



Reliability and validity of the Korean version of Pediatric Voice Handicap Index: In school age children

Sung Shin Park^a, Tack-Kyun Kwon^{b,*}, Seong Hee Choi^c, Won Yong Lee^b, Young Hye Hong^a,
Nyun Gi Jeong^a, Myung-Whun Sung^b, Kwang Hyun Kim^b

^a Department of Speech & Hearing Clinic, Seoul National University Hospital, Seoul, Republic of Korea

^b Department of Otolaryngology, Seoul National University College of Medicine, Seoul, Republic of Korea

^c Department of Audiology and Speech-Language Pathology, Catholic University of Deagu, Gyeongbuk, Republic of Korea

ARTICLE INFO

Article history:

Received 13 July 2012

Received in revised form 8 October 2012

Accepted 10 October 2012

Available online 2 November 2012

Keywords:

Korean version-Pediatric Voice Handicap Index

Dysphonia

Validity

Reliability

School age

ABSTRACT

Objective: The aim of this study was to assess the reliability and validity of the Pediatric Voice Handicap Index (pVHI) for cross-cultural adaptation of the Korean version with school age children.

Methods: The questionnaire was translated into Korean and was completed by 101 Korean parents who have children with or without disordered voice. The Korean version-pVHI scores were obtained with 60 parents of normal children and 41 parents who have children with voice problems. Content validity was verified by five experienced speech–language pathologists with clinical specialization in voice disorders. Internal consistency was calculated through Cronbach's α coefficient and test–retest reliability of the Korean version-pVHI score was determined using Pearson product-moment correlation coefficients. Mann–Whitney *U* test was used to compare GRBAS with the Korean version-pVHI scores between normal and dysphonia group. The relationship between the parent-reported the Korean version-pVHI total scores and perceptual ratings of voice quality from experts was investigated using Spearman correlation coefficients.

Results: The results showed that the Korean version-pVHI provided a high internal consistency ($\alpha = 0.92$) and test–retest reliability of its subscales: total (T) 0.97, functional (F) 0.90, physical (P) 0.95, emotional (E) 0.92. The Korean version-pVHI mean scores in normal group were 1.28 (T), 0.62 (F), 0.35 (P) and 0.32 (E), respectively whereas those of the Korean version-pVHI in children group with dysphonia were 23.13 (T), 8.90 (F), 9.54 (P) and 4.93 (E). Significant differences in the Korean version-pVHI (T, F, P, E) and perceptual evaluation (grade, rough, breathy) between normal and dysphonia group were revealed ($P < 0.05$). Moreover, relatively moderate-to-high correlation between the Korean version-pVHI parameters (T) and perceptual measures (G) was exhibited in children with dysphonia.

Conclusions: The subjective Korean version-pVHI can be applicable and useful supplementary tool for evaluating parents' perception of their children's voice dysfunction, identifying multifactors on daily life affecting their children's voice and measuring treatment efficacy before and after therapeutic intervention.

© 2012 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

Dysphonia is a frequent pediatric condition. Children with voice disorders has an estimated incidence of 6–24% [1,2]. The most common cause is vocal fold nodules, which have been found in 38–78% of children assessed for voice problem [3].

Dysphonia in childhood may have negative impacts on communication, social relationship and self-esteem in school activities. Although the clinical problems of childhood dysphonia appear significant, attitudes of dysphonic children or their families concerning voice-related, social, functional and emotional challenges have not been systematically examined. Generally, most children with voice problems routinely undergo instrumental evaluations such as laryngoscopy, acoustic and aerodynamic assessment when visiting hospital. However, it is sometimes difficult to conduct voice evaluation because those children do not willingly comply with objective voice assessments. Considering this problem in current practice, it was

* Corresponding author at: Department of Otolaryngology, Seoul National University College of Medicine, Seoul National University Hospital, 28 Yeon-geon-dong, Jongno-gu, Seoul 110-744, Republic of Korea. Tel.: +82 2 2072 0738.

E-mail address: kwontk@snu.ac.kr (T.-K. Kwon).

necessary to standardize the method for evaluating the psychometric characteristic Pediatric Voice Handicap Index (pVHI).

Basically, Jacobson's Voice Handicap Index (VHI) has been widely used and accepted into adult clinical practice [4]. The VHI has been translated and validated in several languages including German, Portuguese, French, Hebrew, Dutch and Spanish [5–10]. When these various versions of the VHI are applied in cross-national comparisons, accurate translations are needed in order to obtain valid results [11]. Also, Rosen and Murry used VHI to assess the severity of dysphonia in singers and non-singers [12]. Rosen et al. measured improvements, based on patient perceptions, following treatment four different voice disorders [13]. VHI scores are not diagnosis-bound but rather reflect the subjective assessment of a handicap due to voice problems perceived by the patients and relative comparisons before and after treatment.

Recently, Pediatric Voice Handicap Index was developed by Zur et al. modified adult VHI, a 30-item survey, by eliminating items that were not associated with pediatric patients [14].

The pVHI is parental proxy and consists of 23 statements and is scored on a Likert scale ranging from 0 to 4. The objective of the pVHI is to provide a measurement of the severity of a voice disorder in three domains: functional (7 items), physical (9 items) and emotional (7 items) [14]. This evaluation tool for pediatric voice disorders has been developed in some countries. The original English version-pVHI has been validated in 33 parents of dysphonic airway children and the Italian version-pVHI has been excellent validity in 30 parents of children with bilateral vocal fold nodules, unilateral vocal fold paralysis, vocal fold cyst and muscle tension dysphonia [4,14,15]. Although pVHI provides the parent's recognition of the severity of their children's voices and its impact on the daily life, no previous validated Korean version about pVHI has been reported yet. The objective of this study was to assess the reliability and the validity of the Korean version of the pVHI in school age children.

2. Methods

2.1. Culture adaptation of the Korean version-pVHI

For cross-cultural adaptation of the Korean version with school age children, we have translated the original English version-pVHI to Korean according to the guidelines presented by Guillemin et al. [16]. These guidelines include several steps: (I) translation from the original English questionnaire to Korean by two bilingual Korean/English teachers and (II) back-translated into English by a qualified professional translator familiar with Korean and English to check for any discrepancies. (III) All back translation were reviewed by two bilingual (Korean/English) speech-language pathologists, specialists in voice for more than 10 years to determine the choice of words best suited for the specific translation based on available information. (VI) The back translation was forwarded to the investigators for review and the final draft version was formatted. (V) This final translation was pilot-tested with 30 Korean parents of children with dysphonia (9 males and 6 females) and normal (8 males and 7 females) in 2011 [17]; each parent autonomously filled in the first translation of the Korean version-pVHI and discussed the wording and meaning of each item of questionnaire with regard to look for practical problems or relevance and clarity of language, prior to acceptance of the translation for use. Following this procedure, a final Korean version was generated (see Appendix A).

2.2. Participants

Normative data were obtained from 60 parents of children without present or past history of a voice disorder, hearing loss, or related disability that affected the child's voice or speech. The group consisted of 29 males and 31 females, age ranges 7–12 years old (mean = 9.50, SD = 1.72). Dysphonia group consisted of 41 parents who have children with voice disorders: 30 males and 11 females, age ranges 7–12 years old (mean = 8.95, SD = 1.94). At the time of the first assessment, all children with dysphonia have diagnosis with bilateral vocal nodules confirmed by an otolaryngologist with stroboscopy.

The Korean version-pVHI scores were obtained from 101 children's parents including normal and dysphonia. GRBAS scale was used for the perceptual voice analysis, with two experienced SLPs scoring each child for sustained vowel/a/. In this study, the G, R, B parameters in GRBAS scale were used for auditory perceptual analysis [18]. The raters were blind to the participants who belong to either group (normal vs. dysphonia group) for the first set of recording condition. Therefore, data collection satisfied blindness and also were blind to the analyzed data, achieving blindness at this stage of data processing.

2.3. Evaluation of psychometric properties

2.3.1. Content validity

Content validity was verified in this study for cultural-cross appropriateness. Content validity was quantified by a five-point content validity index (CVI) by five judges (five speech-language pathologists), aiming to assess the items' conceptual, semantic, and cultural equivalence.

2.3.2. Reliability

Within a period of 2-week, 20% of the participants repeated the Korean version-pVHI questionnaire by mail. The reliability analysis of the Korean version-pVHI then was performed by analyzing the internal consistency of its items through Cronbach's alpha, both for the total score and its domains and Pearson correlation coefficients were calculated for the test-retest reliability [19,20].

2.4. Statistical analyses

Statistical analysis was performed using SPSS (version 19.0) software. The comparison of mean pVHI scores and GRBAS

Table 1
Reliability analysis; internal consistency and test-retest in the Korean version-pVHI.

Domains	No. of items	Internal consistency reliability (Cronbach's alpha)	Test-retest reliability (Pearson correlation)
Total	23	0.92	0.97**
Functional	7	0.85	0.90**
Physical	9	0.91	0.95**
Emotional	7	0.93	0.92**

** $P < .01$

Table 2
Content validity of total and each domain in the Korean version-pVHI.

Domains	No. of items	Cronbach's alpha
Total	23	0.97
Functional	7	0.88
Physical	9	0.89
Emotional	7	0.85

Download English Version:

<https://daneshyari.com/en/article/6214012>

Download Persian Version:

<https://daneshyari.com/article/6214012>

[Daneshyari.com](https://daneshyari.com)