

# Randomised controlled trials of mood stabilisers for people with autism spectrum disorder: A systematic review and meta-analysis

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## Background

Around 9% of people with autism spectrum disorder (ASD) receive mood stabilisers/antiepileptic medications such as sodium valproate despite lack of evidence to suggest psychotropic medications including mood stabilisers are effective in individuals with ASD.

## Aims

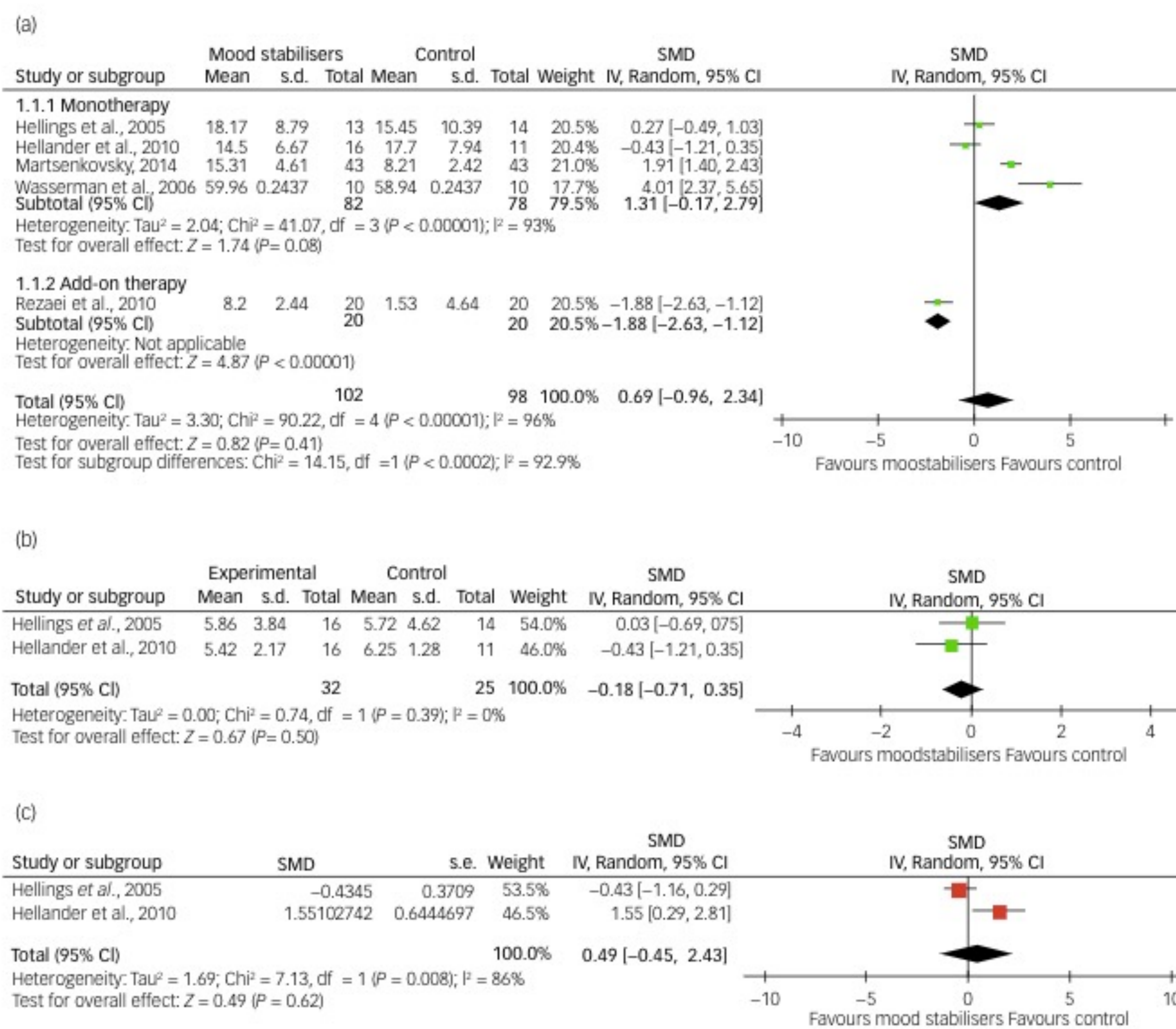
A systematic review and meta-analysis were carried out on the RCTs that assessed the effectiveness of mood stabilisers including lithium in people with ASD.

## Method

The following databases were searched: Cochrane Library, MEDLINE, EMBASE, CINAHL, PsycINFO, ERIC, DARE, and ClinicalTrials.gov. Additionally, we hand-searched 12 relevant journals in the fields of intellectual disabilities, ASD and psychopharmacology. The Cochrane Risk of Bias tool and Jadad score were used to assess the quality of included RCTs. A meta-analysis was also carried out using a random-effects model.

## Results

Eight RCTs were included in this systematic review (three on divalproex sodium, two on levetiracetam, and one each on sodium valproate, lamotrigine and topiramate) that included a total of 310 people with ASD, primarily children. No RCT on lithium was found. Outcomes were based on ASD core symptoms such as restrictive and repetitive behaviour, language and communication impairment, and associated symptoms such as irritability and agitation but not bipolar disorder or any other psychiatric disorders. Only two small studies (25%) from the same group showed definite superiority of medication over placebo and one over psychoeducation alone. Meta-analysis of pooled data on Aberrant Behavior Checklist-Irritability subdomain score (ABC-I), Clinical Global Impression-Improvement (CGI-I), and Overt Aggression Scale (OAS)/OAS-Modified (OAS-M) did not show any significant intergroup difference. The rates of adverse effects did not show any significant intergroup difference.



(A) ABC-I meta-analysis (monotherapy: Valproate, Divalproex Sodium & Levetiracetam, and Add on therapy: Risperidone + topiramate)

(B) OAS/OAS-M meta-analysis (Valproate & Divalproex Sodium)

(C) CGI-I meta-analysis (Valproate & Divalproex Sodium)

## Conclusions

It is difficult to draw any definitive conclusion about the effectiveness of mood stabilisers including lithium and antiepileptic medications to treat either ASD core symptoms or associated behaviours because of the methodological flaws in the included studies and contradictory findings in this systematic review.