Clinical Usefulness of the Kettle Test in Conjunction with the Montreal Cognitive Assessment in a Neurosurgical Population

Lauren Nichols, Rowan Castle, Jolene May, Leeza Hawkins, Christy Dorward

Royal Hobart Hospital
Outline

- Assessment of cognition and functional cognition
- The Kettle Test
- Comparing the Kettle Test to the Montreal Cognitive Assessment
Cognition and Daily Function

(Sloan & Ponsford, 2008; Hartman-Maeir, Harel & Katz, 2009; Unsworth, 2010; Grohol, 2014)
Schools of Thought

standardised functional cognition

observation

pen & paper

(Pascale Toglia, Golisz & Goverover, 2009; Unsworth, 2010)
Occupational Performance

Self-care

Habits & Routines
Less Cognitively Demanding

Instrumental ADLS

Novel & Challenging Tasks
More Cognitively Demanding

(Bear, Connors, & Paradiso, 2007; Coster, Haley, Jette, Tao & Siebens, 2007; Sloan & Ponsford, 2008; Pascale Toglia, Golisz & Goverover, 2009)
(Bear, Connors, & Paradiso, 2007; Baum & Katz, 2010)
## Utility of Different Assessments

<table>
<thead>
<tr>
<th></th>
<th>Standardised Pen &amp; Paper Tests</th>
<th>Observation of Routines &amp; Habits</th>
<th>Standardised Functional Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tests</strong></td>
<td>Isolated pre-frontal functions</td>
<td>Procedural memory</td>
<td>Integration of pre-frontal functions</td>
</tr>
<tr>
<td><strong>Tells Us</strong></td>
<td>Presence of a cognitive deficit</td>
<td>Task specific capacity</td>
<td>Cognitive capacity for activities</td>
</tr>
</tbody>
</table>

(Sloan & Ponsford, 2008; Pascale Toglia, Golisz & Goverover, 2009; Baum & Katz, 2010)
The Kettle Test

(Hartman-Maeir, Harel & Katz, 2009)
The Kettle Test

“To evaluate the ability for independent community living of people with identified or suspected cognitive disabilities”

Making 2 different hot drinks

(Hartman-Maeir, Harel & Katz, 2009)
Scoring

- Total score 52
- Higher scores indicate more impairment
- Functional interpretation - *The Global Independence Score*
  ① Independent
  ② Mild Assistance
  ③ Significant assistance

(Hartman-Maeir, Harel & Katz, 2009)
Study Aims

MoCA

Kettle
Sample Population

- Tasmania Neurosurgical Unit
- State-wide service
- Population:
  - Post-surgical & Mild-moderate head injuries
Methods

• 30 neurosurgical case files

• Retrospective file audit of sample population

• Qualitative methodology
  – Exploratory case study
  – Pattern matching
Results

60% Cases (n=18)

Both either: no impairment, mild impairment, or severe impairment
Results Continued

40% Cases (n=12)

Cognitive Impairment (n=5)
- × MoCA
- ✓ Kettle

Functional Cognitive Impairment (n=7)
- ✓ MoCA
- × Kettle
Results Continued – Role of OT

Observation and analysis of activities
Case Study

Bob

- 80 years old
- Independent
- Tertiary educated
- Traumatic subdural haemorrhage & burr holes
Case Study

Functional Cognitive Impairment

- ✔ MoCA – 30/30
- ✗ Kettle – Severe Impairment

OT Assessment
Showed difficulties managing:
- Self Care Tasks
- Money
- Medications
- Unsafe Situations
1. Cognitive impairments can exist without functional implications
   – Minor Neurocognitive Disorder - DSM V

2. Montreal Cognitive Assessment
   – does not consistently predict functional cognitive deficits

3. Kettle Test + Montreal Cognitive Assessment
   – more robust assessment of cognition following a neurological event.
Lauren Nichols

lauren.nichols@ths.tas.gov.au


References


