

한국판 Activity Scale/Index(KASI)의 개발

성지동 · 온영근 · 채인호 · 김효수 · 손대원
오병희 · 이명목 · 박영배 · 최윤식 · 이영우

Development of Korean Activity Scale/Index(KASI)

Ji-Dong Sung, MD, MPH, Young-Keun On, MD, Hyo-Soo Kim, MD, In-Ho Chae, MD,
Dae-Won Sohn, MD, Byung-Hee Oh, MD, Myoung-Mook Lee, MD,
Young-Bae Park, MD, Yun-Shik Choi, MD and Young-Woo Lee, MD

Division of Cardiology, Department of Internal Medicine, Seoul National University Hospital, Seoul, Korea

ABSTRACT

Background and Objectives : There has been a need for functional status measurement tool with better validity than the existing tools such as New York Heart Association Functional Class. Duke Activity Status Index (DASI) is a representative example of a tool that was developed to enhance the validity of measurement by asking the patients about the ability to perform specific activities and scoring the response. Because such a tool must be culture-sensitive, it is desirable to use Koreanized 'version of the tool. No Koreanized version of the functional status measurement tool has been developed yet. The objective of this study is to develop a Korean version of DASI. **Materials and Method :** In the developmental phase, a pilot questionnaire asking the ability to perform specific activity was made with reference to existing tools, such as Specific Activity Scale and DASI. Substitution, correction and addition of items were done through the pilot study. Ninety-nine patients was asked to fill developmental version of questionnaire, then underwent treadmill exercise test. Weight for each items were assigned to optimize the correlation between the calculated index (KASI) and total treadmill exercise time. Criteria for categorical functional classification were determined to maximize the agreement between KASI-estimated functional class (KASIFC) and functional class estimated by exercise time. In the validation phase, final version of questionnaire was tested in independent group of 159 patients. The questionnaire was self-administered. Canadian Cardiovascular Society Functional Class (CCSFC) was estimated by the physician who is in charge of treadmill exercise test. **Results :** In the validation phase, Spearman correlation coefficient between KASI and treadmill exercise time was 0.62 ($p = 0.0001$) and between CCSFC and exercise time -0.48 ($p = 0.0001$). KASIFC agreed with functional class estimated by exercise time in 77% of cases, disagreed by 1 class in 20% and by 2 classes in 1%. KASIFC agreed with functional class estimated by exercise time in 77% of cases, disagreed by 1 class in 20% and by 2 classes in 1%. These two methods did not differ significantly in categorical classification. **Conclusion :** KASI is more accurate or at least as accurate as the existing tool in estimation of functional status. The characteristics such as self-administration, availability of outcome as a continuous variable are expected to make it a convenient, efficacious and useful tool in various clinical researches. (**Korean Circulation J 2000;30(8):1004-1009**)

KEY WORDS : Functional status · Activity scale index · Questionnaire · Exercise capacity.

: 2000 3 20

: 2000 7 15

: , 110 - 744 28

: (02) 760 - 3757 · : (02) 760 - 3756 E - mail : ihchae@snu.ac.kr

배 경
(functional status)

5)
New York Heart Association Functional Class
Canadian Cardiovascular Society Functional Class

Duke Activity Status Index
가
가

가

방 법

가
New York Heart Association Functional Class¹⁾
Canadian Cardiovascular Society Functional Class²⁾

KASI
개발단계

3)

가

4)5)

가

6)

가

16
5 19 6 14
124

1999

Scale

, Specific Activity

가

4)

Specific Activity Scale (functional class)
가
가

가

가

가

가 Duke Activity Status Index(DASI)

15

1999

가

7 5 7 22

99

가

가

가

가 KASI MET 가 KASI Canadian Cardiovascular Society Functional Class(CCSFC) 가

통계 분석 KASI , CCSFC KASI (p=0.0001) Spearman 가

Bruce protocol , protocol : 6 , :3 Spearman 가

6 , :1 3 , :1 Spearman , 1 ,

(KASIFC) Table 1 , 2 KASIFC CCSFC 가

검증단계 1999 7 27 ²-test 가

8 31 159 가 . 결과

가 대상환자군의 특성 160 53 ± 12

Table 1. KASI questionnaire and weight value

KASI (Korean activity scale/index)				
				가
1	가 ()		가	가 4.5
2			가	가 5.5
3			가	가 1.5
4			가	가 3.5
5			가	가 6
6	(가 , 30~40 kg)		가	가 8
7			가	가 8
8			가	가 8
9			가	가 3.6
10	(: , ,)		가	가 3.7
11			가	가 5.5
12	가 (: , , ,)		가	가 3
13	, , , , , ()		가	가 5
14	(: , , ,)		가	가 9
15			가	가 2

KASI = W*K W : 가

K = 1 if response = Yes, 0 if response = No, 0.4 if ambiguous or no response

Maximum : 79

KASI functional class ; : KASI 46, : 46>KASI 24, : 24>KASI 4, : KASI<4

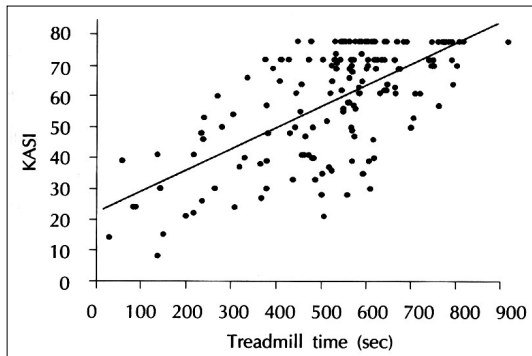


Fig. 1. Correlation of KASI with treadmill exercise time. Spearman correlation coefficient $r = 0.62$ ($p = 0.0001$). (Treadmill time-CCSFC : Spearman $r = -0.48$, $p = 0.0001$).

Table 2. Percentage of the estimates that agree or disagree with treadmill performance

	Agree	Disagree by 1 class	Disagree by 2 class
CCSFC	77.7%	20.4%	1.9%
KASI	76.7%	22.0%	1.2%

Functional class was estimated in each subjects using CCSFC & KASI classification. No significant difference between 2 methods.

94 : 65 가
519 ()
553, 33~900)
: : : = 85 : 10 : 4 : 1%
KASI 59.8 ()
65, 9~79) 79
가 36 (23%) .

가 33 ,
가
34 ,
screening 가 19 ,
가 55 .

도구의 정확성
KASI
Spearman 0.62($p = 0.0001$) (Fig. 1),
Canadian Cardiovascular Society Functional Class
Spearman
- 0.48($p = 0.0001$) .
KASI
Spearman 0.49
($p = 0.0001$), Canadian Cardiovascular Society Fu -
nctional Class
Spearman 0.53($p = 0.0001$) .
KASIFC
, 1 , 2 159

122(76.7%), 35(22%), 2(1.3%) CC -
SFC

, 1 , 2
157 122(77.7%), 32(20.4%), 3(1.9%)
2 - test
가 (Table 2).

도구의 시행 용이성
223
가 20 (9%)

가 13 , 가 3 ,
가 가 4 .
고 찰

가
가
가

가
가
가

DASI
DASI가
Spearman
0.58
KASI가
Hlatky

KASI

가 . KASI 가 9%

8) ()

KASI 가 가

가 제한점

9) 3 가

KASI 4 가

. KASI 4 가

Canadian Cardiovascular Society Functional Class 가 11))

. KASI

KASI 1 가 가

KASI interviewer가 Alonso test -

10) retest DASI 가 (Cronbach's alpha = 0.81))

12) KASI 가 가

가 요약

가 가

KASI . NY - 연구목적 :
HAFC CCSFC NYHA Functional Class
가 (functional status) 가

KASI 가 가

Duke Activity Scale Index

가

방 법 :
 1 가 pilot study
 . 99
 METs 가
 가 KASI ,
 가 가 15
 . 2
 159 가 가
 가 Canadian Cardiovascular Society Functional Class(CCSFC)
 가
 성 적 :
 2 KASI Spe-
 arman 0.62(p=0.0001) CCSFC
 - 0.48(p=0.0001)
 , 1 , 2
 KASI 77, 22, 1%, CCSFC
 77, 20, 2% ,
 결 론 :
 KASI
 가
 가
 중심 단어 :
 감사문
 (02 - 1997 - 016 - 0)

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