

## **NOCTURIA AND QUALITY OF LIFE IN THE DUTCH ADULT POPULATION**

### **Aims of Study**

Previous studies identified an effect of nocturia on quality of life (e.g. Schatzl et al. 2000, Samuelsson et al, 1997). We hypothesize that nocturia indeed may affect quality of life but that effect is at least partly mediated via sleep. Nocturia and sleep disturbances are clearly associated. Lack of sleep is associated with mood disorders, depression and an increase of sleeping during daytime. As such, sleep disturbances can affect quality of life. This study therefore aims to clarify the direct and indirect effect of nocturia on quality of life.

### **Methods**

Data were collected from a random sample of Dutch adults (18 years and older), all participants of an earlier study on the prevalence of nocturia in which 2506 respondents participated. For the quality of life study a weighed sample of 1000 of these respondents was asked to fill out a written questionnaire, 859 of them responded. The written questionnaire contained questions from the Bristol Lower Urinary Tract Symptoms questionnaire (B-LUTS, Jackson, 1996) which includes questions on nocturia. Nocturia was defined as having two micturitions per night or more on average (over the last month). To measure sleep disturbances seven questions were used from the SWEL (Sleep Wake Experience List, Van Diest 1993). They were combined in one sumscore (scores: 7-35).

Quality of life was measured using questions from the RAND-36 (Hays, 1993). Two scales were constructed from the RAND36: 'physical functioning' (scores: 0-100) and 'mental health' (scores: 0-100). Moreover, information was collected about possible confounders such as age, sex, lifestyle, and other urinary tract symptoms of the respondent. Data were analysed with covariance and multivariate regression analyses. In the regression analyses we first estimated a model that included nocturia and possible confounders. In the next step sleep was added as explanatory variable to the model.

### **Results**

Significantly lower scores were observed for sleep in respondents with nocturia compared to other respondents. Respondents with nocturia also had significantly lower scores on the scales for physical functioning and mental health (mean scores: 70.3 and 68.9) than other respondents (mean scores: 88.5 and 75.7). The regression model that included nocturia and confounders showed that respondents with nocturia scored 3.3 points lower on the physical functioning scale compared to respondents without nocturia ( $p < 0.05$ ). This decreased to a non-significant 2.7 difference after including sleep in the model. For mental health the first model (without sleep) showed a 3.8 points lower score for respondents with nocturia and without nocturia ( $p < 0.01$ ). Again, this turned into a non-significant difference (of 1.7 points) after including sleep in the model. Therefore, our hypothesis that nocturia has no direct on quality of life was confirmed; the effect is mediated by sleep.

### **Conclusions**

Nocturia is not a symptom that stands on its own. It is accompanied by poorer sleep and poorer quality of life. Patients with nocturia will probably be patients that are already known by their doctor because of other symptoms. It is worthwhile for doctors to routinely check whether or not patients who contact them for sleeping disorders have nocturia. In the Netherlands, this is especially true for older women with a poor health status since they are the most likely to suffer from nocturia.

### **References**

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