

Methamphetamine use and depression – a systematic review and meta-analysis

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Introduction and Aims:

Methamphetamine use is a public health concern that has been associated with comorbid mental health problems. We aim to systematically review and meta-analyse the risks of depression by methamphetamine use reported in cross-sectional and longitudinal studies. Also, it is aimed to investigate covariates adjusted for in the analyses and risks of unmeasured confounders.

Design and Methods:

A systematic review and meta-analysis were conducted following PRISMA guideline. EMBASE, PsycINFO, and PubMed were searched to identify the studies reporting on the association between methamphetamine use and depressive outcomes. Study selection and screening were carried out by independent reviewers. The data was synthesized narratively, meta-analysed by random-effects meta-analysis, and have unmeasured confounders assessed by E-values analyses.

Results:

From the 6606 studies identified, 14 studies were included in the systematic review and meta-analysis. Significant association was found between any use of methamphetamine and any depression outcomes in cross-sectional (OR=1.98 [95%CI=1.16, 3.37]) and cohort studies (OR=1.30 [95%CI=1.04, 1.63]). People with a methamphetamine use disorder have 3 times the odds of depression than those without (OR=2.8 [95%CI=1.4, 5.9]).

Discussions and Conclusions:

Based on the limited available evidence, people who used methamphetamine have 1.3-2.5 times higher odds of depression than people who do not use the drug. Most included studies that reported elevated odds of depression with methamphetamine use have very low to low risk of having results explained away by unmeasured confounds. These findings indicate that methamphetamine use, particularly methamphetamine use disorder, is a potential risk factor for depression.

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