Informant Questionnaire on Cognitive Decline in the Elderly(IQCODE)

[2] , [3] , [1] , [4]

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Validity of the Korean Version of Informant Questionnaire on Cognitive Decline in the Elderly(IQCODE)

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Background: This study was conducted to prove the validity of the Korean version of the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE-K) as a screening test for Alzheimer's disease.

Method: Informants of the elderly who visited the dementia clinic and the elderly living in community, were asked to complete IQCODE-K. Based on the final clinical diagnoses, performance of the the IQCODE-K in screening Alzheimer's disease was evaluated

Results: The IQCODE showed high internal consistency and test-retest reliability. Optimal cut-off score of IQCODE-K was 3.6, and the sensitivity and the specificity at that score were 0.90 and 0.79.

Conclusion: IQCODE-K is probably very useful to screen Alzheimer's disease. It may be also useful for the less well-educated people.

Key Words: Alzheimer's disease, IQCODE-K, Validity

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Mini-Mental

State Exam(MMSE)[1)]

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* 2003

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MMSE

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MMSE

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Jorm (1989)[2) MMSE

Informant Questionnaire on Cognitive Decline in the Elderly(
IQCODE) . 26
10

. MMSE
IQCODE

[2).

IQCODE

DQ (Dementia Ques-
tionnaire)[3,4), DECO (Deterioration Cognitive Observee)[5), Memory
Self-report Questionnaire [6) , SDQ (Samsung Dementia
Questionnaire)[7), SIRQD (Seoul Informant Report Questionnaire for
Dementia)[8) .

IQCODE 14 ,

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IQCODE MMSE
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IQCODE (IQCODE-K)
MMSE

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2003 9 1 2004 12 31

65

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Table 1. Demographic data of subjects

	Dementia patients (n=79)	Control subjects (n=71)
Age lyrs (SD)l	75.9(6.6)	74.7(6.2)
Sex (male %)	30.4	26.8
Education* lyrs (SD)l	3.5(4.6)	5.1(5.0)
MMSE- KC* (SD)	12.7(6.0)	26.3(3.2)

*mean differences are significant at the 0.05 level (2-
tailed).

Consortium to Establish a Registry of Alzheimer's Disease[9)
(CERAD-K(NP)) ,
Diagnostic and Statistical manual of Men tal
Disorders, 4th edition (DSM-IV)[10)
National Institute of Neurological and Communicative
Disorders and Stroke-Alzheimer's Disease and Related Disorders
Association (NINCDS-ADRDA)[11)

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79 , 71 150
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, MMSE-KC Table 1 .

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1)

(1) IQCODE-K

IQCODE

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Jorm

. IQCODE-K
, IQCODE (www.anu.edu.au/iqcode)

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(2) Mini-Mental State Examination (MMSE)

MMSE

CERAD-K(NP)   MMSE-KC[9)]   .

(3) CERAD-K(NP)

CERAD-K[9)]

(4) CDR (Clinical Dementia Rating Scale)[12)]

CDR   ,

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2.   IQCODE

IQCODE   ,

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K   26   1   5

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3   , 4   5

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IQCODE

26   ,

IQCODE   .

3.

IQCODE

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DSM-IV   NINCDS-ADRDA   .

4.

1)

Crohnbach alpha   ,

-                          .   -

17   2   IQCODE

Pearson   .

2)

IQCODE-K   IQCODE-K   MMSE-

KC   Pearson   .

IQCODE-K

, ROC

(Receiver Operating Characteristic)   [13)]

. IQCODE-K   CDR

ANOVA   Post hoc test   .

3)

SPSS 10.0   .

1.

79 ,

71   150   .

75.9 (6.6)   ,

74.7 (6.2)

.   30.4%   ,

26.8%   .

3.5(

4.6)   ,   5.1(5.0)

(t=2.433, p=0.016).

IQCODE-K

IQCODE-K   ,   ,   .

MMSE-KC   ,   12.7
(6), 26.3 (3.2)
(t=17.148, p<0.001)(Table 1).

2. IQCODE-K

IQCODE-K   Crohnbach alpha   0.971
        .   17
2   IQCODE-K
   . IQCODE-K   -   Pearson
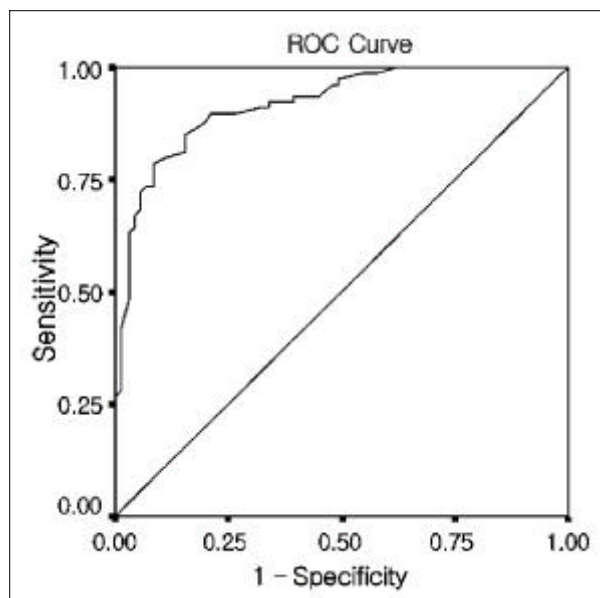0.849   (p<0.001).

3. IQCODE-K   MMSE-KC

IQCODE-K   MMSE-KC   Pearson   -0.669(p<0.001)
                                  .

IQCODE-K   MMSE-KC   .

4. IQCODE-K   CDR

            CDR   CDR 0
       71   IQCODE-K   3.3(
      0.5), CDR 1   37   4.1(0.5),
CDR 2   32   4.4(0.4), CDR 3   10
         4.7(0.30)   (Table 2).

Table 2. IQCODE-K scores of CDR groups

CDR	N	IQCODE-K(Mean)	SD	95% CI
0.0	71	3.3	0.5	3.2 - 3.4
1.0	37	4.1	0.5	3.9 - 4.2
2.0	32	4.4	0.4	4.3 - 4.6
3.0	10	4.7	0.3	4.5 - 4.9
Total	150	3.8	0.7	3.7 - 4.0

Fig. 1. ROC curve of IQCODE-K.

Table 3. Relation between CDR and IQCODE-K

(I) CDR_T	(J) CDR_T	Mean Difference (I-J)	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
0.0	1.0	- 0.757	0.0984	- 1.013	- 0.502
	2.0	- 1.126	0.1033	- 1.394	- 0.857
	3.0	- 1.389	0.1639	- 1.815	- 0.963
1.0	0.0	0.757	0.0984	0.502	1.013
	2.0	- 0.368	0.1171	- 0.673	- 0.064
	3.0	- 0.632	0.1729	- 1.081	- 0.182
2.0	0.0	1.126	0.1033	0.857	1.394
	1.0	0.368	0.1171	0.064	0.673
	3.0	- 0.263	0.1758	- 0.720	0.194
3.0	0.0	1.389	0.1639	0.963	1.815
	1.0	0.632	0.1729	0.182	1.081
	2.0	0.263	0.1758	- 0.194	0.720

ANOVA　　　　　CDR　　　　　IQCODE
(F=57.449, p<0.001). CDR
IQCODE-K　　　　　　　　　　Post hoc
. CDR 0　　CDR 1 , 2 , 3
IQCODE　　　　　　　　(　p<0.001), CDR 1
0 , 2 , 3　　　　　　　　　　(p<0.001,
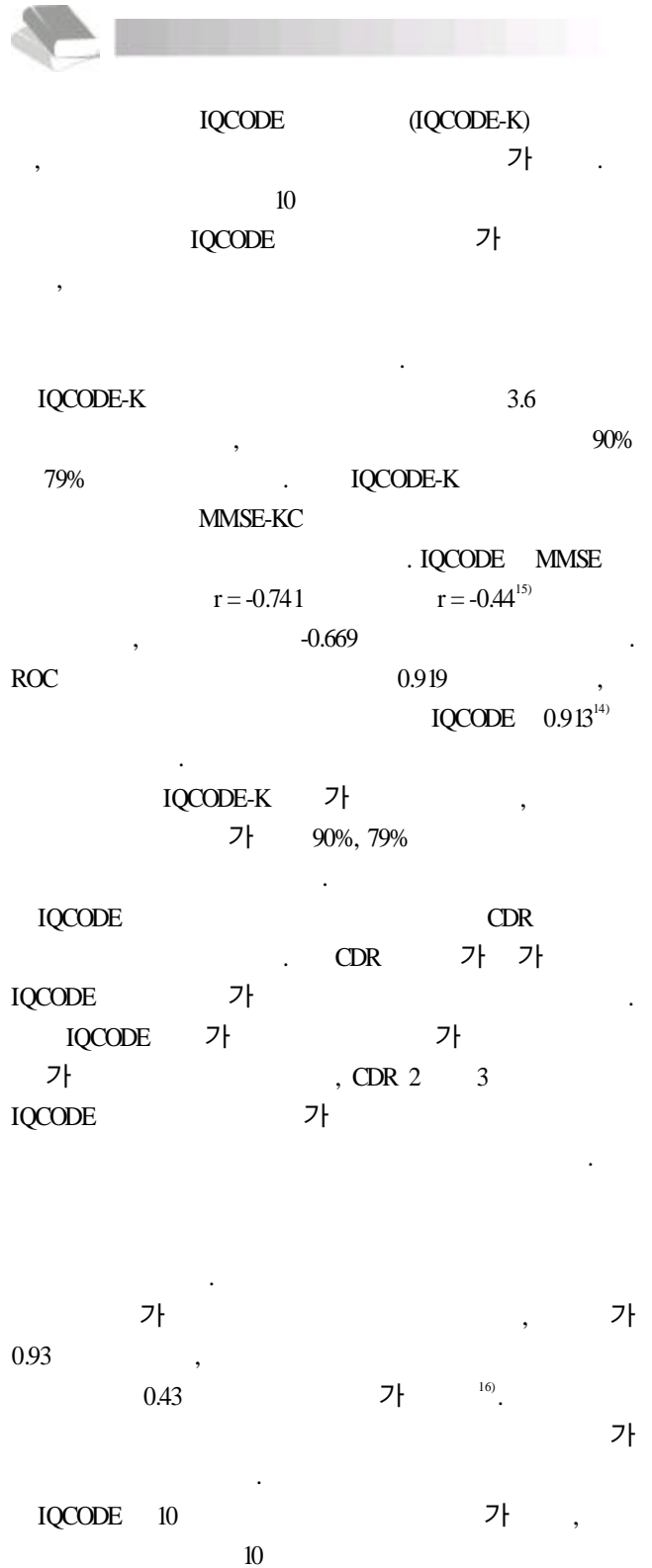p=0.012, p=0.002).　　CDR 2　　CDR 3
(Table 3).

5. IQCODE-K

ROC
ROC　　　　　　0.919(95%
: 0.877 0.962)　　　　,
ROC　　　　　　　　　3.6
,　　　　　　　　　　　90%　　,
79%　(Table 4).　　　　　2),　　　14),　　　15)
IQCODE　　　　　　　　　(Table 5).

Table 4. Sensitivity and specificity of IQCODE-K for the screening of dementia

Cut-off value	Sensitivities	Specificities
3.2	1.00	0.38
3.3	0.97	0.51
3.4	0.92	0.61
3.5	0.90	0.73
3.6	0.90	0.79
3.7	0.84	0.85
3.8	0.80	0.89
3.9	0.76	0.92
4.0	0.73	0.93
4.1	0.71	0.94
4.2	0.65	0.96
4.3	0.56	0.97
4.4	0.49	0.97

Table 5. Comparison of sensitivity, specificity, cut off value of IQCODE-K with other language versions of IQCODE

Version	English	French	Chinese	Korean
Sensitivity	69%	75%	89%	90%
Specificity	80%	95.6%	88%	79%
Cut off value	≥3.5	≥3.6	≥3.4	≥3.6

IQCODE　　　　　(IQCODE-K)　　　　　　.
,　　　　　　　　　　10
IQCODE
,
.
IQCODE-K　　　　　　　　　　　3.6
,　　　　　　　　　　　　　90%
79%　　　　.　　IQCODE-K
MMSE-KC
. IQCODE　　MMSE
r = -0.741　　　　　　r = -0.44[15]
,　　　　-0.669　　　　　　　　.
ROC　　　　　　0.919　　　　　　　,
IQCODE　0.913[14]
.
IQCODE-K　　　　　　　　　，
90%, 79%
.
IQCODE　　　　　　　　　　CDR
.　CDR
IQCODE
IQCODE
, CDR 2　　3
IQCODE

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,
0.93　　　　　,
0.43　　　　　　　　　　[16].

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IQCODE 10
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10   [17,18].
                              10

                         .   Short Memory Questionnaire, Demen tia
Questionnaire, Samsung Dementia Questionnaire

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     ,   5   . 65
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SIRQD[8]   '10   ' 0   ,
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        ,   ,   ,
     .   IQCODE-K
                                        .
                                        IQCODE
                                                    [14]
                                                         .

              .   IQCODE-K

IQCODE   .

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                              Informant Questionnaire on Cognitive
Decline in the Elderly   (IQCODE-K)
     ,   .
         :   IQCODE   ,

                    IQCODE   ,
     -                         .
         **: IQCODE-K   , IQCODE-K

3.6   90%   ,
79%   .
         :   IQCODE-K
            ,   3.6
     .

         :   , IQCODE-K,

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(IQCODE-Korean version: IQCODE-K)

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