

Affective Disorders with or Without Comorbid Alcohol Dependence: a Longitudinal Neuropsychological and Neuroimaging Investigation in Young Adults

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Introduction: Limited research has examined the early neuropsychological and neurobiological changes associated with comorbid affective disorders and alcohol dependence.

Objectives & Aims: To investigate the cognitive and volumetric changes in individuals diagnosed with affective disorders with or without comorbid alcohol dependence.

Methods: Young adults (n = 21) who were undergoing medically-managed inpatient alcohol detoxification with comorbid affective disorders were neuropsychologically assessed 4-weeks following hospital discharge, and additionally underwent MRI brain scans during admission and 4-weeks following discharge. An affective disorders-only group (n = 21) with an equal distribution of anxiety and mood disorders was recruited through a youth mental health clinic.

Results: Compared to affective disorders only (M = 31.8 ± 4.4 years old), individuals with affective disorders and alcohol dependence (M = 33.9 ± 6.3 years old; M = 21.1 ± 9.2 standard drinks/day) exhibited worse sustained attention and visual memory functioning. There was a highly significant association between drinking levels since detoxification and total brain volume change, such that resumption of heavy drinking attenuated brain volume gains associated with short-term abstinence (r = -0.87, p < 0.001).

Conclusions: In young adults with affective disorders, comorbid alcohol dependence is associated with more pronounced cognitive dysfunction, suggesting that these deficits are most relevant for cognitive remediation interventions. Crucially, abstinence or reduced drinking was associated with brain volume gains, whereas resumption of heavy drinking was associated with brain volume reductions, suggesting that medically-managed alcohol detoxification may, at least, partially reverse the neurobiological changes associated with prolonged alcohol dependence in young adults.