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SHORT COMMENTARY

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Memory rehabilitation – should we be aiming for restoration or compensation?

A commentary on Hildebrandt et al. "Group therapy for memory impaired patients. A partial remediation is possible." in J Neurol (2006) 253:512–519

Memory impairment is a common consequence of neurological injury or disease, causes significant disability and is therefore a critical target for rehabilitation intervention. Whether cognitive rehabilitation should aim to reduce impairment or to compensate for the impairment is a question that has exercised the rehabilitation community, but in relation to most cognitive functions remains largely unresolved. For some disorders (e. g. unilateral neglect) there is evidence that interventions specifically targeted at modifying relevant cognitive systems are effective [1].

However, for memory rehabilitation, there has, to date, been no substantial evidence that memory can be improved through restitution-oriented therapies and hence compensatory approaches (e. g. use of external memory aids, or application of compensatory learning strategies) are the treatment of choice [1, 2]. However, this conclusion is largely based on the absence of evidence rather than evidence of absence of an effect of restitution oriented therapies [2].

As a result of the paucity of evidence comparing restitution-oriented and compensation approaches to memory rehabilitation, the paper by Hildebrandt et al. is welcome. I will argue, however, that caution is required in drawing conclusions with regard to clinical practice from this study. Hildebrandt et al's study compared three interventions for patients with organic memory impairment. One group underwent an intensive process-oriented treatment (POT) with a focus on practice at learning word lists (emphasising encoding strategies, repetition, and rehearsal). A second group received memory strategy training (ST), including associational strategies (i. e. face-name learning), various encoding strategies and use of external aids. A third control group received a similar training to the POT group, but with lower intensity. Outcome measures were neuropsychological tests of memory, attention and verbal fluency.
The results showed that the low intensity treatment control group did not improve significantly on any measure. Both of the high intensity treatment groups showed improvement on a range of measures of memory functioning, but the POT group improved on a greater number of tests including a measure of free recall and a measure of attention. There was therefore evidence of a dose-dependent effect for memory rehabilitation and the process-oriented treatment was, overall, more effective.

Hildebrandt et al. acknowledge that their study has limitations, particularly in terms of the outcome measures used. Rehabilitation is ultimately concerned with the ability of individuals to participate in valued activities. Psychometric measures of cognition are useful, but limited, tools for the evaluation of cognitive rehabilitation. Restitution-oriented treatments may be better at improving performance on psychometric tests (which are typically close in form to training tasks) than strategy training. However, compensatory strategy training may be better at increasing functioning in activities of daily living than restitution oriented therapies. If this were the case, it would be reasonable to conclude that limited rehabilitation resources should be focused on compensatory strategy training. Hildebrandt et al.'s paper helpfully highlights that this issue is not yet resolved, and requires further systematic examination.

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