

## Metanalysis of topiramate use in alcohol use disorder

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### Background

The global lifetime prevalence of Alcohol use disorder (AUD) is around 15% and AUD is one of the common mental disorders. The social costs of dangerous drinking increased the risks of accidents, violence and disruptive behaviors.

### Aims & Objectives

Topiramate, originally as the anticonvulsant, newly becomes a promising medication for people with AUD. Recent reviews suggest topiramate is a possible medication of patients with AUD. This meta-analysis firstly focused on abstinence and heavy drinking outcomes of topiramate in alcohol addiction therapy and latter assess different influences in various dosages and treatment durations. We also expect the subgroups analysis to contribute the precision medicine of AUD in the future.

### Methods

We searched databases including PubMed, Cochrane Collaboration Central Register of Controlled Clinical Trials, and Cochrane Systematic Reviews for studies on topiramate for alcohol use disorders, from the earliest record to May 2021.

We followed the keywords used by Blodgett and colleagues. The search strategy comprised the following keywords: topiramate AND (alcohol OR alcoholi\* OR drink\*). We followed the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA).

### Results

Topiramate showed small but not significant alcohol abstinence effect more than placebo on overall alcohol abstinence in participants with alcohol use disorders (ES = 0.396, CI = 0.196 to 0.597, P < 0.001)

### Discussion & Conclusion

In accordance with the existing evidence, the overall effect of topiramate for the treatment for AUDs is moderate for abstinence in the meta-analysis.