

A systematic review and meta-analysis of functional, health and cognitive outcomes in young people who use methamphetamine

ALEXANDRE A. GUERIN^{1,2}, TAHNEE BRIDSON^{1,2}, GILLINDER BEDI^{1,2}

¹Centre for Youth Mental Health, University of Melbourne, Parkville, Australia, ²Substance Use Research Group, Orygen, Parkville, Australia

Presenter's email: alexandre.guerin@unimelb.edu.au

Introduction and Aims:

Methamphetamine use commonly starts in adolescence or early adulthood. Functional, health, and cognitive correlates of methamphetamine use in this age group remain unclear. This review aimed to comprehensively assess the evidence on functional, health and cognitive outcomes in young people (10-25 years-old) who use methamphetamine relative to those who do not.

Design and Methods:

The existing peer-reviewed literature was systematically searched, and articles screened by two independent reviewers. Outcomes of interest were: functional, health, and cognitive outcomes. Risk of bias and study quality were assessed using the Newcastle-Ottawa Quality Assessment Scale. When more than two studies were available for any outcome, a meta-analytic approach was used: standardized mean differences (SMD) and odds-ratios (OR) were calculated for continuous and dichotomous outcomes, respectively. The full protocol is available on PROSPERO [CRD42021279907].

Results:

Seventy-one studies were included. Functional outcome measures were too heterogeneous and could not be meta-analysed. Meta-analysis of depressive symptoms revealed no differences between people who use methamphetamine and controls [SMD = -0.04 (-0.23, 0.14)]. People who use methamphetamine were more likely to have an anxiety disorder [OR = 1.40 (1.01, 1.94)] and ADHD [OR = 2.70 (1.90, 3.85)]. Meta-analysis of cognitive outcomes revealed no group differences in any cognitive domains assessed. The quality of existing studies ranged from "poor" to "fair".

Discussions and Conclusions:

Methamphetamine use in young people may be associated with other mental health problems, including anxiety disorders and ADHD. Key limitations in the literature include failure to control for the acute/residual effect of methamphetamine use on outcomes of interest, and lack of longitudinal studies.

Disclosure of Interest Statement:

This work was supported by the National Centre for Clinical Research on Emerging Drugs, which receives their funding from the Department of Health Australia, the National Institute on Drug Abuse, and Gandel Philanthropy