



The search was limited to articles in English. The reference lists of selected articles were reviewed for the inclusion of further relevant studies.

#### Selection Criteria

based cognitive interventions to improve cognition in individuals with dementia. The review included: before and after studies, randomized controlled trials and case control studies involving either computer-based or non-computer-based cognitive intervention. Participants (n=5-348) were individuals with any type of dementia. Duration of interventions ranged from one to four days (10-72 hours) per week. Cognition was a primary and appropriate measure for each intervention. An electronic search of 11 different databases, clearly defined search strategies, and clearly defined inclusion/exclusion criteria yielded 12 articles. The method used to search for the articles was appropriate given the study design. The results indicated that cognitive interventions have moderate beneficial

neuropsychological measures of trained and untrained tasks were taken at baseline, immediately after training, and three weeks after training. Appropriate statistical analysis was completed. The results showed that individuals with AD performed significantly worse on all tasks (trained and untrained) compared to individuals with MDD and healthy controls. Individuals with AD showed improvement in trained tasks only. These results were consistent at the three-week follow-up.

This program was not designed to target specific neurological functions. It would have also been beneficial if the study had assessed generalizability to real-life situations, as they were taking a functional approach to their training.

Overall, this study provides equivocal evidence. The evidence does not provide support for the long-term benefits, or generalization of using this interactive computer-based cognitive training program to improve cognition in individuals with AD.

The following critical analysis sought to determine the efficacy of using computer-based cognitive training as a method for enhancing cognition in individuals with AD. Overall, the articles reviewed provide positive support towards using computer-based cognitive training to enhance cognition in individuals with AD, especially in the early stages. Of the articles that evaluated both computer-based and paper/pencil-based approaches, computer-based cognitive training was unanimously superior to the alternative.

Many of the articles showed improvement in trained computer-based tasks. It is possible that this improvement could be due to learning in procedural memory, which is relatively preserved in individuals with AD (Hofmann et al., 2003).

Throughout the literature, there appears to be some consistent limitations that could be explored further in order to determine the extent of the effect of this intervention. Some limitations are as follows:

The intensity level and duration of treatment was significantly varied in each article, making it difficult to determine the amount most suitable for individuals in this population. Future research should focus on comparing the same treatment at varying intensity levels (massed vs. distributed) to determine the appropriate amount necessary to best enhance cognition. The stage of

dementia was also not consistent across the literature. Variability in frequency of intervention, duration of intervention, and stage of dementia make the generalization of outcomes difficult.

Few follow-up studies were completed at a sufficient length after training, to determine the long-lasting impact of the intervention. Future studies should not only determine the long-term effects of the intervention, but also to determine whether or not the effect of the intervention can be generalized and benefit individuals in their functional life.

Pharmacological treatment was controlled for inconsistently in literature. Future research should evaluate the combined effect

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