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대한재활의학회 KOREAN ACADEMY OF REHABILITATION MEDICINE

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Clinical Utility of the Korean Version of the Oxford Cognitive Screen in Acute Stroke

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Background and Purpose

- Conventional cognitive screening tools used after stroke were primarily developed for Alzheimer's dementia and may not adequately detect domain-specific deficits typical of stroke, particularly when performance is influenced by aphasia, neglect, or visual field impairment.
- The Korean version of the Oxford Cognitive Screen (K-OCS) was developed as a stroke-specific, domain-based screening tool assessing language, attention, memory, praxis, executive function, and number processing (Cho et al., Ann Rehabil Med 2025;49(1):5-14).
- The K-OCS demonstrated high reliability, validity, and acceptable diagnostic accuracy for screening cognitive impairment in post-stroke patients.
- This study aimed to evaluate the clinical utility of K-OCS in detecting post-stroke cognitive impairments within 3 months of onset, focusing on its ability to identify domain-specific deficits compared to conventional global screening tools.

Methods

- A total of 103 inpatients diagnosed with stroke were included.
- Participants admitted between September 2023 and September 2025 were enrolled following Institutional Review Board approval.
- To evaluate the clinical utility of K-OCS, comparative analyses were conducted against the Korean-Mini Mental State Examination (K-MMSE).

Results

- Table 1 summarizes participants' demographic and clinical characteristics.

Table 1. Characteristics of the stroke patients participating in the study(Onset < 3months)

Characteristics	Category	N=103
Age	<50	19 (18.4)
	50 – 59	23 (22.3)
	>59	61 (59.2)
Gender	Male	62 (60.2)
	Female	41 (39.8)
Education (years)	≤6	17 (16.5)
	7 – 12	44 (42.7)
	>12	42 (40.8)
Etiology	Hemorrhagic	68 (66.0)
	Ischemic	35 (34.0)
Lesion lateralization	Unilateral left hemisphere	44 (42.7)
	Unilateral right hemisphere	48 (46.6)
	Bilateral/Cerebellum	11 (10.7)

- All K-MMSE impaired patients were detected by K-OCS, with an additional 26.7% identified exclusively by K-OCS despite normal K-MMSE scores (Table 2).
- Participants scoring zero on K-MMSE subtests were still scorable on the K-OCS, and some exceeded domain-specific cutoff scores despite minimal performance on K-MMSE (Table 3).

Table 2. Cross-classification of cognitive impairment detected by K-OCS and MMSE

Outcome category	n/N	%
Any K-OCS impaired	89/103	84.8
MMSE impaired (<23)	61/103	58.1
Both impaired	61/103	58.1
K-OCS-only impaired	28/103	26.7
MMSE-only impaired	0/103	0.0
Neither impaired	16/103	15.2

Table 3. K-OCS scorable and cut-off normal performance across cognitive domains in participants with MMSE subtest scores of zero

K-MMSE	K-OCS	N	Scorable ≥1 n (%)	Cut-off Normal n (%)
Time Orientation	Orientation	26	5 (19.2)	1 (3.8)
Place Orientation	Orientation	21	3 (14.3)	1 (4.8)
Language	Picture Naming	20	0 (0.0)	0 (0.0)
	Sentence Reading	20	0 (0.0)	0 (0.0)
	Semantics	20	2 (10.0)	1 (5.0)
Recall	Recognition	47	17 (36.2)	14 (29.8)
	Episodic Recall	47	23 (48.9)	13 (27.7)
Calculation	Calculation	38	11 (28.9)	8 (21.1)

Conclusion

- The K-OCS showed higher feasibility and better detection of domain-specific impairments than conventional global screening in early stroke patients.
- Despite some hemispheric differences, lateralization effects were modest, indicating domain-based assessment provides clinically meaningful information beyond traditional screening.

Acknowledgement

This study was supported by IITP, funded by Ministry of Science and ICT (2021-0-00742).