

간이 기억 검사 : 새로운 간편 기억 장애 선별 검사

대구가톨릭대학교 의과대학 정신과학교실,¹ 계명대학교 의과대학 정신과학교실,²원광대학교 의과대학 정신과학교실,³박종한¹ · 김희철² · 김재현³

Mini-Memory Test (MiMeT) : A New Brief Memory Screening Test

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대상 및 방법

간이 기억 검사 (Mini - Memory Test, MiMeT) () .

(Mini - Mental State Examination)⁸⁾ , 4 (short - term memory) 1~2

5 , 8 (long - term memory)

10% 가 95~99% 15~ 8 (remote memory) , MiMeT

72% 10.8%¹¹⁾ 가 56.7% , 57/77 99.0% 24/23 4 24 가 64.2% 99.1% 대 상 1999 6 2002 6 가

가 60 16)

Rey - Kim ,¹⁷⁾ Wechsler¹⁸⁾ (paired association test), K - (digit span), (block design),¹⁹⁾ (Geriatric Depression Scale)²¹⁾ 가 Lawton (Lawton Instrumental Activities of Daily Living),²²⁾ Barthel (Barthel Activities of Daily Living),²³⁾ (Short Form of Samsung Dementia Questionnaire),²⁴⁾ Blessed 가 (Blessed Dementia Rating Scale)^{23,25)} 가

12) MiMeT DSM - ²⁶⁾ 가

()가 DSM - (16)

가 가 (Cronbach α

) () . , Pearson

가 , , , 가 가 가

가 , 가 , receiver operating characteristic curve, AUC) (area under Petersen

27) MiMeT t-

- (mild cognitive impairment - amnestic), 가 ,

- (mild cognitive impairment - multiple domains slightly impaired), Pearson , MiMeT

- (mild cognitive impairment - single domain Blessed 가 , Law- Barthel 가

nonmemory domain)가¹⁵⁾ p<0.05

MiMeT

분석 내용

MiMeT , 기초 자료

60 956 270 MiMeT

가 MiMeT

가 686 (, 210 ; , 476) . 60 가 348 (50.7%), 70 가 268 (39.1%), 80 70 (10.2%) . 262 (38.2%), 70 (10.2%), 42 (6.1%), 42 (6.1%), 108 (15.7%), 33 (4.8%), 25 (3.6%), 16 (2.3%), 11 (1.6%), 11 (1.6%), 8 (1.2%), 8 (1.2%), 7 (1.0%), 3 (0.4%), 40 (5.8%) . 94 (13.7%), 123 (17.9%), 246 (35.9%), 118 (17.2%), 33 (4.8%) 72 (10.5%)

F- ≥2 . MiMeT

가 332 (48.4%)

가 354 (51.6%) 332

MiMeT 115 (34.6%), 가 60

(18.1%), 25 (7.5%), 16 (4.8%), MiMeT .254(p=.000),
 10 (3.0%), 가 가 13 (3.9%), 0.265(p=.000), .150(p=.005),
 7 (2.1%), 가 3 .190(p=.000), .321(p=.000)
 , B₁₂ .
 2 Lewy ,
 1 . 70 (21.1%) 신뢰도
 . MiMeT Pearson
 .511, .673,
 .664, .444,
 .569,
 연령, 학력 그리고 성이 MiMeT 성적에 미치는 영향 p=.000
 MiMeT
 - .134(p=.012), - .133(p=.012), .592
 - .143(p=.007), - .226(p=.000),
 - .236(p=.000) (102) Cronbach α 가 .790
 (252) MiMeT (M±SD) 3.52±.82
 3.49±.78(t=.339, p=.735), 7.38±.80 .555~.748 Cron-
 7.17±.87(t=2.117, p=.035), 5.97± bach α .689~.800 (Table 1).
 1.58 5.90±1.52(t=.387, p=.699),
 3.78±.56 3.76±.54(t=.415, p=.679), 진단 타당도
 20.66±2.42 20.32±2.36(t=1.216, p=.225) MiMeT
 . 342 가 , , , ,

Table 1. Internal consistency of the Mini-Memory Test (n=686)

	Scale variance if subtest deleted	Corrected subtest-total correlation	Alpha if subtest deleted
Orientation	21.488	0.748	0.689
Short-term memory	23.328	0.555	0.762
Long-term memory	12.339	0.669	0.800
Remote memory	23.443	0.714	0.722

Reliability coefficients : Cronbach α =0.790, standardized α =0.845

Table 2. Comparison of Mini-Memory Test scores between two diagnostic groups

	Memory impaired (n=332)	Memory non-impaired (n=354)	t	p
Orientation	1.61 ± 1.32	3.50 ± 0.79	- 22.951	0.000
Short-term memory	5.95 ± 1.71	7.23 ± 0.86	- 12.486	0.000
Long-term memory	1.39 ± 1.80	5.92 ± 1.54	- 35.500	0.000
Remote memory	2.38 ± 1.35	3.77 ± 0.54	- 17.768	0.000
Total	11.34 ± 4.54	20.42 ± 2.38	- 33.089	0.000

Table 3. Diagnostic validity of the Mini-Memory Test

	AUC ± S.E.	95% C.I.	Significance (p)	Cutoff	Sensitivity	Specificity
Orientation	0.870 ± 0.014	0.843 - 0.897	0.000	2/3	0.738	0.864
Short-term	0.745 ± 0.019	0.708 - 0.781	0.000	6/7	0.536	0.828
Long-term	0.952 ± 0.007	0.937 - 0.966	0.000	3/4	0.843	0.910
				4/5	0.913	0.808
Remote	0.807 ± 0.017	0.773 - 0.840	0.000	3/4	0.726	0.811
Total	0.964 ± 0.006	0.952 - 0.976	0.000	16/17	0.855	0.935
				17/18	0.916	0.887
				18/19	0.952	0.805

Table 4. Linear multiple regression of effects of diagnosis, age, education and sex* on the Mini-Memory Test score

	Unstandardized coefficients		t	Significance (p)	Variation inflation factor
	β	S.E			
Model 1					
(Constant)	20.416	.200	101.882	.000	
Diagnosis	- 9.033	.291	- 31.085	.000	1.000
R=.782, R²=.612, adjusted R²=.612, S.E.=3.60, F (1/612)=966.251, p=.000					
Model 2					
(Constant)	18.451	.384	48.000	.000	
Diagnosis	- 8.860	.284	- 31.166	.000	1.011
Education	.967	.163	5.931	.000	1.011
R=.796, R²=.635, adjusted R²=.632, S.E. =3.50, F (2/611) =527.695, p=.000					
Model 3					
(Constant)	19.050	.514	37.078	.000	
Diagnosis	- 8.676	.303	- 28.664	.000	1.150
Education	.888	.169	5.251	.000	1.089
Age	- .211	.120	- 1.751	.080	1.239
R=.797, R²=.635, adjusted R²=.633, S.E. =3.49, F (3/610) =354.008, p=.000					

* : excluded from the regression at the F-value ≥ 2

(Table 2). 69 =2, 70~74 =3, 75~79 =4, $\geq 80=5$) ; R²=
 가 MiMeT ; adjusted R²=]]. 1
 Blessed 가 (234)가 -.458, Law- 2 3
 ton (231) -.520, Barthel
 (240) .287, (234)
 가 -.470 . MiMeT MiMeT 1.000 1.239
 .790
 (302). p=.000
 고 찰
 MiMeT AUC .964 ,
 16/17 .855 .935, 17/18 .916 .887, 332 354
 18/19 .952 .805 가 MiMeT
 AUC가 가 , MiMeT
 3/4 .843 .910 4/5 - .133 ~ .236
 .913 .808 (Table 3). , MiMeT
 .150~.321 .
 진단, 연령, 성별, 교육이 MiMeT 성적에 미치는 영향 가
 MiMeT , , , 가

Table 4 . 3
 $y = 19.050 - 8.676 \chi_1 + .888 \chi_2 - .211 \chi_3$
 (R²=.635, adjusted R²=.633) [y : MiMeT ;
 χ_1 : (=1, =0) ; χ_2 :
 (- =1, - =2, =3,
 =4, =5) ; χ_3 : (60~64 =1, 65~

MiMeT 61.2%
 2.1%
 F- ≥ 2.0
 가 10 .1

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간이 기억 검사(Mini-Memory Test, MiMeT)*
(*이탈릭 문장은 검사 혹은 채점에 관한 지침이다)

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