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Chou KL, Amick MM, Brandt J, Camicioli R, Frei K, Gitelman D
et al.

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**A RECOMMENDED SCALE
FOR COGNITIVE SCREENING
IN CLINICAL TRIALS OF
PARKINSON'S DISEASE**

Why this particular article?

- ž A comprehensive comparison of different cognitive screening tests for use in PD patients
- ž The results applicable in everyday clinical use

Background

- ž Cognitive impairment is common in PD
- ž The majority of PD patients develop dementia in the later stages
- ž A growing interest in the effects of medical and surgical therapies on cognitive dysfunction in PD patients

Key issue

- ž What is the most suitable cognitive screening tool for use in PD trials not primarily focused on cognition?

Methods – 1

- Primary inclusion criteria of candidate scales:
 - Previously studied in a PD population
 - Should stand alone in clinical trials
 - Administration completed within 15 minutes
 - The assessment of all major cognitive domains
- Secondary criteria:
 - Evaluated in studies independent of its original developer
 - The availability of psychometric performance data for PD

Methods – 2

- ž to January 2009
- ž A total of 353 articles retrieved and examined
- ž A written final draft including recommendations

Results

ž 10 scales considered, 5 included:

- o Mini-Mental State Examination (MMSE)
- o Montreal Cognitive Assessment (MoCA)
- o Mini-Mental Parkinson (MMP)
- o Parkinson Neuropsychometric Dementia Assessment (PANDA)
- o Scales for Outcomes in Parkinson`s Disease – Cognition (Scopa-cog)

MMSE

- 0 The most widely used
- 0 Not developed specifically for PD patients
- 0 Orientation, registration and short-term recall, attention and concentration, language, visuospatial function
- 0 Takes 10 min
- 0 Measures cognitive change over time
- 0 No measurement of executive functions
- 0 Relatively insensitive to mild cognitive changes

MoCA

- o Originally developed to screen for MCI
- o Takes 10 minutes
- o Covers executive functions
- o Clock drawing task – visuospatial function
- o Executive functions – trail making test, phonemic fluency, verbal abstraction task
- o Particularly sensitive to the mild cognitive changes in PD
- o Not properly validated naming task

MMP

- 0 Developed specifically for PD patients
- 0 More sensitive to detecting the mild cognitive deficits in PD than MMSE
- 0 Takes 10 minutes
- 0 No assessment of language
- 0 Limited data on psychometric performance in PD

PANDA

- 0 Takes 10 minutes
- 0 To detect subtle cognitive impairment and dementia in PD patients
- 0 Screens for depressive symptoms
- 0 More sensitive than MMSE for detecting cognitive impairment in PD patients
- 0 No assessment of language, orientation and visual construction

SCOPA-cog

- 0 PD-specific scale
- 0 To compare groups in research settings
- 0 Takes 10 to 15 minutes
- 0 Specific tasks of executive function
- 0 Not extensively used in PD patients

Evaluation criteria met for the reviewed scales

| | MMSE | MoCA | MMP | PANDA | SCOPA-cog |
|---|------|------|-----|-------|-----------|
| Used in PD population | √ | √ | √ | √ | √ |
| Could stand alone as minimum assessment | √ | √ | √ | √ | √ |
| Administration in <15 min | √ | √ | √ | √ | √ |
| Assesses the major cognitive domains | x | √ | x | x | x |
| Can identify subtle cognitive impairment in PD | x | √ | √ | √ | √ |
| Used in studies beyond original developers | √ | √ | √ | x | √ |
| Psychometric data available in PD | √ | √ | √ | √ | √ |
| The recommended scale should meet all primary criteria. | | | | | |

What have we learned?

- The usefulness of the MoCA for detecting even subtle cognitive impairment in PD patients
- The importance of detecting the impairment of all major cognitive domains (especially executive function)
- The MoCA as a minimum standard cognitive screening test in clinical trials of PD
- The current lack of data regarding sensitivity to change over time and to treatment in the MoCA
- PD-Cognitive Rating Scale (PD-CRS) as the optimal PD-specific scale for detecting early cognitive deficits in PD and tracking the transition to PD dementia (Kulisevsky et al., 2009) – skipped due to time frame (>17 min)

Study drawbacks?

- ž Since it is a review...
- ž The composition of the Task Force?
- ž The evaluation criteria?

What does the paper add to the current knowledge?

- ž Additional data on the appropriateness of measure for use in PD trials not primarily focused on cognition

Clinical applications

- ž Guidelines applicable to everyday clinical practice

THANK YOU!