A MODERN PERSPECTIVE ON SOME OF THE MOST HIGHLY CITED JNNP PAPERS OF ALL TIME

Functional abilities after stroke: measurement, natural history and prognosis

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Impact Commentaries

A quarter of a century later, three findings are still valid and psychometric issues are still active

EDITOR'S CHOICE

In 1987, we published a paper asking three questions concerning recovery after stroke:

► How quickly and how much do people recover?
► Can we predict the extent of recovery?
► What is a good (simple, cheap) way of measuring recovery?

Surprisingly, the answers remain valid, and the issues raised in the paper remain active even though this paper was published nearly 25 years ago and despite very many more studies on the same questions. What are the key features still relevant?

This paper justified and supported the extensive use of the Barthel Activities of Daily Living (ADL) Index as a measure of dependence in personal activities of daily

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FUNCTIONAL ABILITIES AFTER STROKE: MEASUREMENT, NATURAL HISTORY AND PROGNOSIS[1]
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Published: 1987

living. There is still no better measure; specifically, the Barthel ADL Index is not inferior to the widely used Functional Independence Measure which was originally derived from it. We also introduced five categories, and although we stated explicitly that they were arbitrary, I am still regularly asked what the 'scientific basis' of this categorisation is!

This paper also raised the issue of the equivalence of scores—how similar are two patients scoring 10/20? This issue continues to exercise researchers, especially those interested in psychometrics, and sophisticated techniques such as Rasch analysis are used to convert ordinal scores into interval or ratio scores. However, we pointed out that the weight given to an individual item might not matter much, and at least two papers published in this journal have confirmed that item scores may not matter much.[2] [3]

Also, this study illustrated a general principle of neurology and neurological rehabilitation—the best predictor of a score on a measure at some future point is often the score at the present. This should not be a surprise because it applies in most of life—education, criminality, employment, etc. The more sophisticated

multiple regression analysis identified prognostic factors that are still valid.

Finally, although the data were crude, the graph of the recovery after stroke can now be seen to presage the realisation that stroke is, in many people, associated with progressive disability. It is notable that in our study the 'mild group' actually showed a decline between 3 weeks and 6 months and although this was not noted or checked for statistical significance, later research confirmed the reality of decline usually after a peak at about 6 months.[4]

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