

## **COST-EFFECTIVENESS OF DESMOPRESSIN TABLETS (MINIRIN®) AS ADJUNCTIVE THERAPY TO BEHAVIOURAL CHANGES IN THE TREATMENT OF NOCTURIA IN NORWAY.**

### **Hypothesis / aims of study**

Previous studies have shown that untreated nocturia is associated with reduced health related quality of life and loss of productivity (working hours per week) [1]. The aim of the present study was to analyse the cost-effectiveness of treatment with desmopressin as adjunctive therapy to behavioural changes for the indication 'nocturia in adults' in Norway.

### **Study design, materials and methods**

Effectiveness data was obtained from three randomised clinical trials (n=237). Patients were assigned to either treatment with desmopressin as adjunctive therapy to behavioural changes or to behavioural changes alone [2,3]. Data on direct costs was partly collected in the clinical trials (piggybacked), partly estimated by a Norwegian expert panel. Quality adjusted Life years (HRQOL / QALY) and productivity gains were estimated on the basis of a Swedish population study (n=283) [1]. All analyses were conducted for a group of younger adults (<65 years) on the basis of the recommended treatment age and the approved indication for desmopressin in Norway. The cost calculation was conducted within a societal and a healthcare sector perspective. The applied methods comply with the Norwegian pharmacoeconomic guidelines.

### **Results**

When comparing desmopressin as adjunctive treatment with behavioural changes alone (incremental effects) in the population of younger adults (men/women), the number of voids per night decreased (-0.66 / -0.59 voids), while the duration of first sleep (+ 69 / +82 minutes), productivity (+ 1.22 / + 1.65 working hours per week) and HRQOL (+0.017 / +0.016 QALY) all increased during one year.

Within a societal perspective, the costs of the desmopressin treatment were outweighed by the potential productivity gains yielding a yearly potential saving of NOK 1,804 (~ € 214) per male patient and NOK 537 (~ € 64) per female patient. In a narrower healthcare sector perspective (productivity gains omitted), desmopressin as adjunctive therapy to behavioural therapy was slightly more expensive than behavioural therapy alone when treating nocturia. The incremental cost was estimated to NOK 8,657 (~ € 1.027). Several sensitivity analyses showed robust results.

### **Interpretation of results**

Cost-effectiveness compares costs with the different measures of effectiveness. When analysing within a societal perspective, desmopressin was a dominant treatment (cheaper and more effective) compared to behavioural change alone.

However, when analysing within a healthcare sector perspective, desmopressin as adjunctive therapy was more effective but also more expensive than behavioural changes alone. The relevant question in this case is "How much is gained per NOK (€) spent on desmopressin?" The yearly healthcare sector price for one void less per night was estimated to approximately NOK 13,500 (~ € 1.602).

### **Concluding message**

Behavioural change is the first-line treatment option for patients suffering from nocturia. However, using desmopressin as adjunctive therapy to behavioural change increases the patients' quality of life at a small extra cost for the healthcare sector. If productivity gains are included in the analysis, desmopressin becomes dominant (less costly and more effective). Desmopressin is therefore a suitable treatment option for adult patients in Norway suffering from nocturia.

### **References**

1. Productivity, vitality and utility in a group of healthy professionally active individuals with nocturia; BJU Int 2003; 91 (3), 190
2. Efficacy of desmopressin in the treatment of nocturia: a double-blind placebo-controlled study in men; BJU int 2002;89:855-62. (NOCT 2a)
3. Efficacy of desmopressin (Minirin) in the treatment of nocturia: a double-blind placebo-controlled study in women; Am J Obstet Gynecol 2003;189:1106-13

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