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The effectiveness of cognitive control training in reducing rumination in adults with major depressive disorder: A systematic review

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Abstract

Background: Cognitive control deficiencies have been identified as an underlying mechanism for rumination, a key predictor of depression. Cognitive control training (CCT) hence has potential as a preventative intervention. This systematic review investigates whether CCT reduces rumination in adults with major depressive disorder. The review questions are (1) Is CCT effective in reducing rumination in adults with depression? and (2) Are any changes in rumination linked to training-related changes in executive function?

Methods: The databases Web of Science, MEDLINE, and APA PsycINFO were searched from inception to 29 July 2022 using keywords relevant to CCT and depression. Selection criteria were: a) any study measuring rumination before and after CCT in depressed people; b) adult participants with formally diagnosed depression; c) CCT strategies used included either the Wells task and adaptive Paced Auditory Serial Addition Task (aPASAT) either alone or in combination. Two raters assessed the quality of each study using the Standard Quality Assessment Criteria tool (QualSyst). The evidence gathered from the included studies are synthesised as summary tables and a narrative summary.

Results: Eight studies (n = 545; CCT group, n=281 and control group, n=264) were included in the review. There was considerable heterogeneity between studies. Following training, rumination decreased significantly over time; however there were few significant differences between training and active control groups. The CCT groups improved on progressive cognitive training tasks, and transfer task performance was significantly higher than in the active control condition. However, CCT did not appear to have effects on self-reported cognitive complaints relative to active control conditions.