Neuropsychological rehabilitation in alcohol-related brain damage: a systematic review
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CRD summary
This review found that the evidence base for the treatment of alcohol-related brain damage and Wernicke-Korsakoff syndrome was at an early stage but suggested benefits of a number of memory rehabilitation strategies. The conclusions of this review may not be reliable given limitations in the conduct of the review and the low quality of the evidence identified.

Authors' objectives
To collate and assess the methodological quality of intervention studies for alcohol-related brain damage and Wernicke-Korsakoff syndrome and to suggest directions for future research

Searching
The authors searched CINAHL, MEDLINE, PsycINFO, Psychology and Behavioural Sciences Collection and EMBASE for peer-reviewed studies published in English after 1990. Search terms were reported in the paper. Reference lists of included articles were checked for further studies.

Study selection
Eligible studies needed to use any form of cognitive or psychosocial rehabilitation or treatment for alcohol-related cognitive impairment. In addition, studies were included if they reported experimental manipulations of conditions leading to better performance in alcohol-related brain damage. Studies were excluded if they focused on pharmacological treatments or related to treatment of Wernicke's encephalopathy alone.

Most of the studies focused on memory rehabilitation alone. A smaller number considered executive functioning, mood, other aspects of cognitive functioning, social functioning and improvement in health. Some studies used healthy controls.

The authors stated neither how studies were selected for the review nor how many reviewers performed the selection.

Assessment of study quality
The authors did not report an assessment of study quality.

Data extraction
The authors stated neither their methods of data extraction nor how many reviewers extracted data for the review.

Methods of synthesis
The authors summarised the studies in tabular and narrative format.

Results of the review
Sixteen studies with approximately 269 participants (some studies may have double counted) were included in the review. Sample size ranged from single case studies to 44 participants. The studies varied in quality from uncontrolled studies to quasi-randomised controlled trials.

A quasi-randomised trial supported the use of elaborative processing, including extra processing time, explicit encouragement to generate associations and extra retrieval time to improve memory. Two small non-randomised studies provided some evidence for the use of self-generation and enactment of concepts to improve memory. The results for errorless learning in relation to memory were mixed. A study on executive functioning in Korsakoff's syndrome suggested that rule provision can offer a way of structuring problem solving to improve performance. Three uncontrolled studies that evaluated specialist services or placements for people with alcohol-related brain damage suggested benefits of these services on a range of outcomes (including social functioning, general health and in-patient bed stay).
Authors' conclusions
The evidence base for the treatment of alcohol-related brain damage and Wernicke-Korsakoff syndrome is at an early stage. The available evidence suggested benefits of a number of memory rehabilitation strategies.

CRD commentary
This review was based on broadly defined criteria for participants, interventions, outcomes and study designs. Searching encompassed a range of databases. Only published studies were eligible and this left the review open to publication bias. Only studies published in English were admissible so some relevant studies may have been missed. Study quality was not assessed. Many of the studies were small uncontrolled case series which represent a low level of research evidence. It is unclear how many reviewers were involved in selecting studies and extracting data and this left the review open to bias and error. Study details were lacking (for example study duration and intensity were not always reported). A narrative summary of the studies was appropriate as the studies were very diverse.

The authors correctly stated that the research was at an early stage. Their conclusions on possible benefits of the memory rehabilitation strategies may not be reliable due to the review's methodological limitations and the low quality of the included studies.

Implications of the review for practice and research

Practice: The authors provided several practice options (detailed in the paper).

Research: The authors stated that there was a need for larger methodologically sound research to improve the evidence in this area. Given the small numbers within this population, the heterogeneity and the need for complex interventions with multiple phases, single-case experimentally designed studies may be helpful in developing the evidence base.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.