FC02-05 - **TOWARDS COMBINING PRECISION AND BREVITY: A PROSPECTIVE STUDY OF ADAPTIVE COGNITIVE TESTING**

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Objectives: To examine whether cognitive testing can be tailored to individual patients by selecting only items of appropriate difficulty from a large and precise neuropsychological battery. The advantage is a combination of measurement precision with the brevity (of shorter tests).

Methods: 39 patients with cognitive complaints and 8 partners who visited a geriatric day care clinic were randomly assigned to administration of the CAMCOG or an extended CAMCOG i.e. with ADAS-cog and neuropsychological tests. Item difficulties were estimated and their validity examined with Rasch analysis. Tailored testing was achieved by Computerised Adaptive Testing (CAT). CAT repeatedly selected an easier item after an incorrect response and a more difficult item after a correct response to estimate the total score. CAT finished the item selection after reaching sufficient reliability (standard error < 0.15).

Results: For test reductions by CAT ranging from 25 to 15 items, intraclass correlations between the CAT estimated total score and actual total score (CAT administered plus remaining items) ranged from .99 to .98 for the CAMCOG and from 0.98 to 0.91 for the extended CAMCOG. Testing time reduction ranged from 42-55% for the CAMCOG (M testing time CAMCOG 39.6 minutes, M testing times CAT 22.9 to 17.8 minutes) and from 45-68% for the extended CAMCOG (M testing time extended CAMCOG 111.3 minutes, M testing times CAT 61-35 minutes).

Conclusions: Substantial test reductions and excellent agreement with the whole battery supports the use of tailored cognitive testing to economically administer batteries that are time consuming in their entire form.

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