

**Determining Reliable and Acceptable Cognitive Assessments for Aboriginal Australians to Measure Change in a Thiamine Treatment Trial**

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## Background

- Issues that may impact on brain function:
  - Alcohol & drug misuse
  - Fetal alcohol spectrum disorder
  - Domestic & personal violence
  - Psychological distress
- These issues common amongst disadvantaged populations i.e. Aboriginal and Torres Strait Islander peoples

## Background

- Cognition** – collection of mental processes:
  - Receptive functions
  - Memory and learning
  - Thinking
  - Expressive functions
- Cognitive assessment** enables:
  - Explanation of behaviour
  - Aid in diagnosis, care planning & management
  - Evaluate treatment effectiveness

## Background

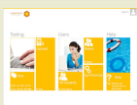
- English-based tests are often inappropriate for Aboriginal people because of differences in: language, education, world-view.
- Pilot study to determine reliability and acceptability of cognitive tests for an Aboriginal population in Central Australia for future use in a randomised controlled trial (RCT).
- The RCT aims to determine the most appropriate dose of thiamine to administer in a clinical setting – Wernicke Korsakoff Syndrome.

## Methods


Data collection: participants from Alice Springs Hospital (ASH)

Inclusion Criteria	Exclusion Criteria
18 – 75 years old	Under 18 years old
Male or Female	Pregnant women
Aboriginal or Torres Strait Islander	A documented pre-hospital admission cognitive impairment
Admitted to ASH for a minimum 48 hours	Unable to give informed consent


## Assessments




**CogState Brief Battery**  
Source: <https://forms.ashh.com.au/app/cogstate/>  
 45509947552796-8



**Corsi Block-Tapping Task**  
Source: <http://ourcatho.net/projects/paib/>



**Rowland Universal Dementia Assessment Scale**  
Source: <https://www.health.qld.gov.au/roch/images/ruadas.gif>



**Story Memory Recall Test**

## Test-retest Reliability

Ability of a test to produce the same score each time

Piloted four tools: Initial test performed and repeated >24 hours later

## Reliability

CogState Tasks	Pearson's Correlation Coefficient (r)	p-value
DET RT "Has the card turned over?"	0.651**	0.003
IDN RT "Is the card red?"	0.846**	<0.001
OCL ACC "Have you seen this card before?"	0.687**	0.002
OBK ACC "Is the previous card the same?"	0.605**	0.008

## Reliability

Name of test	Pearson's Correlation Coefficient (r)	p-value
CORSI Total Score	0.653**	0.003
RUDAS Total Score	0.863**	<0.001
* SMRT Story 1	0.732**	0.001
* SMRT Story 2	0.705**	0.002

\* SMRT results were independently evaluated by two scorers. An average was used for calculation.  
\*\*Correlation is significant at the 0.01 level (2-tailed).

## Qualitative Data Results

**Qualitative Research Aims**

- Understanding of the task
- Appropriateness of the task format and content
- What would assist understanding and acceptability
- General impressions and feelings

## Qualitative Results

**Engagement**  
Challenge, game, memory, worry  
"Like playing a game!"  
"Does get your mind ticking"

**Test Design**  
age, fun, learning, Computers-less judgement  
"with a computer...it's not going to be flung back in your face"

**Process**  
Instructions, pictures, length, prompting  
"elderly people are not used to computers"

**Language**  
"Use an interpreter. Use peoples' first language"  
"Use simple English"  
"(Some people) don't understand much English"

Pictures help, some people need more prompting

## Summary

- Qualitative interviews complimented the quantitative data
- 3 final tests in the RCT: RUDAS, SMRT, CogState
- These translated into 4 Central Australian Aboriginal languages
- Consent video in 4 Aboriginal languages
- Don't underestimate the power of qualitative data!



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