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Cover Title: Cognitive memory rehabilitation following stroke

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Cognitive rehabilitation for memory deficits after stroke (An Updated Review)

Background

Memory problems are common following a stroke, leading to difficulties in everyday life. Memory rehabilitation aims to help retrain lost functions or to teach patients strategies to compensate for them. While some studies have reported positive outcomes following memory rehabilitation, reviews have provided inconclusive evidence for effectiveness.

This is an update of a Cochrane review first published in 2000 and subsequently updated in 2007.

Objectives

The objective of this review was to determine whether participants who have received cognitive rehabilitation for memory problems following a stroke had better outcomes in relation to memory function, functional ability, mood, and quality of life, than those given no treatment or a placebo control.

Search methods

For this update we used a comprehensive electronic search strategy to identify studies in 16 databases, including the Cochrane Stroke Group Trials Register (last searched 19 May 2016), Cochrane Central Register of Controlled Trials (CENTRAL: 2016, Issue 5), and MEDLINE (2005 to 7 March 2016), in conjunction with hand-searches of primary studies included.

Selection criteria

We selected randomised controlled trials (RCTs) where cognitive rehabilitation was compared with a control condition. Studies with stroke patients were included, along with mixed aetiology studies where separate stroke data were available.

Data collection and analysis

Two reviewers (HC, EW) selected trials, extracted data and assessed trial quality, confirmed through group discussion. Authors of studies were contacted to obtain further information where required. Where there were sufficient numbers of similar outcomes we performed meta-analyses

Main results

This review included 13 trials involving 514 participants. There was a significant effect of treatment on subjective reports of memory in the short term (SMD 0.36, 95% confidence interval (CI) 0.08 to 0.64, $p=0.01$, moderate quality of evidence), with small to moderate effect size (Figure 1). No significant effects of treatment were found in subjective reports in the long term or on performance on objective memory measures, mood, functional abilities, or quality of life.

Authors' conclusions

Benefits were reported in the short term on subjective measures of memory, however these did not persist in the long term. In addition, no benefits were reported in objective memory measures, mood, or daily functioning. There was insufficient evidence to support or refute the effectiveness of

memory rehabilitation after stroke. This may be due to poor methodological quality of the included studies, inconsistencies in the choice of outcome measures, and small sample sizes. Further, more robust, trials of memory rehabilitation that use standardised activity or participatory level outcome measures are required.

Implications for practice and research

Due to the high prevalence of memory problems following a stroke, and the diversity of interventions available to address these, it is important to understand the effectiveness of available interventions. Studies included in this review highlighted the broad-range of interventions employed in stroke care, and the variety of measures used to evaluate their effectiveness. The results of this review indicated that there are some improvements to subjective reports of memory functioning in the short term, but with unclear effects in the long term.

Disclosures

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Figures

Figure 1. Memory rehabilitation vs control (treatment as usual or placebo), standard mean difference of subjective memory measures (short term) outcome