

# Assessment of occupational performance problems due to cognitive deficits in stroke rehabilitation: A survey

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**Aim:** This study aimed to survey the choices occupational therapists (OTs) make when selecting assessment tools and methods for assessing patients' occupational performance problems due to cognitive deficits during the immediate post-acute phase of stroke (approximately 1–7 days after). This study also aimed to examine the extent to which OTs use standardised, occupation-based assessments and whether factors such as education level, the time needed to use assessment tools, and the impact of local departmental guidelines, affect the selection of standardised, occupation-based assessments.

**Methods:** A cross-sectional survey, completed via post with responses from 150 Danish occupational therapists was conducted.

**Results:** The survey participants used 13 different assessment tools and methods to assess patients with stroke for occupational performance problems due to cognitive deficits. Only 9% of the OTs were using standardised, occupation-based assessments. Educational level, the time needed to use the assessment tools and the impact of local departmental guidelines were not significantly associated with selection of standardised, occupation-based assessments.

**Conclusion:** The majority of the OTs in this study did not use standardised, occupation-based assessments. These findings indicate a need for further investigation into the changes necessary to the practitioners' knowledge, skills, or priorities in the use of standardised, occupation-based assessments in clinical practice.

Key words: ■ Stroke ■ Assessment tools ■ Cognitive ■ Occupational therapy ■ Evidence ■ Rehabilitation

Submitted 26 February 2013, sent back for revisions 26 April 2013; accepted for publication following double-blind peer review 12 May 2014

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Stroke frequently affects a person's performance and participation in everyday life activities, and limits inclusion in social and societal contexts. While physical deficits often become the priority in the first phase of stroke rehabilitation as they are more visible than cognitive deficits, more than half of patients with stroke have cognitive deficits (Sekretariatet for Referenceprogrammer, 2005; Dansk Selskab for Apopleksi, 2009; Morris, 2009).

Reduced cognition correlates with a reduced ability to perform activities of daily living (ADL) (Claesson et al, 2005; Marom et al, 2006). More specifically, patients with cognitive deficits are often more dependent in the instrumental activities of daily living (I-ADL) than in personal activities (P-ADL). The I-ADL activities are more difficult for patients with cognitive deficits due to the complexity of these tasks, which are influenced by cultural and environmental factors and are more cognitively demanding than P-ADLs (Claesson et al, 2005). Systematically assessing cognition and

perception positively impacts on functional performance rehabilitation, even when cognition and perception deficits are not immediately apparent (Edwards et al, 2006). An American study reported that if valid and reliable assessment tools were not deployed to assess patients with stroke, health professionals would overlook at least one cognitive deficit in each patient with stroke and 35% of the patients would have three or more undiscovered deficits (Edwards et al, 2006). Consequently, if occupational performance problems due to cognitive deficits are not adequately assessed, many patients with stroke risk being discharged home without adequate support.

## Occupational therapy assessments in stroke rehabilitation

Occupational therapy is a recommended part of early rehabilitation in stroke units, according to the national clinical guidelines for stroke in Denmark, the UK, Australia, the US, New Zealand and Sweden (Kristensen et al, 2011b).

In Danish health-care services, at least 90% of patients with stroke should be assessed by an occupational therapist (OT) within 2 days of admission to a stroke unit (KCKS-Vest, 2012). The OT's focus is on the importance of the cognitive deficits that affect occupational performance (Brandt et al, 2007; Dansk Selskab for Apopleksi, 2009). This was reinforced in a recent Australian survey, which reported that participating OTs ranked occupation-based assessments as the most important method of information gathering (Sansone and Hoffmann, 2013).

Engagement in occupation is a valued primary therapeutic agent as well as the goal of occupational therapy interventions (Fisher, 2013). Therefore, OTs often use occupation-based evaluation methods, including performance and task analysis, to assess how disabilities impact on occupational performance. The assessment tools OTs use in stroke rehabilitation often involve interviews and observations, which enable OTs to assess activity limitations, including the quality of occupational performance and which factors influence it. In the survey by Sansone and Hoffmann (2013), 69% of the participants reported using occupation-based assessments for more than 75% of their clients with cognitive impairment within the last month. Occupation-based assessments provide valuable information about occupational performance capacity. This is particularly relevant to OTs in hospitals, who often make predictions and recommendations about patients' safety, independence and efficiency in ADLs (Sansone and Hoffmann, 2013).

While the demands on health professionals to use evidence-based knowledge in practice are growing, there is evidence that the growing body of research is not consistently translated into practice (Upton et al, 2014). Health services aim to use assessments and interventions that are evidence-based to minimise ineffective rehabilitation (Law, 2002; McCluskey, 2003; Finlayson et al, 2005). However, only limited published studies exist on the assessment practice and factors regarding the use of standardised assessment by OTs (Piernik-Piernik-Yoder and Beck, 2012).

Standardised, occupation-based assessments are tests that: follow a specified administration and scoring protocol, have validated and reliable psychometric properties, and profile the underlying cognitive deficits affecting occupational performance (Sansone and Hoffmann, 2013). Researchers have undertaken surveys in the US, Canada and Australia to identify OTs' current assessment approaches and tools (Koh et al, 2009; Mohammed Alotaibi et al, 2009; Korner-Bitensky et al, 2011; Piernik-Piernik-Yoder and Beck,

2012). Many of the tools participating therapists in these surveys reported using focused on assessing patients' cognitive impairments, yet only a small proportion of therapists reported using methods for assessing occupational performance. These surveys indicated that when OTs use occupation-based assessments, they tend to use non-standardised assessments (Sansone and Hoffmann, 2013).

The limited use of standardised, occupation-based assessments may indicate a lack of formal training in the use of these tools, highlighting the need for promotion of training in this area (Fisher, 2013). There is a lack of research into OTs' reasoning and decision-making over the selection and use of standardised, occupation-based assessments in stroke rehabilitation.

This study had three main aims. First, it aimed to survey OTs working in Danish stroke rehabilitation (immediate post-acute phase) about which assessment tools and/or methods they use to assess occupational performance problems due to cognitive deficits. Second, the survey aimed to determine the extent to which OTs use standardised, occupation-based assessments. Its third aim was also to further examine whether factors such as education level, time required to use the assessment tool, and local departmental guidelines are associated with selection of standardised, occupation-based assessments (Robertson et al, 2013; Upton et al, 2014).

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## METHODS

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### Design

A descriptive cross-sectional survey was conducted from October 2010 to January 2011.

### Ethics

The OTs were introduced in writing to the purpose of the study and it was stressed that their participation was voluntary. The participating hospitals and OTs were promised anonymity in the study and could withdraw from the study at any stage. All participants gave their consent to participate in the study as part of filling out the survey. Approval by the Danish Data Protection Agency was not relevant in this study as data did not include sensitive patient information, and Danish legislation on research ethics did not require the research to receive approval by the Research Ethics Committee.

### Participants

In November 2010, a questionnaire was sent to OTs working with patients with stroke in the immediate post-acute phase in Danish public hospitals. The immediate post-acute phase refers to a period approximately 1–7 days after admission.

The OTs who were eligible to participate had to have a minimum of 1 month's experience assessing patients with stroke, and at least 1 month of experience in the hospital setting. Questionnaires were sent to 175 professionals in 34 hospitals. The questionnaire response rate was 86.8%. Two OTs were excluded as they failed to satisfy the inclusion criterion of 1 month of employment. Therefore, the final number of participants was 150 OTs (85.7%).

### Survey

The survey questions were developed following a literature review of assessment tools and methods used in occupational therapy practice, along with factors associated with selection of standardised, occupation-based assessments. The list of assessment tools and methods in the questionnaire was based on the authors' clinical experience and literature review. The standardised, occupation-based assessments were eligible for the list if at least one study had tested the tool and reported it to be valid and reliable for assessing cognitive deficits in patients with stroke affecting their occupational performance. A pilot study was performed to strengthen the validity of the survey. Pilot participants were recruited among OTs from a hospital stroke department in Denmark. The pilot study and clinical practice indicated that specific methods like observation and semi-structured interviews should appear on the list as separate 'tool (sub)categories'. This ensured the survey captured the reality of assessing patients for cognitive deficits in the participating hospitals. This 'broad' definition of the tool concept was deemed necessary to the purpose of the study as it enabled the capture of the full breadth of current practice.

The pilot resulted in minor changes to discard linguistic ambiguities and an additional question to determine the time the OT spent filling out the pilot questionnaire. The resulting self-administered questionnaire was then distributed and the participating OTs were ensured anonymity.

The survey consisted of three sections that comprised of 17 questions in total (see *Appendix A*). To avoid memory bias from retrospective questions, the participants were only asked about the last two patients with stroke who they had assessed. If an OT used an assessment tool or method not mentioned on the list, they could add this to the list. The OTs were also asked to mark whether they used the complete assessment tool or only a part of the tool. To invite reflection on practice, participants were asked whether they had used assessment tools that were in agreement with usual departmental practice.

### Data analysis

The authors performed three analyses to investigate whether there was an association between the three exposure variables: educational level; the time needed to use the assessment tools; and the impact of local departmental guidelines and the outcome. The outcome was the use of standardised, occupation-based assessments for assessing cognitive deficits in patients with stroke.

In the first analysis, the authors dichotomised education level into higher academic level and lower academic level. Higher academic level consisted of OTs with a 3.5-year bachelor degree in occupational therapy or a superimposed course. Lower academic level consisted of OTs with a 3-year occupational therapy education or 'other'. The category 'other' involved OTs with a 3-year occupational therapy education and completed, occupational therapy-related professional courses or therapists who were in the process of continuing their education towards a diploma programme.

In the second analysis, the time needed to use the assessment tools were dichotomised. They were dichotomised into OTs who deselected assessment tools as they thought them too time-consuming (always, often and sometimes excluded the tools) and OTs who did not deselect assessment tools due to time consumption (never excluded the tools).

The final analysis assessed the impact of local departmental guidelines by dichotomising participants into whether they followed departmental guidelines to either a very high or high degree, or to a low or very low degree.

### Statistics

The data were double-entered by two members of the project team and a set of rules for missing data were followed. Chi squared ( $\chi^2$ ) and Fisher's exact tests were used to calculate the *P* value to test whether the OTs' use of standardised, occupation-based assessments was associated with education level, the time needed to use the assessment tools and the impact of local departmental guidelines. The  $\chi^2$  distribution was tested with a degree of freedom at 1. Fisher's exact test was computed by a two-tailed *P* value. The *P* values equal to or below 0.05 were considered significant. All data were analysed using Microsoft Office Excel 2007 and STATA version 12.

## RESULTS

### Respondents

The respondents' median age was 34 years (2.5–97.5 percentiles: 25–58 years). Total duration of employment was a median of 47 months (range=1–137 months), and

median number of years of clinical experience with stroke patients were 61 months (range=2–284 months).

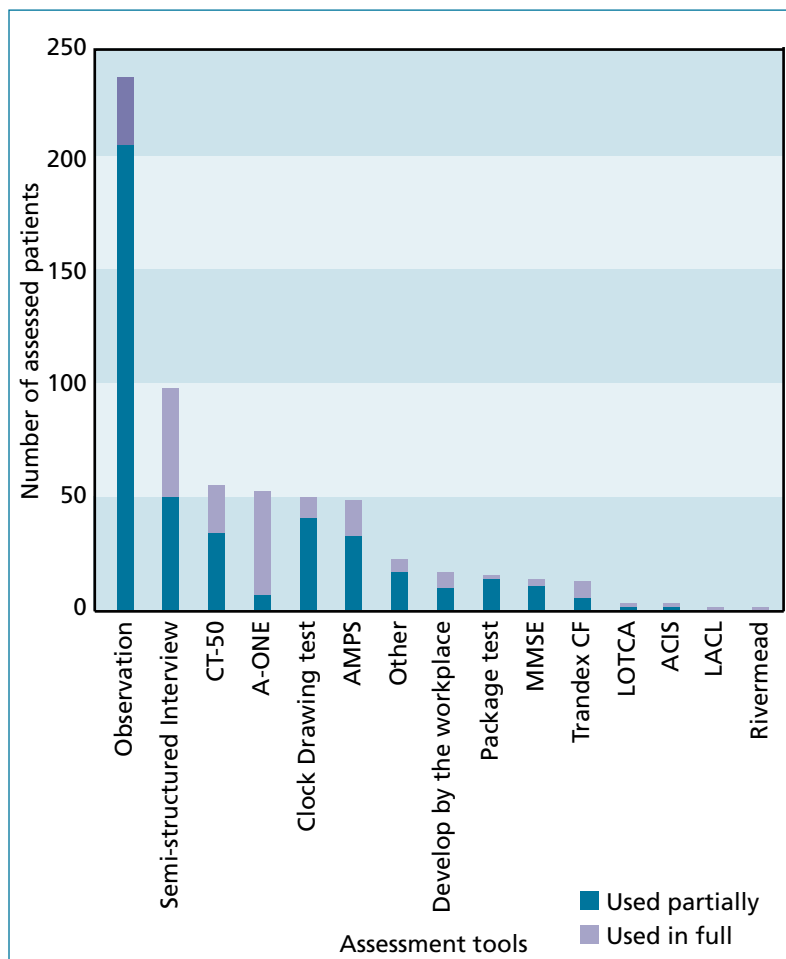
Sixty four respondents (43%) had an occupational therapy education or other, while 86 respondents (57%) had a bachelor degree or had attended a diploma programme. Of the 150 respondents, 27 (18%) had a superimposed course and 123 (82%) had not attended such courses. Participants who had a superimposed course had: attended a diploma programme (18%), a masters degree (4%) or another superimposed course (78%).

Seventy three (50%) of the 146 respondents reported that their workplace had local departmental guidelines. Fifty six respondents (38%) reported that there were no local departmental guidelines at their workplace. The remaining 17 respondents (12%) did not know whether or not there were local departmental guidelines. Of the respondents who stated ( $n=71$ , 97.3%) to what extent they follow local departmental guidelines: 16% reported following them to a very high degree, 77% to a high degree and 7% to a lesser degree.

### Assessment tools/methods used and the extent of standardised assessment use

One respondent was excluded from the analysis as they stated that the assessment tools and methods they used to assess occupational performance problems due to cognitive deficits for their last two patients did not correspond with their usual practice. The remaining 149 respondents (99.3%) stated that the assessment tools used were in agreement with usual practice. The respondents reported using 13 different assessment tools. Observation and semi-structured interviews together accounted for 51% of the assessment tools and methods used, while other tools like the CT-50, the Clock Drawing test, the Arnadottir OT-ADL Neurobehavioral Evaluation (A-ONE), and the Assessment of Motor and Process Skills (AMPS) were used by 9%, 8%, 9% and 8%, respectively of the OTs. *Figure 1* shows that almost none of the assessment tools were used to their full extent. The category 'other' contained observation of different types of activities.

The answers from the 149 respondents were divided into two categories according to the respondents' use of standardised, occupation-based assessments and non-standardised, occupation-based assessments. In 112 cases (9%), the respondents reported having used standardised, occupation-based assessments; in 594 cases (91%), they had used non-standardised, occupation-based assessments. The respondents were asked about the importance of using valid and



**Figure 1. Respondents' total use of assessment tools and methods for cognitive assessment in the two most recently assessed stroke patients during the immediate post-acute phase, and if the assessment tools were used partially or in full ( $n=149$ )**

reliable assessment tools to assess cognitive deficits in patients with stroke. Forty seven respondents (32%) reported that it was very important, 84 (56%) reported that it was important and the remaining 18 (12%) thought it was less important. A total of 149 respondents answered the question on how often they excluded an assessment tool due to time constraints. Only one respondent (1%) selected always, 30 respondents (20%) reported often, 95 respondents (64%) selected sometimes, and 23 respondents (15%) reported never excluded an assessment tool due to time constraints.

### Factors associated with selection of standardised assessments

The authors found no significant association between respondents' educational level and their use of standardised, occupation-based assessments ( $\chi^2=1.0459$ ,  $P=0.306$ ) (see *Table 1*). Neither was it possible to reveal any significant association between those who used standardised, occupation-based assessments and those

**Table 1. The association between educational level and the respondents' use of standardised occupational-based assessments**

Academic level	Valid and reliable	Non-valid and non-reliable	Total
Higher	8	79	87
Lower	8	46	54
<b>Total</b>	16	125	141

$\chi^2=1.0459, P=0.31, DF=1$

**Table 2. The association between the time needed to use the assessment tools and the respondents' use of standardised occupational-based assessments**

Assessment tool use	Valid and reliable	Non-valid and non-reliable	Total
Deselected	5	18	23
Non deselection	11	108	119
<b>Total</b>	16	126	142

Fisher's exact, two tailed  $P$  value=0.14

**Table 3. The association between the impact of local departmental guidelines and the respondents' use of standardised occupational-based assessments**

Departmental guidelines use	Valid and reliable	Non-valid and non-reliable	Total
Followed	6	57	63
Not followed	7	67	74
<b>Total</b>	13	124	137

$\chi^2=0.0002, P=0.99, DF=1$

who excluded these tools based on time consumption ( $P=0.140$ ) (see *Table 2*). Finally, OTs who reported following local departmental guidelines did not use standardised, occupation-based assessments to a higher degree than OTs who did not ( $\chi^2=0.0002, P=0.990$ ) (see *Table 3*).

## DISCUSSION

### Assessment tools and methods used

This study's results showed that non-standardised observations and semi-structured interviews together accounted for 51% of the assessment tools and methods used, while other tools like the CT-50, the Clock Drawing test, the A-ONE and the AMPS were used in 9%, 8%, 9% and 8% of assessments, respectively. The extensive use of non-standardised assessment tools is a surprising result as inadequate use can result in health professionals overlooking several cognitive deficits when assessing the occupational performance of patients with stroke (Edwards et al, 2006). An Israeli and a Swedish study (Claesson et al, 2005; Marom et al, 2006) revealed a correlation between reduced cognition and a reduced ability to perform ADLs. Therefore, it appears problematic that Danish OTs predominantly do not use standardised, occupation-based

assessments as they may fail to notice how cognitive deficits impact on occupational performance.

Forty seven OTs (32%) reported that it was very important to use valid and reliable assessment tools, another 84 (56%) found that it was important and the remaining 18 (12%) considered that it was less important. This suggests predominant attitudes agree with implementing evidence-based practice (EBP). Nevertheless, standardised, occupation-based assessments were only used in 9% of the cases by the OTs in this study. These findings are in accord with other studies of occupational therapy practice, which state that OTs predominantly do not choose standardised, occupation-based assessments to assess occupational performance problems due to cognitive deficits (Edwards et al, 2006; Welch and Dawson, 2006; Sansonetti and Hoffmann, 2013). A large Australian survey (Koh et al, 2009) of occupational therapy practice in stroke rehabilitation identified commonly-used assessments as cognitive screening tests, cognitive assessment batteries and basic ADL assessments. They reported that the Mini-Mental State Examination (MMSE) and the Functional Independence Measure (FIM™) were among the most frequently used assessment tools for assessing occupational performance problems due to cognitive deficits (Koh et al, 2009). An American survey (Piernik-Yoder and Beck, 2012) also concluded that despite the development and increased emphasis on using occupation-based measures, nine out of the ten respondents' most frequently-used measures assess patients' performance skills. Therefore, OTs continue to rely heavily on instruments that assess body structure and functional impairments rather than occupation-based assessments or other outcome measures.

However, the use of meaningful occupations in occupational therapy assessment and intervention is important to outcomes in EBP, whether the purpose is to remedy functional shortcomings or to ensure compensation. Therefore, OTs need to make more use of the available evidence-based knowledge to deliver high quality both within occupational therapy and within stroke rehabilitation (Kristensen et al, 2011a).

### Factors associated with selection of standardised assessments

The findings showed no statistically significant association between use and non-use of standardised, occupation-based assessments for any of the following parameters: educational level; the time needed to use the assessment tools; and the impact of local departmental guidelines.

Several studies have reported a correla-



tion between education level and the knowledge and use of EBP (Pollock et al, 2000; Dysart and Tomlin, 2002; Salls et al, 2009). These studies had a higher representation of OTs with a masters degree than the present study, where the majority of the OTs had an occupational therapy education or a bachelors degree. It was expected that OTs with a higher educational level would be more likely to use standardised, occupation-based assessments.

Some reviews suggested the use of standardised, occupation-based assessments would be associated with an increased time burden and would be deselected (Cooke et al, 2005). This was confirmed by our results, which showed that 85% of the OTs always, often or sometimes deselected an assessment tool due to time use. In some acute hospital settings, the increasing demands for high activity levels and shorter hospitalisation challenge health professionals. Organisational contexts, especially logistics, time use and physical contexts affect OTs' choices and decision-making (Kristensen et al, 2012).

Brief hospitalisations complicated the evaluations of occupational performance. Several OTs found that, for example, AMPS and A-ONE has limitations, due to the amount of time they had to spend analysing and documenting the result (Kristensen et al, 2012). An Australian study (Cooke et al, 2005) showed that it should take no more than 30 minutes to assess cognitive deficits using an assessment tool. Therefore, we may expect the modest use of the A-ONE was rooted in the time it takes to properly use this tool. This is particularly interesting as the A-ONE was the only standardised occupation-based assessment used to assess for cognitive deficits affecting occupational performance among the 13 tools and methods used by the OTs in the present study (Gardarsdóttir and Kaplan, 2002; Arnadottir and Fisher, 2008).

Local departmental guidelines aim to ensure uniformity in the occupational therapy assessments and interventions offered and to support EBP implementation (Kjærgaard, 2001). However, as local departmental best-practice guidelines were not based on evidence, the OTs could not be expected to deploy standardised occupational-based assessments (Edwards et al, 2006). A total of 50% of the OTs in our study reported that local departmental guidelines were available at their workplace; among these, 93% followed the guidelines. Considering the modest use of standardised, occupation-based assessments, future research should aim to explore to what extent local departmental guidelines are evidence-based and the consequences of this.

## Limitations

While this study intended to include all OTs working in the immediate post-acute phase, this was not possible due to different definitions of the post-acute phase and its duration in different hospitals. This was accounted for by inviting each hospital by telephone and each OT via a letter elaborating the issue attached to the questionnaire. These initiatives may have prevented significant selection bias and thereby avoided reducing the internal validity of this study.

This study used a self-constructed questionnaire, the psychometric properties of which were not previously tested. While a valid and reliable questionnaire with the same purpose as this study does not exist, the authors performed a pilot study that resulted in minor changes to the questionnaire.

The questionnaire's list of assessment tools and methods mainly contained non-standardised, occupation-based assessments. This might have caused information bias and an overestimation of the use of non-standardised, occupation-based assessments. This could have been avoided by instead allowing the OTs the possibility of writing which assessment tools they used instead. However, if an OT used an assessment tool not mentioned on the list, they were given the opportunity to add the assessment tool to the list. In the questionnaire, the authors chose not to ask about the severity of the stroke, which could influence the choice of assessment tools. The questionnaire asked the OTs about their two most recently-assessed patients to avoid recall bias. While this may weaken its representativeness, the OTs stated that their assessment of the last two patients was in agreement with usual practice in 99.3% of the cases. This could indicate that the study captured the full, real scenario of assessing for cognitive deficits in occupational practice as it is currently pursued in Danish hospitals. The significant participation rate of 85.7% strengthened the internal validity of the study.

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## CONCLUSION

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In this study, the OTs used 13 different assessment tools and methods; however, only the A-ONE was valid and reliable for assessing cognitive deficits affecting the occupational performance of patients with stroke. The OTs used predominantly non-standardised, occupation-based assessments. However, almost all of the OTs were assessing occupational performance problems due to cognitive deficits while the patients were performing various activities. This study found no significant association between

use and non-use of standardised, occupation-based assessments for any of the following parameters: educational level; the time needed to use the assessment tools; and the impact of local departmental guidelines. Further research is needed to support the implementation of an evidence-based occupational therapy assessment practice by incorporating more standardised, occupation-based assessments. Although there has been an effort to develop and publish occupation-based assessments, the low usage of these types of assessment tools reported in this study demonstrates the continued gap in recognising the need and the current use of occupation-based assessments. These findings indicate a need for further investigation into what changes are necessary at the level of the practitioner's knowledge, skills, or priorities and the barriers to the use of occupation-based assessment in clinical practice contexts. **IJTR**

**Acknowledgements:** The authors would like to thank Heidi Borch Joergensen and Mette Edvardsen for co-authorship in the original project.

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## KEY POINTS

- More than half of patients with stroke suffer from cognitive deficits.
- OTs often use occupation-based evaluation methods, to assess how cognitive deficits impact on occupational performance.
- When OTs use occupation-based assessments, they tend to use non-standardised assessments.
- In our study, only 9% of the OTs were using standardised, occupation-based assessments.

## COMMENTARY

Nearly half of people who have had a stroke still have residual difficulties with cognitive problems, such as concentration and memory, more than a year later. Many of these people do not feel that their rehabilitation needs in this regard are fully met (McKevitt et al, 2010). It is unsurprising, therefore, that most clinical guidelines for stroke recommend screening patients soon after admission, and periodic re-assessment of those with potential cognitive deficits (Korner-Bitensky et al, 2011). Occupational therapists' traditionally holistic approach often leads them to take on a leading role in cognitive assessment and rehabilitation, especially in the absence of a clinical psychologist (Gillham and Clark, 2011); therefore, it is vital to identify best practice in this regard.

The authors of this study acknowledge the importance of ensuring that the assessment tools used to identify occupational performance problems for stroke patients with cognitive deficits are both robust and occupation-based. However, they only class one of the tools/approaches they list in their questionnaire (the A-ONE) as reliable or valid, while several of them do not seem to be occupationally-focused at all. Predictably, they find that 91%

of their sample do not use this one tool.

It would have been helpful to gain a wider view on how the assessment process is delivered generally, as relatively few standardised cognitive assessment tools reflect real life effectively, and it may be difficult to identify the most appropriate tools for occupational therapists to use (Poulin et al, 2013). An effective response may be to adopt a structured, top-down approach, assessing occupational deficits before attempting to identify the underlying causes of these deficits (Grieve and Gnanasekaran, 2008; Hartman-Maeir et al, 2009; Dawson et al, 2013). A more interdisciplinary approach may help to improve the effectiveness of cognitive assessment, too—allowing both occupation-based and condition-focused assessments to be completed simultaneously.

In summary, it is clear that respondents in this study do not currently make consistent use of the A-ONE or similar assessments, but it is not clear what is used instead, or why. As most questionnaires indicated that cognitive assessment is regarded as important, and only 21% reported that time constraints often or always prohibited this (even in the first week after admission), are occupational therapists simply

following established practice in their choice of tools, or are they adopting a different approach to that expected by the authors?

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### Appendix A. Questionnaire sent to occupational therapists

#### Demographic information

1. What is your age? (enter in whole years) \_\_\_\_\_ years
2. Enter your professional grade in occupational therapy? (Only one cross)  
- Occupational therapy education  - Bachelor degree in occupational therapy
3. Have you been taken a superimposed course during your occupational therapy education?  
Yes  No
- 3a. If yes – please specify which: (you may put several crosses)  
- Diploma  - Master (one year)  - Candidate (two years)  - Other (please enter which) \_\_\_\_\_
4. Specify the duration of your employment as an occupational therapist at your current workplace?  
Years: \_\_\_\_\_ Months: \_\_\_\_\_
5. Specify the duration of your experience with stroke patients?  
Years: \_\_\_\_\_ Months: \_\_\_\_\_
6. Specify how many days the stroke patients on average are admitted to your department? (enter in whole years) \_\_\_\_\_ days

**Assessment tools used to assess for cognitive deficits:** In the following, you must consider your overall use of assessment tools or methods for cognitive assessment of patients with stroke in the immediate post-acute phase (1-7 days).

7. Which assessment tool or method do you use most frequently to assess for cognitive deficits affecting occupational performance of patients with stroke in the immediate post-acute phase? (Put only one cross).

#### Assessment tools/methods

- A-ONE - Árnadóttir OT – ADL Neurobehavioral Evaluation
- ACIS - Assessment of Communication and Interaction Skills
- AMPS - Assessment of Motor and Process Skills
- CT-50 - Cognitive test
- LAFL - Large Allen Cognitive Level Test
- LOTCA - Loewenstein Occupational Therapy Cognitive Assessment
- MMSE - Mini-mental state examination
- Observation
- Package test
- Rivermead Perceptual Assessment Battery
- Semi-structured interview
- Trandex CF - Trandex Cognitiv Funktion

#### Most frequently used assessment tool/method

- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
-



- Assessment developed by the workplace
- Clock Drawing test
- Other (enter which)

8. How often do you use this assessment tool/method in its full length? (Put only one cross)
- Always  - Often  - Sometimes  - Never

In the following question, you must think back on the last two patients with stroke you have assessed for cognitive deficits affecting occupational performance in the immediate post-acute phase (1-7 days).

9. Which of the following assessment tools/methods did you use to assess for cognitive deficits affecting occupational performance for patient 1 and patient 2, respectively? Please tick if you have used the tool fully or partially. (Tick all the assessment tools/methods you used).

Assessment tools/methods	(Patient 1)		(Patient 2)	
	Use of the assessment tool in full extent	Partial use of the assessment tool	Use of the assessment tool in its full extent	Partial use of the assessment tool
- A-ONE - Árnadóttir OT – ADL Neurobehavioral Evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- ACIS - Assessment of communication and Interaction Skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- AMPS - Assessment of Motor and Process Skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- CT-50 - Cognitive test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- LACL - Large <i>Allen Cognitive</i> Level Test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- LOTCA - Loewenstein Occupational Therapy Cognitive Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- MMSE - Mini-mental state examination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Observation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Package test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Rivermead Perceptual Assessment Battery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Semi-structured interview	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Trandex CF - Trandex Cognitiv Funktion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Assessment developed by the workplace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Clock Drawing test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Other (enter which)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. To which extent does the use of the assessment tools/methods for these two stroke patients match your usual practice? (Put only one cross)
- To a very high degree  - To a high degree  - To a low degree  - To a very low degree

11. What do you think of assessing patients with stroke with possible cognitive deficits in general? (Put only one cross)
- Very easy  - Easy  - Less easy  - Difficult

**The validity and reliability of the assessment tool:** In the following questions, we ask about the concepts validity and reliability. In the present context, validity means that an assessment tool measures what it intends to measure. Reliability means that the assessment tool is stable and precise.

12. Please specify the importance of using valid and reliable assessment tools to assess cognitive deficits in patients with stroke? (Put only one cross)
- Very important  - Important  - Less important  - Not important at all  - Don't know

13. Are you calibrated or certificated in using an assessment tool?
- Yes  No

- 13a. If yes - please enter which: (you may put several crosses)
- AMPS  - A-ONE  - Other (enter which) \_\_\_\_\_

14. To which extent does your department offer economic resources so that the occupational therapists can be trained to use a particular assessment tool?
- To a very high degree  - To a high degree  - To a low degree  - To a very low degree  - Don't know

**Time use of assessment tools for cognitive deficits:** In the following questions, we ask about how time use influences the choice of assessment tool for cognitive deficits in patients with stroke.

15. How often do you use only a part of an assessment tool because it will take too much time to complete the entire assessment tool? (Put only one cross)
- Always  - Often  - Sometimes  - Never

16. How often do you deselect an assessment tool because it will take too much time to complete the entire assessment tool? (Put only one cross)
- Always  - Often  - Sometimes  - Never

### Departmental guidelines

Departmental guidelines describe a specific healthcare action in relation to a clinical problem. In the following, we ask whether there are departmental guidelines that describe which assessment tools you must use when assessing for cognitive deficits affecting occupational performance in patients with stroke.

17. Are there departmental guidelines established at your department for assessment of cognitive deficits in patients with stroke? (Put only one cross)
- Yes  No  Don't know

- 17a. If yes: To which extent do you follow the departmental guidelines when assessing cognitive deficits affecting occupational performance of patients with stroke? (Put only one cross)
- To a very high degree  - To a high degree  - To a low degree  - To a very low degree  - Not at all

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