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

• 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

Methods

Data collection: participants from Alice Springs Hospital (ASH)

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

- CogState Brief Battery
- Corsi Block-Tapping Task
- Rowland Universal Dementia Assessment Scale
- Story Memory Recall Test
Ability of a test to produce the same score each time

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

<table>
<thead>
<tr>
<th>Name of test</th>
<th>Pearson’s Correlation Coefficient (r)</th>
<th>p-value</th>
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<tbody>
<tr>
<td>CORSI Total Score</td>
<td>0.653**</td>
<td>0.003</td>
</tr>
<tr>
<td>RUDAS Total Score</td>
<td>0.863**</td>
<td>&lt;0.001</td>
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<tr>
<td>SMRT Story 1</td>
<td>0.732**</td>
<td>0.001</td>
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<tr>
<td>SMRT Story 2</td>
<td>0.705**</td>
<td>0.002</td>
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* 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

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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