The relationship between Executive Dysfunction and Instrumental Activities of Daily Living in early-stage dementia

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Doctoral & Master's Program in Nursing Sciences

Learner objectives :

1) The learner will be able to learn the relevance of Executive dysfunction and Instrumental activities of daily living in nursing of early -stage dementia.
2) The learner will be able to learn how to measure Executive function of early-stage dementia.

Background:

The key clinical features of early symptoms of dementia

- Cognitive deficits in everyday activities (Marshall GA.,2011)
- Executive dysfunction not only Memory impairment (Espinosa A.,2009)

Objective:

To investigate the relationship between Executive dysfunction and Instrumental activities of daily living (IADL) in early-stage dementia

Participants: 29 patients (6 male & 23 female), MMSE score>20

Methods:

Executive function assessment

Behavioral Assessment of Dysexecutive Syndrome (BADS)(Figure1 : Wilson BA.,1996)

The BADS includes 6 subtests & 2 forms of the Dysexecutive Questionnaire (DEX).

Each subtest score (range 0-4) is calculated as the overall profile score (BADS-TP) & the overall classification.

The DEX comprises DEX self-rating (patients) & DEX other-rating (caregivers).

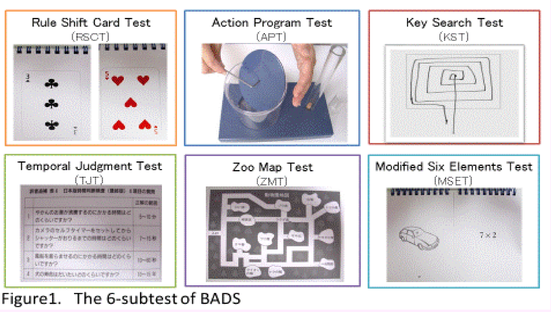

Figure1. The 6-subtest of BADS

Instrumental ADL (IADL) assessment

IADL scale (range 0-8) (Lawton MP.,1969)

Ethical considerations

This study was approved by University of Tsukuba Faculty of Medicine.

Results:

Patient data: 13 AD (Alzheimer disease), 13 DLB (Dementia with Lewy bodies), 3 suspected dementia

BADS overall classification: 18 impaired, 5 borderline, 2 low average, 4 average.

Correlation between BADS & IADL (Figure 2)

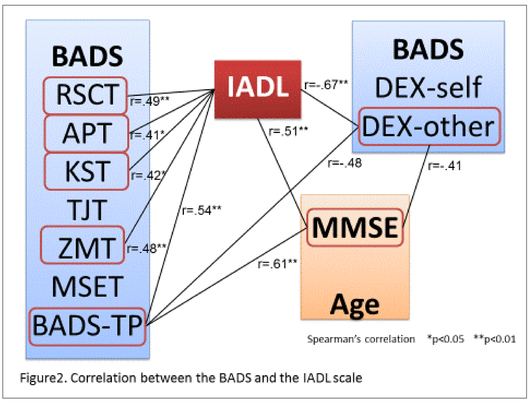

Figure2. Correlation between the BADS and the IADL scale

Findings:

・BADS-TP & 4 subtests was significantly correlated with IADL.

・DEX-other was significantly correlated with BADS-TP & IADL.

Relationship between AD & DLB (Table 1)

Table 1. Relationship between AD and DLB in the BADS and IADL scale

		AD		DLB			Overall	
	N	13		13			29	
		Mean	SD	Mean	SD	p	Mean	SD
	Age	75.76	8.62	74.23	6.77	ns	74.75	7.61
	MMSE	24.92	3.09	25.69	3.30	ns	25.24	3.13
	IADL	3.84	1.81	4.23	1.64	ns	4.31	1.85
BADS	RSCT	1.38	0.96	1.53	0.96	ns	1.65	1.07
BADS	APT	2.84	1.06	2.92	1.25	ns	2.89	1.11
BADS	KST	1.00	1.08	1.07	0.75	ns	1.20	1.17
BADS	TJT	1.76	0.83	1.46	1.19	ns	1.58	1.05
BADS	ZMT	1.69	1.25	1.76	0.72	ns	1.79	0.97
BADS	MSET	1.38	1.04	0.84	0.98	ns	1.20	1.11
BADS	BADS TP	10.70	4.11	9.61	2.93	ns	10.34	4.04
BADS	DEX-self	6.61	7.15	9.92	8.40	ns	8.82	8.37
BADS	DEX-other	14.33	13.31	19.87	22.78	ns	16.94	17.99

Mann-Whitney U test ns: not significant

Findings:

・Executive dysfunction was found in early- stage of dementia, whereas there was no significant difference between AD & DLB.

Conclusions:

・Executive dysfunction was associated with decline of IADL in early- stage dementia, regardless of the diagnosis of dementia.

・Evaluation of executive function & IADL by caregivers was a significant assessment.

・We suggest nurses should assess executive function using BADS.