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Title (type in CAPITAL LETTERS, leave one blank line before the text)	PATHOGENIC ASPECTS OF NOCTURIA IN THE ELDERLY: DIFFERENCES BETWEEN NOCTURICS AND NON-NOCTURICS

AIMS OF STUDY A questionnaire survey of the prevalence of nocturia was performed in all inhabitants over the age of 65 years in the Swedish community of Tierp. Subjects reporting nocturia and a control group without nocturia were evaluated by means of a diary in order to evaluate differences between the two populations in terms of micturition habits.

METHODS A questionnaire, which included questions on age, gender, frequency of nocturia and certain concomitant diseases/drugs was sent to every inhabitant over 65 years old in Tierp, Sweden.

The responders were stratified according to their level of nocturia. Subjects classified as nocturics (2 or more voids per night) or non-nocturics (less than 1 void per night) were contacted and asked to fill out a frequency-volume chart for three 24-hour cycles. The subjects recorded time and volume of each void together with bedtime and wake-up time.

RESULTS A total of 4264 people (55% female) were targeted with questionnaires. 2867 replied and 2081 of these were evaluable regarding nocturia. The prevalence of nocturia within this group was 28.8%. It was also shown to increase with age from 21.4% in those subjects aged 65–74 years to 35.4% in 75–84 year olds up to 43.0% in subjects aged over 85 years.

Concomitant incontinence, especially urge incontinence was considerably more common in nocturics (73% in nocturics, 22% in non-nocturics). No significant difference could be seen in concomitant hypertension, congestive heart failure, angina or diabetes mellitus although nocturics had the highest percentage of reported concomitant disease in each class.

117 nocturics and 109 non-nocturics filled out fully evaluable diaries. Mean functional bladder capacity (FBC) was significantly smaller in the nocturic subjects. FBC measured as the largest single void recorded was 350ml in the nocturic subjects and 447ml in the non-nocturics. Calculated as the mean volume voided, the FBC was 195ml in nocturics and 244ml in non-nocturics.

Mean nocturnal urine volume (NUV) was considerably larger in nocturic subjects both measured as total volume and when adjusted for bodyweight, with a mean of 9.9ml/kg bodyweight compared with 6.0ml/kg bodyweight in non-nocturics. Mean nocturnal diuresis was 1.4ml/min in nocturics and 0.9ml/min in non-nocturics. The proportion of the total 24-hour urine produced during the night was 45.5% in nocturics compared to 32.0% in non-nocturics.

CONCLUSIONS The results suggest that nocturia has a high prevalence (almost 30%) among the natural population over 65 years of age. Subjects with nocturia produce a much greater nocturnal urine volume which, combined with a reduced functional bladder capacity, result in an increased number of nocturnal voids. The diurnal rhythm of urine production also appears shifted towards the night.

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