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Pharmacotherapy for Alcohol Use Disorder or High-Risk Drinking in Adolescents and Young Adults: A Systematic Review with Narrative Synthesis

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ADMINISTRATIVE INFORMATION

Support - No support.

Review stage at the time of initial registration - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 24 November 2026 and was last updated on 24 November 2026.

INTRODUCTION

Review question / Objective Among adolescents and young adults (aged 10-25 years) with alcohol use disorder or high-risk drinking, what are the efficacy and tolerability of five commonly used pharmacotherapies (naltrexone, acamprosate, disulfiram, baclofen, topiramate) in reducing alcohol consumption?

Rationale Alcohol use disorder (AUD) is one of the most common substance use disorders among adolescents and young adults (aged 10-25 years) (Chen et al., 2025; Danpanichkul et al. 2024). The burden of AUD in this population is particularly concerning given its potential adverse consequences, including physical and mental health complications and social issues (Chen et al., 2025; Danpanichkul et al. 2024; Haber et al., 2021, Krausz et al., 2022). However, identifying and diagnosing AUD in this population can be challenging, as their patterns of alcohol consumption may differ from those typically observed in adults (Martin & Winters, 1998; Rose et al., 2012). Furthermore, clinically significant alcohol-related harms can occur even in the absence of a formal AUD diagnosis (Olsson et al., 2016). Therefore, our review will also include young people with high-risk drinking patterns.

Current treatment approaches for adolescents and young adults are primarily centred on psychosocial interventions, which have demonstrated limited effects on reducing alcohol consumption (Belay et al., 2024). In adults, five commonly used pharmacotherapies (naltrexone, acamprosate, disulfiram, baclofen, topiramate) have demonstrated varying degrees of evidence supporting their efficacy in reducing alcohol consumption (Fischler et al., 2022; Haber et al., 2021; McPheeters et al., 2023; Soyka and Müller, 2017). Despite the proven efficacy of medications for AUD, pharmacological treatment remains markedly underutilised among young people.

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Several factors may contribute to this, including limited research in this population, the lack of regulatory approval for AUD medications in individuals under 18 years of age, as well as insufficient clinician training in diagnosing AUD and prescribing medications for adolescents and young adults (Bach et al., 2025, Hammond and Gray, 2016, Squeglia et al 2019). To date, no systematic review has comprehensively evaluated the evidence for these five commonly used pharmacotherapies in adolescents and young adults with AUD or high-risk drinking patterns.

This review evaluated the current evidence of efficacy and tolerability of five commonly used AUD pharmacotherapies in adolescents and young adults with AUD or high-risk drinking.

Condition being studied Alcohol use disorders, including diagnosis with either DSM or ICD criteria, or high-risk drinking as defined by: no alcohol consumption for those under age 18; for those aged 18 and above, no more than 10 standard drinks per week and 4 standard drinking on single occasion.

METHODS

Search strategy MeSH terms used were:
– Population: *alcoholic intoxication/dt, *alcoholism/dt, *binge drinking/dt
– Intervention: *Naltrexone/tu, *Acamprosate/tu, *Disulfiram/tu, *Alcohol Deterrents/tu, *Drug Therapy/, Baclofen/, Topiramate/

Keywords used were:
– Population: ((alcohol* or ethanol) adj3 (disorder* or addiction* or problem* or drinking or intoxication or "use" or usage or dependence or abuse)).tw,kf.
– Intervention: pharmacotherap*.tw,kf., (synonyms for Naltrexone, Acamprosate, Disulfiram, Baclofen and Topiramate)

Age limits:
– (boy or boys or girl or girls or child* or pediatric* or paediatric* or school-age* or schoolage* or schoolchild* or schoolgirl* or schoolboy* or pre-teen* or preteen* or tween or tweens or adolescen* or preadolescen* or pre-puberty or prepuberty or pre-pubescen* or prepubescen* or youth or youths or teen or teens or teenage or ((elementary or primary or secondary or middle or high or university* or college*) adj3 student*) or young-adult* or young-people* or young-person* or emerging-adult* or emerging-people* or emerging-person* or AYA or AYAs or CAYA or CAYAs).tw,kf,hw.

The search terms for Population and Intervention were combined separately using the Boolean "OR." The resulting sets were subsequently combined using the Boolean "AND" with Age limits. Finally, the search was refined by limiting to English language and excluding case reports, comment, editorial, guideline, letter, practice guideline or preprint.

The Medline search strategy was adapted for use in the Embase databases.

Participant or population Adolescents and young adults (aged 10-25 years) with alcohol use disorder, diagnosed with DSM or ICD criteria, or engaging in high-risk drinking patterns.

Intervention For this review, the interventions are five commonly used pharmacotherapies for AUD in adults, including naltrexone, acamprosate, disulfiram, baclofen, and topiramate. Studies investigating any of these medications are considered eligible, with no restriction on dosing regimens.

Studies of participants with comorbid psychiatric disorders were excluded when the pharmacological intervention targeted the comorbid condition rather than AUD, for instance selective serotonin reuptake inhibitors for the treatment of depression.

Comparator Comparators include placebo, alternative pharmacological treatments for AUD (e.g. disulfiram compared against naltrexone), or no comparator in the case of non-randomised, open-label single-arm studies.

Psychosocial or non-pharmacological support that is delivered equally to both groups will be considered as co-interventions, rather than comparators.

Study designs to be included Primary randomised controlled trials (RCTs), secondary analysis of primary RCTs, non-randomised controlled trials, open-label single-arm clinical trials.

Eligibility criteria Previous literature review articles that included only data from previously published RCTs and did not contribute new primary data are excluded. Also exclude case reports, comments, editorials, guidelines, letters and practice guidelines.

Information sources The main sources to be searched are Medline and Embase.

Main outcome(s) Alcohol consumption including percentage of days abstinent, percentage of heavy drinking days, drinks per drinking day or time to first drink/relapse are assessed as primary outcomes.

Additional outcome(s) Adverse events, alcohol craving, and subjective responses to alcohol are assessed as secondary outcomes.

Data management Data extraction was conducted by one reviewer (Y.W.), who summarised the relevant data in a structured Excel spreadsheet and was independently verified by a second reviewer (E.A. or H.C.).

Quality assessment / Risk of bias analysis The revised Cochrane risk-of-bias tool for randomised trials (RoB 2) was used to assess the risk of bias in the included primary RCTs. The non-randomised, open-label single-arm studies were not assessed using RoB 2, as this tool is designed for randomised trials and is not applicable to single-arm study designs. Risk of bias assessment was independently conducted by two reviewers (Y.W. and H.C.) with any disagreements resolved through discussion, consensus, and by consulting a third reviewer (E.A.).

Strategy of data synthesis A narrative synthesis approach was adopted rather than meta-analysis given the small sample size, heterogeneity of the included studies and the review's initial conception as a scoping review. Formal statistical data synthesis and analysis were not performed. Studies were grouped according to the pharmacological intervention and findings were described narratively. The primary and secondary outcomes were summarised descriptively with extracted data summarised in the table 2 covering study setting, design, sample, duration, intervention and control, as well as key outcomes.

Subgroup analysis Subgroup analysis was not performed, as this review adopted a narrative synthesis approach.

Sensitivity analysis Sensitivity analysis was not performed, as this review adopted a narrative synthesis approach.

Language restriction English.

Country(ies) involved Australia.

Other relevant information The protocol for this systematic review was retrospectively registered in November 2026, after data extraction and synthesis was completed. .

The project was initially conceived as a literature review. Initial project development, database search strategies (Medline and Embase), as well as title and abstract screening were undertaken in February 2026 by one investigator (Y.W.), with assistance from a librarian (P.C). Full-text screening and data extraction were subsequently conducted in March 2026. Data extraction was performed by one researcher (Y.W.) and independently verified by a second reviewer (E.A. or H.C.), with primary and secondary outcome data summarised in an Excel spreadsheet covering study setting, design, sample, duration, intervention and control, as well as key outcomes. The quality assessment of the primary RCTs and non-randomised, open-label single-arm studies was initially assessed using the National Institute for Health and Care Excellence (NICE) criteria for quantitative intervention studies. Between April and August 2026, the data synthesis and manuscript for publication was prepared, which was subsequently submitted to a journal for consideration in September 2026.

Following feedback from the journal reviewers, this project was recommended to be further developed into a systematic review with narrative synthesis. To improve methodological rigour and transparency, the risk-of-bias assessment was updated using the revised Cochrane RoB 2 and the protocol was registered. The research question, eligibility criteria, search strategy, study selection, primary and secondary outcomes, and data extraction procedures remained unchanged from the initial project design.

References for rationale:

– Bach, P. et al. (2025), Pharmacological Treatments in Alcohol Use Disorder and Risk of Alcohol-Related Hospitalizations: A Register Study. Acta Psychiatr Scand, 152: 94-103.
– Belay, G.M. et al. (2024) 'Psychosocial treatment options for adolescents and young adults with alcohol use disorder: systematic review and meta-analysis,' Frontiers in Public Health, 12, p. 1371497.
– Chen, He et al. (2025) 'Global burden of substance use disorders in adolescents and young adults aged 10–24 years from 1990 to 2021,' Scientific Reports, 15(1), p. 25971.
– Danpanichkul, P. et al. (2024) 'The burden of alcohol and substance use disorders in adolescents and young adults,' Drug and Alcohol Dependence, 266, p. 112495.
– Fischler, P.V. et al. (2022). Off-label and investigational drugs in the treatment of alcohol

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use disorder: A critical review. Frontiers in Pharmacology, 13.
– Haber, P.S. et al. (2021) 'New Australian guidelines for the treatment of alcohol problems: an overview of recommendations,' The Medical Journal of Australia, 215(S7), pp. S3–S32.
– Hammond, C.J. and Gray, K.M. (2016). Pharmacotherapy for substance use disorders in youths. Journal of Child & Adolescent Substance Abuse, 25(4), pp.292–316.
– Krausz, M. et al. (2022). Towards an international consensus on the prevention, treatment, and management of high-risk substance use and overdose among youth.Medicina, 58(4), p. 539.
– Martin, C.S. and Winters, K.C. (1998) 'Diagnosis and assessment of alcohol use disorders among adolescents', Alcohol Health & Research World, 22(2), pp. 95–105.
– McPheeters, M. et al. (2023) 'Pharmacotherapy for Alcohol Use Disorder: A Systematic Review and Meta-Analysis,' JAMA, 330–330(17), pp. 1653–1665.
– Olsson, C.A. et al. (2016). 'Drinking patterns of adolescents who develop alcohol use disorders: Results from the victorian adolescent health cohort study.' BMJ Open, 6(2), p.e010455.
– Rose, J.S. et al. (2012). 'DSM-IV alcohol abuse and dependence criteria characteristics for recent onset adolescent drinkers.' Drug and alcohol dependence, 124(1–2), pp.88–94.
– Soyka, M. and Müller, C.A. (2017). Pharmacotherapy of alcoholism – an update on approved and off-label medications. Expert Opinion on Pharmacotherapy, 18(12), pp.1187–1199.
– Squeglia, L.M. et al. (2019) 'Pharmacological treatment of youth substance use disorders,' Journal of Child and Adolescent Psychopharmacology, 29(7), pp. 559–572.

Keywords Alcohol use disorder; High-Risk Drinking; Alcohol; Adolescents; Young Adults; Young People; Pharmacotherapy; Naltrexone; Disulfiram; Acamprosate; Baclofen; Topiramate.

Dissemination plans The findings of this review are intended to be disseminated through publication in a peer-reviewed journal to provide preliminary evidence on the effectiveness and safety of pharmacological interventions for adolescents and young adults with alcohol use disorder and high-risk drinking patterns as well as to identify gaps in current evidence for future research. In addition, an oral presentation is planned within our hospital department (The Royal Children's Hospital Melbourne, Department of Adolescent Medicine) to share the findings with health professionals and colleagues involved in the care of adolescents and young adults with alcohol use disorder and high-risk drinking patterns.

Contributions of each author

Author 1 - Yi-Chieh Wu - Refinement of the research question; development of the methodology; literature search; data extraction; data curation; quality assessment; and manuscript preparation. Also contributed to the review and editing of the final manuscript.
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