Neurosci Biobehav Rev. 2021 Jul 12;S0149-7634(21)00309-2.
doi: 10.1016/j.neubiorev.2021.07.010. Online ahead of print.

Alcohol use disorders and ADHD

Mathias Luderer[1], Josep Antoni Ramos Quiroga[2], Stephen V Faraone[3], Yanli Zhang James[4], Andreas Reif[5]
Affiliations collapse

AFFILIATIONS

- [1]Department of Psychiatry, Psychosomatic Medicine and Psychotherapy, University Hospital, Goethe University, Frankfurt, Frankfurt am Main, Germany. Electronic address: mathias.luderer@kgu.de.
- [2]Department of Psychiatry, Hospital Universitari Vall d'Hebron, Barcelona, Catalonia, Spain; Department of Psychiatryand Forensic Medicine, Universitat Autònoma deBarcelona, Bellaterra, Catalonia, Spain; Group of Psychiatry, Mental Health and Addiction, Vall d'Hebron Institut de Recerca (VHIR), Barcelona, Catalonia, Spain; Biomedical Network Research Centre on Mental Health (CIBERSAM), Barcelona, Catalonia, Spain.
- [3]Department of Psychiatry and Behavioral Sciences, SUNY Upstate Medical University, Syracuse, NY, USA; Department of Neuroscience and Physiology, SUNY Upstate Medical University, Syracuse, NY, USA.
- [4]Department of Psychiatry and Behavioral Sciences, SUNY Upstate Medical University, Syracuse, NY, USA.
- [5]Department of Psychiatry, Psychosomatic Medicine and Psychotherapy, University Hospital, Goethe University, Frankfurt, Frankfurt am Main, Germany.

PMID: 34265320

DOI: 10.1016/j.neubiorev.2021.07.010

Abstract

Despite a growing literature on the complex bidirectional relationship of ADHD and substance use, reviews specifically focusing on alcohol are scarce. ADHD and AUD show a significant genetic overlap, including genes involved in gluatamatergic and catecholaminergic neurotransmission. ADHD drives risky behavior and negative experiences throughout the lifespan that subsequently enhance a genetically increased risk for Alcohol Use Disorders (AUD). Impulsive decisions and a maladaptive reward system make

individuals with ADHD vulnerable for alcohol use and up to 43% develop an AUD; in adults with AUD, ADHD occurs in about 20%, but is vastly under-recognized and under-treated. Thus, routine screening and treatment procedures need to be implemented in AUD treatment. Long-acting stimulants or non-stimulants can be used to treat ADHD in individuals with AUD. However, it is crucial to combine medical treatment for ADHD with pharmacotherapy and psychotherapy for AUD, and other comorbid disorders. Identification of individuals at risk for AUD, especially those with ADHD and conduct disorder or oppositional defiant disorder, is a key factor to prevent negative outcomes.

Keywords: adolescence; adults; alcohol-related disorders; binge drinking; genetics; impulsivity; inattention; neurodevelopmental disorders; trauma and stressor related disorders.