

INFLUENCE OF SOCIOEDUCATIONAL FACTORS IN THE DIAGNOSTIC ACCURACY OF SCREENING TESTS FOR DEMENTIA

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BACKGROUND AND OBJETIVE

One of the most important inconvenient of the diagnostic accuracy of some brief neuropsychological test for dementia screening derives on their high influence related to socioeducational variables.

Our objective is evaluate the diagnostic accuracy of a brief neuropsychological test used previously in the Trans-Eurotest study and analyze the socioeducational influence.

RESULTS

We studied 481 patients (101 were dementia patients). EUROTEST scores in both groups are showed at Figure 1. EUROTEST diagnostic accuracy (AUC 0.93±0.01) resulted similar to that of MMSE (0.92±0.02), MEC (0.90±0.02) and SPMSQ (0.94±0.03), and higher than VFTs diagnostic accuracy (0.87±0.02) (table 1). All models, except TFVs, had a similar total variance percentage (R² >0.65) and in all cases the main predictive variables was the score from each brief neuropsychological test (Table 2). EUROTEST diagnostic accuracy was not influenced by socioeducational variables (Table 3).

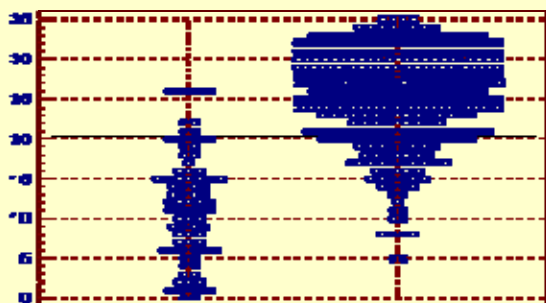


Figure 1 Demented Non-demented

Table 1	n	AUC ± CI	p	β 95%
EUROTEST*	481	0.93	0.01	0.89-0.96
TFV	480	0.87	0.02	0.83-0.90
MMSE	274	0.92	0.02	0.89-0.95
MEC	79	0.90	0.03	0.83-0.97
SPMSQ	136	0.94	0.03	0.87-1

METHODS

This is a transversal, multicentric study in wich patients aged over 60 years who attended a general neurological practice clinic were invited to participate. Each participant underwent following tests: EUROTEST, a verbal fluency test (VFT) and one or more among MMSE, MEC, or SPMSQ. Subjects were classified as non-demented or demented according to DSM-IV criteria for Dementia. Diagnostic accuracy was evaluated by determining the area under the ROC curves (AUC). Socioeducational influence in diagnostic accuracy was measured through a logistic regression analysis following a step by step strategy. The dependent variable was dementia diagnosis, whereas independent variables were scores from brief neuropsychological test and socioeducational variables.

Table 2	EUROTEST	TFV	MMSE	MEC	SPMSQ
R ²	0.67	0.36	0.69	0.66	0.67
GDS	-3.4±0.2*	-2.0±0.2	-2.0±0.1	-2.8±0.3	-1.2±0.1
Age	-0.2±0.03	-0.13±0.03	-0.1±0.03	-0.1±0.05	---
Gender	-2.2±0.4	-1.1±0.4	---	---	---
Literate	---	2.1±0.5	2.4±0.5	2.0±0.8	---
Years education	---	---	---	---	0.5±0.2
Handling coin	3.5±0.6	---	---	---	0.7±0.3

* β coefficient

Table 3	β	CI	OR (95% CI)	p
Not adjusted				
Constant	-2.34			
EUROTEST	-0.28	0.03	0.75 (0.71-0.8)	<0.001
Adjusted				
Constant	-2.8			
EUROTEST	-0.3	0.03	0.74 (0.7-0.79)	<0.001
Gender	-0.5	0.34	0.95 (0.48-1.87)	0.89 ns
Age	-0.02	0.03	0.96 (0.93-1.03)	0.43 ns
Literate	0.63	0.46	1.87 (0.76-4.61)	0.17 ns
Years education	0.12	0.29	1.13 (0.64-2.02)	0.67 ns

CONCLUSION

EUROTEST shows similar or even higher diagnostic accuracy compared to those from common brief neuropsychological tests used in the clinical practice. Moreover, EUROTEST also has the advantage not to be influenced by socioeducational aspects.

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