

Screening for Cognitive Impairment

in Residential Substance Use Disorder Treatment Services

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Aim: To develop a brief and easy to use screening tool that predicts risk of cognitive impairment validated for use within an alcohol and other drug (AOD) population.

A study within the Alcohol and drug Cognitive Enhancement (ACE) project

Background

In Australia, one in 200 people received treatment for substance use in 2014–15, increasing by 6% from the previous year.¹ Substance use is frequently described as a chronic and relapsing condition, and long-term outcomes are associated with AOD treatment completion.² Failure to complete treatment, or 'drop-out', is common in both inpatient and outpatient treatment services and a significant predictor of drop-out from AOD treatment is the presence of cognitive impairment.^{3,4}

Cognitive impairment is rarely screened for in AOD treatment services and there is no validated screening tool to detect cognitive impairment specifically developed for use with people who use substances.

Method

A sample of n=170 AOD abstinence based and OTP treatment residents (clinical sample) and n=94 controls (general population-convenience sample) participants were administered the ACE Brief Executive Assessment Tool (BEAT).

A subset of both samples were administered both the ACE Screening Tool and ACE BEAT – n=129 clinical sample and n=64 controls.

Optimal cut-scores were derived for both the ACE Screening Tool and ACE BEAT. The proportion of those classified as impaired on each measure alone was compared across groups.

A ternary classification system was developed including the levels:

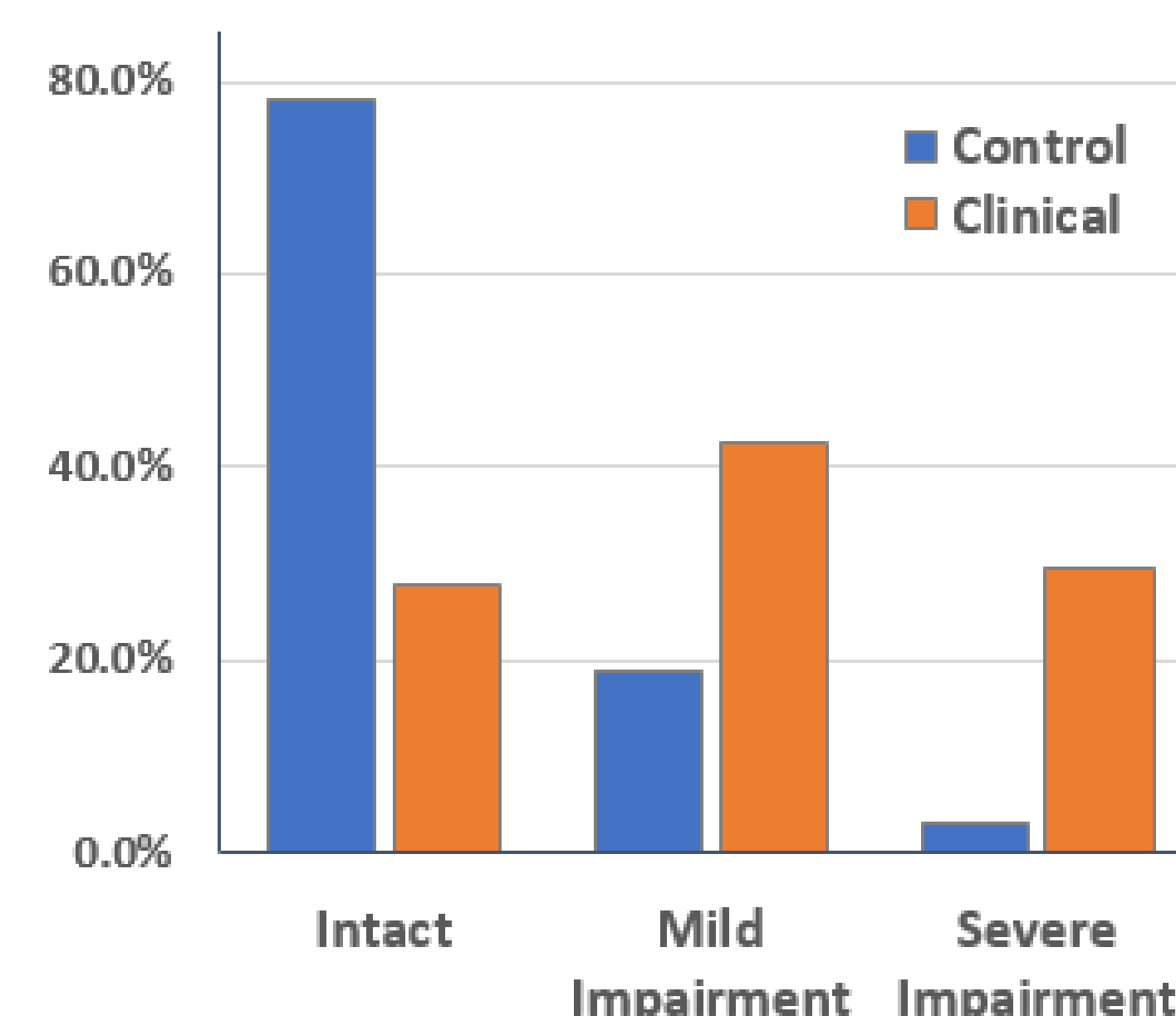
- no impairment (intact range on both tools)
- mild impairment (impaired range on one of the tools)
- severe impairment (impaired range on both tools).

Results

The clinical sample was more likely than the control sample to be classified with mild (43% vs 19%) and severe (29% vs 3%) cognitive impairment. Seventy-eight percent (78%) of the control sample were classified as having no impairment compared to 28% of the clinical sample.

The clinical group was 10 times more likely to score in the impaired range on the ACE Screening Tool (based on sample with n=129 clinical and n=64 control) and over 2.5 times more likely to score in the impaired range on the ACE BEAT than the normal controls (based on full sample of n=170 clinical and n=94 control).

Cognitive impairment per ACE Screening Tool & ACE Brief Executive Assessment Tool (BEAT)



Conclusion

Discriminant validity of the ACE tools has been demonstrated.

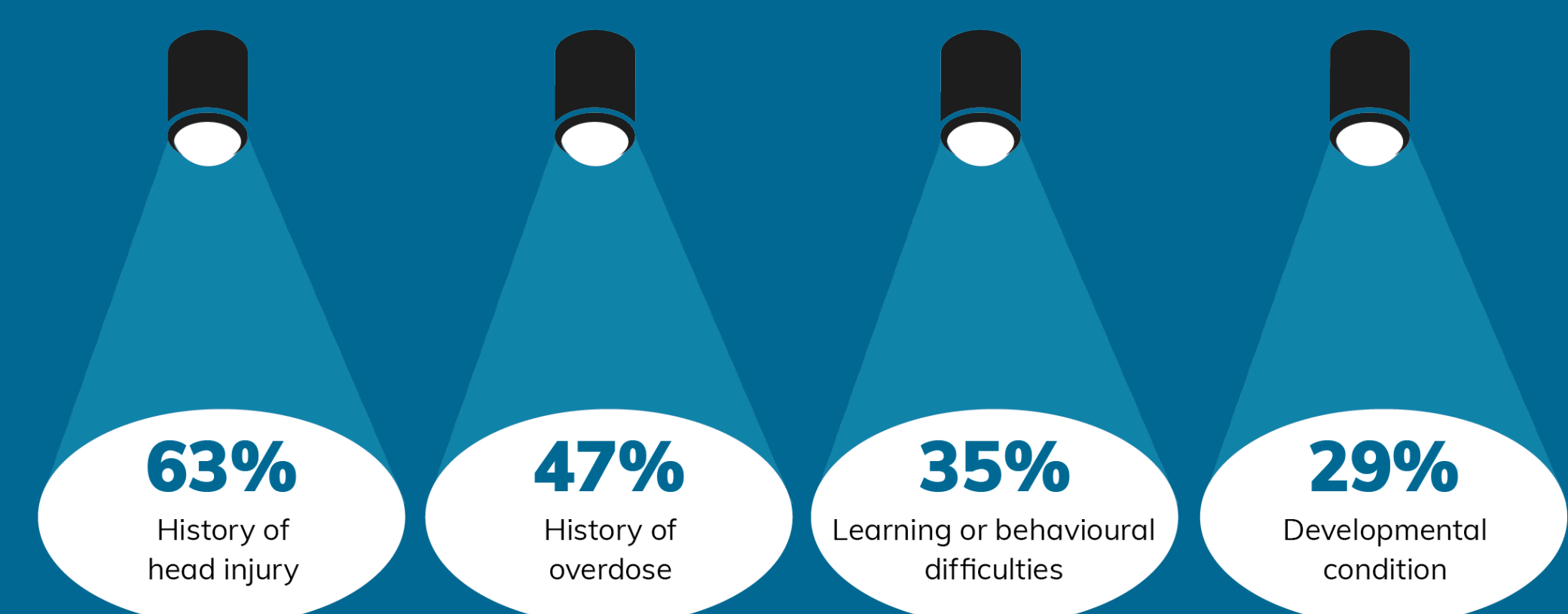
- The ACE Screening Tool and ACE BEAT adequately differentiated between the clinical and control groups.
- Together, the ACE tools differentiated well between a clinical and control group, with very few (<3%) of the control sample misclassified.



ACE Screening Tool

- Two minutes to administer
- Can be administered by any clinician or AOD worker
- Yes/no questions
- Simple cut score
- Convergent validity demonstrated by significant correlations with the Montreal Cognitive Assessment (MoCA) and the Behaviour Rating Inventory of Executive Function - Adult (BRIEF-A)

Focuses on risk factors relevant to AOD population



ACE package of resources

www.aci.health.nsw.gov.au/resources/drug-and-alcohol

The ACI and partners have worked to develop a package of resources for all services in NSW working with clients who are seeking treatment for substance use. The aim is to ensure services have access to tools to screen for and accommodate clients with cognitive impairment.

The full package of resources will include:

- ACE Risk Screening Tool
- ACE BEAT
- ACE Psychoeducation (Fact sheet and strategies)
- ACE 12-session Cognitive Remediation Program
- ACE Aboriginal and Torres Strait Islander Cognitive Remediation Program.

	ACE BEAT (n=264)		ACE Screening Tool and ACE BEAT (n=193)	
	Clinical	Control	Clinical	Control
	n=170	n=94	n=129	n=64
Age (years)	18–64 M=35.02 SD=9.38	18–69 M=31.88 SD=13.23	21–64 M=35.53 SD=9.17	18–69 M=31.88 SD=13.46
Education (years)	6–18 M=10.88 SD=1.96	10–18 M=13.3 SD=2.1	6–18 M=11.07 SD=1.85	10–18 M=12.94 SD=2.15
Gender (total)	♀ 88 ♂ 82	♀ 39 ♂ 55	♀ 82 ♂ 47	♀ 24 ♂ 40

Future directions

Further data has been collected and is currently being analysed to continue to validate both the ACE Screening Tool and ACE BEAT for clients with substance use dependence.

Publications of this data are planned for early next year.

- N=527 sample collected from residential AOD treatment population
- N=75 sample collected from outpatient AOD treatment population

References

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