (30%), IPSS-QoL score improved by 2 or more points. No patient reported worsening of the symptoms. Abstracts from FVC before and after the intervention were as follows; 24-hour frequency: 11.5 and 10.3 ($p=0.06$), 24-hour production (ml): 2024 and 1853 ($p=0.17$), nocturnal urine volume (ml): 932 and 806 ($p=0.11$) and daytime urine volume (ml): 1092 and 1047 ($p=0.33$). Urine volume chart (Figure) showed marked decrease in urine production per 30 minutes during the night after the intervention although nocturnal urine volume was not significantly different.

Table: Results of IPSS before and after the intervention.

	before	after	P*
IPSS-Q7(nocturia)	3.7	2.5	<0.001
IPSS-QoL	4.3	3.2	0.002
IPSS-others	10.2	9.1	0.20

* Mann-Whitney test

Figure: circadian change of urine volume before (gray line) and after (black line) the intervention. urine volume (ml/30min)



Interpretation of results

Non-drug lifestyle measures were effective in reducing the number of nocturia and improving patients' QoL. There was a tendency that nocturnal urine volume decreased after the intervention, however, further studies are needed to confirm this issue.

Concluding message

Non-drug lifestyle measures are safe, effective and less expensive. This strategy could be the first line treatment of choice for any patients complaining of nocturia. Our recommendation is to make the measures as simple as possible, avoiding to make it too strict.

References

1. BMJ 2004;328:1063–6

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HUMAN SUBJECTS: This study did not need ethical approval because part of normal clinical practice but followed the Declaration of Helsinki Informed consent was obtained from the patients.