

Executive dysfunctions in elderly persons with mild stroke - Evaluation of daily activities and instrument development

Akademisk avhandling

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Av Marie Cederfeldt
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The thesis is based on the following papers:

- I. Cederfeldt M, Gosman-Hedström G, Sävborg M, Tarkowski E.
Influence of cognition on personal activities of daily living (P-ADL) in the acute phase:
The Gothenburg Cognitive Stroke Study in Elderly.
Arch Gerontol Geriatr 2008;49:118-122.
- II. Cederfeldt M, Gosman-Hedström G, Gutierrez-Perez C, Sävborg M, Tarkowski E.
**Recovery in personal care related to cognitive impairment before and after stroke
– a 1-year follow- up.**
Acta Neurol Scand 2010;122: 430-437.
- III. Cederfeldt M, Dahlin-Ivanoff S, Carlsson G, Gosman-Hedström G.
**Inter-rater reliability and face validity of the instrument Executive Function
Performance Test (EFPT).**
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- IV. Cederfeldt M, Widell Y, Elgmark-Andersson E, Dahlin-Ivanoff S, Gosman-Hedström G
**Concurrent validity of the Executive Function Performance Test (EFPT) in persons with
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ABSTRACT

The overall **aim** of this thesis was to examine the performance of personal activities of daily living (P-ADL) related to cognitive and executive dysfunctions in elderly patients with mild stroke in the acute care and after 12 months, and to evaluate the instrument Executive Function Performance Test (EFPT) in persons with mild stroke. **Methods:** In the *first study* elderly patients with stroke (n = 60) referred to geriatric rehabilitation were included. Assessments were carried out at admission and at discharge. The median age of the group was 77 years. In the *second study* 45 of the above patients were assessed at discharge from hospital and at 6 and at 12 months after stroke onset. The Cognitive Impairment Questionnaire (CIMP-QUEST) was used to interview a close relative about the patient's cognitive status. P-ADL was assessed with the Barthel Index (BI), and the Mini Mental State Examination (MMSE) and a neuropsychological test battery were used to measure cognitive dysfunctions. The National Institute of Health Stroke Scale (NIHSS) was used to measure neurological deficits. Analyses were made using non-parametrical statistical methods. In the *third study* four occupational therapist raters (two pairs) made 34 assessments of patients with mild stroke in a stroke unit with the instrument EFPT to evaluate the inter-rater reliability. In the *fourth study* patients with mild stroke (n=23) from an acute stroke unit were assessed in order to evaluate the concurrent validity of the EFPT. **Results:** In the *first study* neither the presence of pre-stroke dementia nor the cognitive status after stroke onset among these elderly patients influenced P-ADL at admission or at discharge in the acute phase after stroke. In the *second study* persons with cognitive- and executive dysfunctions before and after stroke did not improve in P-ADL from the acute phase until 6 and 12 months, while persons with intact cognition pre- and post-stroke did. In the *third study* the inter-rater reliability for the EFPT was very good. The median percentage agreement was 88 %. There was no occasional disagreement between the raters. One of 20 items had a significant systematic disagreement. In the *fourth study*, the correlation between the EFPT and the AMPS assessments was highly significant and the concurrent validity was moderate. **Conclusion:** These findings may indicate that the recovery of P-ADL in elderly patients after stroke is influenced by more factors than cognition or that assessment of P-ADL does not always detect cognitive dysfunctions. The results demonstrate the importance of using more complex activities in assessing the patient's activity status since executive dysfunctions are more easily detected in tests with instrumental activities in daily life. Since there is a risk that some patients with mild stroke will be discharged without any rehabilitation, and occupational therapists have up till now lacked a relevant instrument for detecting problems with executive skills in acute stroke care, it is suggested that the EFPT is a suitable instrument for use in these patients.

Keywords: Acute stroke, Cognitive dysfunction, EFPT, Elderly, Executive dysfunction, Instrumental Activities of Daily Life, Mild stroke, Personal Activities of Daily Life, Translation

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