Beyond the ice: Differences in biopsychosocial risk factors and neuropsychological profiles among individuals with histories of alcohol or methamphetamine-polysubstance use.

JAMES R. GOODEN 1,2,3,4, VANESSA PETERSEN 1, GEORGIA L. BOLT 1, ASHLEE CURTIS 5, VICTORIA MANNING 1,4, CATHERINE A. COX 1, DAN I. LUBMAN 1,4 AND SHALINI ARUNOGIRI 1,4

1Turning Point, Eastern Health, Richmond, VIC, Australia
2The National Centre for Clinical Research on Emerging Drugs, University of New South Wales, Sydney, NSW, Australia
3National Drug and Alcohol Research Centre, University of New South Wales, Sydney, NSW, Australia
4Monash Addiction Research Centre, Eastern Health Clinical School, Monash University, Box Hill, VIC, Australia,
5Centre for Drug Use, Addictive and Anti-Social Behaviour Research, School of Psychology, Deakin University, Geelong, VIC, Australia

Presenter’s email: jamesg@turningpoint.org.au

Introduction and Aims: There is limited appreciation of the pre-existing and co-occurring risk factors for cognitive impairment in individuals with Methamphetamine-polysubstance use who present to clinical services. In contrast, the evidence for these risk factors in alcohol use is well-established. This study compared clinical and cognitive profiles between methamphetamine-polysubstance users reporting cognitive impairment and an alcohol-using group.

Design and Methods: A retrospective file audit was conducted of individuals presenting to a specialist addiction neuropsychology service and reporting either heavy methamphetamine use for more than a year as part of a polysubstance use history, or having only used alcohol. Demographic, medical, psychiatric, and substance use histories, and neuropsychological assessment findings were extracted for between group comparisons.

Results: Cognitive functioning was reduced for both substance-using cohorts relative to population norms. Compared to the methamphetamine-polysubstance group, the alcohol group had significantly lower overall IQ, semantic verbal fluency, and psychomotor tracking speed. The methamphetamine-polysubstance group were significantly younger, had higher rates of offending, younger substance use onset, and more overdoses relative to the alcohol group. No significant differences in co-occurring neurodevelopmental, psychiatric or acquired brain injury diagnoses were observed while high rates of co-occurring psychiatric concerns were common.

Discussions and Conclusions: Although cognitive functioning was reduced across both cohorts, the alcohol group had a more global, distributed profile of cognitive impairments relative to methamphetamine-polysubstance users. Individuals in the Methamphetamine-polysubstance group presented with a higher risk of overall harm from substance use at a significantly younger age, which is a unique concern.

Implications for Practice or Policy: These findings highlight the importance of evaluating the wide variety of risk factors and clinical variables relevant to experiences of cognitive functioning in Methamphetamine-polysubstance users in order to address potential areas of unmet need with targeted treatment and intervention.

Disclosure of Interest Statement: This work was supported by a scholarship from the National Centre for Clinical Research in Emerging Drugs (NCCRED) awarded to JG and funded by the Commonwealth Department of Health (Australia). NCCRED had no role in the review, design, analysis, interpretation or preparation of any published works. No other conflicts of interest are declared.
Author Note: This work has been published in *Frontiers in Psychiatry* (doi: 10.3389) but has not been previously presented at a local or international meeting.