

## **IMPACT OF DAYTIME SLEEPINESS ON REHABILITATION OUTCOME IN OLDER PATIENTS**

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Background: Excessive daytime sleepiness (EDS) is a frequent finding in older subjects. Several studies show, that EDS is associated with functional impairment and increased mortality. The most frequently used tool to assess EDS is the Epworth Sleepiness Scale (ESS). However, that scale has never been validated in the elderly. Moreover, the ESS is not feasible in a large number of older individuals. We therefore created and validated an observational tool to measure EDS in elderly: the EQAS.

In a study we investigated the association between EQAS scores and activities of daily living (ADLs) in a sample of older in-hospital patients.

Methods: In randomly selected sample of geriatric in-hospital patients EDS was evaluated by means of the EFAS. The EQAS is a observational tool that encompasses a score from 0 to 12 with higher scores meaning more severe EDS. In addition a comprehensive geriatric assessment was conducted that contained measurements of ADLs (Barthel-Index), cognition (MMSE) and depression (GDS).

Results: Forty-four men (means age  $82 \pm 9$  years) and 115 women (mean age  $82 \pm 8$  years) were included. Reasons for admission were dementia (N = 46, 29%), cardiopulmonary disease (N = 26, 17%) and diseases of the skeletal system, including falls and surgically treated previous fractures (N = 87, 54%). Moderate daytime sleepiness (EQAS score 1 to 4) was found in 64 (40%) patients and 31 (19%) patients had severe daytime sleepiness (score > 4). Observed daytime sleepiness was associated significantly with ADLs on admission and discharge. Furthermore, length of hospital stay increased with prevalent EDS from  $22 \pm 14$  d (EQAS 0) to  $27 \pm 17$  d (EQAS 1-4) and  $36 \pm 26$  d (EQAS > 4) ( $p < 0.001$ ). Thirteen patients were living in a nursing home, fourteen patients were newly admitted to a nursing home. Eleven of these 14 patients (78%) suffered from daytime sleepiness ( $p < 0.09$ ).

Conclusion: Daytime sleepiness is common in geriatric in-hospital patients. EDS assessed by means of a new observational scale (EQAS) is associated with an impairment in ADLs, reduced gain in ADLs, a prolonged stay in hospital and an increased risk for nursing home placement.