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Meta-analysis of randomised controlled trials with N-acetylcysteine in the treatment of schizophrenia

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Abstract

Objective:

There is accumulating evidence that adjunctive treatment with N-acetylcysteine may be effective for schizophrenia. This study aimed to conduct a comprehensive meta-analysis examining the efficacy of randomised control trials investigating N-acetylcysteine as an adjunct treatment for schizophrenia and the first to investigate cognition as an outcome.

Methods:

We systematically reviewed Medline, EmCare, PsycINFO, Embase, CINAHL Complete, China Knowledge Resource Integrated Database and the Cochrane Clinical Trials online registry for randomised control trials of N-acetylcysteine for schizophrenia. We undertook pairwise meta-analyses of N-acetylcysteine vs placebo for psychosis symptoms and cognition.

Results:

Seven studies, including $n = 220$ receiving N-acetylcysteine and $n = 220$ receiving placebo, met inclusion criteria for the pairwise meta-analyses. Positive and Negative Syndrome Scale negative and total scores were significantly improved in the N-acetylcysteine group after 24 weeks of treatment. The cognitive domain of working memory improved with N-acetylcysteine supplementation.

Conclusion:

Evidence supports the notion that N-acetylcysteine may be a useful adjunct to standard treatment for the improvement of schizophrenia symptoms, as well as the cognitive domain of working memory. Treatment effects were observed at the later time point (≈ 24 weeks), suggesting that longer interventions are required for the success of N-acetylcysteine treatment.

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