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## LINGUISTIC VALIDATION AND PSYCHOMETRIC PROPERTIES OF THE KOREAN VERSION OF THE KING'S HEALTH QUESTIONNAIRE INSTRUMENT IN WOMEN WITH STRESS URINARY INCONTINENCE

### Hypothesis / aims of study

Assessing the incontinence symptom severity and incontinence-related quality of life is non-invasive and inexpensive means in the diagnosis and the treatment of urinary incontinence. The original King's Health Questionnaire (KHQ) instrument was already confirmed its validity and reliability [1]. The purpose of this study was to translate KHQ into Korean and subsequently to evaluate psychometric properties of the Korean version of the KHQ in Korean women with stress urinary incontinence.

### Study design, materials and methods

Between May 2002 and January 2004, two bilingual translators independently translated the original English version of KHQ into written Korean. A panel consisting of aforementioned translators and three authors reviewed the translations to form a single reconciled forward translation of the Korean version. The back-translation was subsequently assessed by another bilingual translator and was proved to be equivalent to the original. Cognitive debriefing interviews with five incontinent patients to test the interpretation of the translation were made. Finally, it was proofread to check spelling, grammar, layout and formatting.

Multi-center prospective study was undertaken in 106 patients with stress urinary incontinence. Psychometric properties including discriminant validity, convergent validity were evaluated and the Cronbach's alpha coefficients were calculated. Discriminant validity was assessed using the 36-item Short Form Questionnaire (SF-36). Test-retest analysis was performed and the sensitivity to clinical change before and after treatment was also evaluated.

### Results

Table 1. KHQ scores between the patients group and control group (independent two sample t-test)

Domain	Patient Group (n=106)	Control Group (n=80)	Difference (p-value)
GHP	51.1±21.6	36.8±21.0	<0.0001
IL	76.4±26.4	30.4±31.4	<0.0001
RL	58.3±30.3	4.3±11.7	<0.0001
PL	68.5±28.7	4.5±11.2	<0.0001
SL	43.8±32.1	5.6±8.5	<0.0001
PR	60.8±38.2	12.0±17.7	<0.0001
EM	55.3±29.8	11.2±20.8	<0.0001
SE	36.6±25.5	7.9±13.7	<0.0001
SM	51.1±25.6	9.0±14.0	<0.0001

KHQ domains: General Health Perceptions (GHP); Physical Limitation (PL); Role Limitation (RL); Social Limitation (SL); Sleep/Energy (SE); Emotion (EM); Impact on Life (IL); Incontinence Severity Measures (SM); Personal Relationships (PR)

Table 2. Internal consistency of the Korean version of KHQ (n=106)

Domain	Internal Consistency*
General Health Perceptions (GHP)	-
Impact on Life (IL)	-
Role Limitation (RL)	0.78
Physical Limitation (PL)	0.65
Social Limitation (SL)	0.80
Personal Relationships (PR)	0.92
Emotion (EM)	0.83
Sleep/Energy (SE)	0.60
Incontinence Severity Measures (SM)	0.82
All Items	0.92

\*Cronbach's coefficient

Table 3. Perceived change from baseline to end of anti-incontinence surgery in patients with stress urinary incontinence (n=106)

Domain	Score Change±SD (Change)	Baseline Score±SD (Change)	SRM	ES	GRI	Overall Symptom Severity*	No. of Leakage*
GHP	-13.4±26.3	51.1±21.6	-0.5	-0.6	-0.8	0.19 (p=0.06)	0.09 (p=0.37)
IL	-25.7±36.5	76.4±26.4	-0.7	-1.0	-1.1	0.31 (p=0.003)	0.18 (p=0.07)
RL	-38.8±42.0	58.3±30.3	-0.9	-1.3	-1.3	0.51 (p<0.001)	0.30 (p=0.002)
PL	-45.5±42.4	68.5±28.7	-1.1	-1.6	-1.9	0.58 (p<0.001)	0.40 (p<0.001)
SL	-25.1±38.5	43.8±32.1	-0.7	-0.8	-1.2	0.53 (p<0.001)	0.31 (p=0.002)
PR	-28.4±42.9	60.8±38.2	-0.7	-0.7	-0.8	0.34 (p=0.001)	0.23 (p=0.01)
EM	-27.2±32.6	55.3±29.8	-0.8	-0.9	-1.3	0.51 (p<0.001)	0.36 (p<0.001)
SE	-16.9±30.1	36.6±25.5	-0.6	-0.7	-0.7	0.38 (p<0.001)	0.24 (p=0.01)
SM	-31.5±32.6	51.1±25.6	-1.0	-1.2	-2.1	0.51 (p<0.001)	0.33 (p=0.001)

\* Correlation Coefficient (p-value); Incontinence Severity Measures (SM); Personal Relationships (PR); EF, effect size; SRM, Standardized Response Mean; GRI, Guyatt Responsiveness Index

#### Interpretation of results

The psychometric properties and clinical validity of the Korean version of KHQ were confirmed in 106 study population (Age 48.3±7.9, SE). Discriminant, convergent, and construct validity of the Korean version of KHQ were good (Table 1). The Cronbach's alpha coefficients showed >0.60, indicating reasonable consistency (Table 2). Finally, KHQ domains were generally responsive to clinical change; the KHQ also showed statistically significant sensitivity to change in patients' perception of bladder condition in all domains (Table 3).

#### Concluding message

Translation and linguistic validation of Korean version of KHQ instrument were completed. Cross-cultural adaptation of Korean version of KHQ confirmed excellent psychometric properties for the Korean version of KHQ, which appears to provide a valid and reliable instrument for clinical usages in Korea.

#### Reference

1. Br J Obstet Gynaecol. 1997 Dec;104(12):1374-9.

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