The AMC Linear Disability Score (ALDS) : measuring disability in clinical studies
Weisscher, N.

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Comparing the AMC Linear Disability Score item bank with the ‘gold standard’ UPDRS-ADL

Nadine Weisscher, Bart Post
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Chapter 5: part 2

ALDS scores compared to H&Y stage 2 (Tukey HSD; \( p < 0.0001 \)). However, UPDRS-ADL scores were not significantly different (Tukey HSD; \( p = 0.59 \)). Score distributions of the UPDRS-ADL and ALDS reflect that patients with severe extrapyramidal symptoms and patients with postural instability were more disabled than patients with opposite characteristics.

### Discussion

In this analysis we compared the ALDS item bank with the ‘gold standard’ UPDRS-ADL. The correlation between the disability scale scores was relatively lower than one might expect, since the two scales intend to measure the same concept: ADL. This moderate association can be explained by the item content of the UPDRS-ADL which reflects aspects of both ADL and neurological impairments (tremor, salivation, and freezing). In general, the ALDS and the UPDRS-ADL were able to detect differences in disease severities. Probably due to insufficient statistical power both scales
could not discriminate between H&Y grading 1 and 2. In contrast to the UPDRS-ADL, the ALDS turned out to be sufficiently sensitive to discriminate between H&Y stages 2 and 3.

The ALDS item bank is constructed using the modern psychometric technique of IRT. An important advantage of this approach is that when assessing the ability to perform ADL, it is possible to present more difficult items to less disabled patients and easy items to more severely disabled patients, while the scores obtained remain comparable across the whole patient group. Combined with other attractive features, for example improving the clinical interpretation of scores and the possibility to use computer adaptive testing, the ALDS is a promising new instrument to assess the level of disability in patients with PD.

References


The AMC Linear Disability Score item bank: a new generic disability measure in stroke