



Contents lists available at ScienceDirect

International Journal of Pediatric Otorhinolaryngology

journal homepage: <http://www.ijporlonline.com/>

Development and validation of a short version of the Spanish pediatric voice handicap index (P-VHI-10)

Lorena Sanz ^{a,*}, Patricia Bau ^{a,1}, Ignacio Arribas ^b, Teresa Rivera ^a^a Department of Otolaryngology, Príncipe de Asturias University Hospital, University of Alcalá, Alcalá de Henares, Madrid, Spain^b Foundation for Biomedical Research, Príncipe de Asturias University Hospital, University of Alcalá, Alcalá de Henares, Madrid, Spain

ARTICLE INFO

Article history:

Received 15 June 2016

Received in revised form

28 June 2016

Accepted 30 June 2016

Available online 5 July 2016

Keywords:

Pediatric dysphonia

Short version voice handicap index

ABSTRACT

Objectives: A child's voice is used both as a tool for communication and as a form of emotional expression. Thus, voice disorders suffered by children have negative effects on their quality of life, which can be assessed using the "Pediatric Voice Handicap Index" (P-VHI). This questionnaire is completed by the parents of dysphonic patients and it has been validated in different languages: Italian, Korean, Arabic, and Spanish. More recently, the "Children Voice Handicap Index-10" test (C-VHI-10) was developed and validated, an Italian version reduced into 10 items that is answered by children themselves. The objective of this study was to develop and validate a short Spanish version of the P-VHI (P-VHI-10) and to assess whether it is comparable to the Italian C-VHI-10.

Materials and methods: We conducted a cross-sectional study on 27 patients between 6–15 years of age. We developed an abbreviated version of the P-VHI that consisted of 10 statements to be answered by parents of children with dysphonia (P-VHI-10). These statements were based on the 10 items with the highest score in the validated Spanish version of the P-VHI. In addition, the validated Italian version of C-VHI-10 was translated into Spanish and this translation was reviewed and modified by three specialists, resulting in an adapted version to be answered by parents (C*-VHI-10). The parents and children included in the study of this index were the same patients as those included in the study to validate the Spanish P-VHI.

Results: There were no significant differences in the results obtained with the extended version of the P-VHI (17.4) and with the P-VHI-10 (18.7; Pearson coefficient = 0.602, $p < 0.36$). A paired student's t-test identified significant differences ($p < 0.0001$) when comparing the P-VHI-10 and C*-VHI-10, both of which were answered by parents, with average scores of 18.7 and 9.48, respectively. Both these reduced versions have good internal consistency, with a satisfactory Cronbach's alpha coefficient ($\alpha = 0.75$ to P-VHI-10 and $\alpha = 0.73$ in C*-VHI-10). No statistically significant differences were found when the average total score between the C-VHI-10 and C*-VHI-10 were compared, with a Pearson's correlation coefficient of 0.559 ($p < 0.9$).

Conclusion: The short version of the P-VHI10 questionnaire is a clinically valid tool that has good internal consistency.

© 2016 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

Children use their voice as both a communication tool and as a form of emotional expression, making it an important element in

their psychosocial development [1,2]. Indeed, children commonly laugh, sing and scream, and they often use their voice excessively when playing. Thus, when voice disorders appear, it is important that children become aware of how they use their voice in order for them to be able to change their vocal behavior [3,4].

The impact of dysphonia in children is assessed by subjective criteria as the tools to assess the severity of voice disorders are available in a test format that is designed to be answered by the child's parents (e.g., PVOS, PVRQOL, P-VHI) [5–7]. The "Pediatric Voice Handicap Index" (P-VHI) was a test first developed and

* Corresponding author. Department of Otolaryngology, Príncipe de Asturias University Hospital, Carretera Alcalá-Meco s/n, 28805 Alcalá de Henares, Madrid, Spain. Tel.: +34 918878100.

E-mail address: lorena_sanzlopez@yahoo.es (L. Sanz).

¹ These authors contributed equally to this work.

validated in English [7], to be answered by the parents of children with dysphonia. Since then, the P-VHI has been validated in different languages, such as Italian, Arabic, Korean, and most recently, we have validated this test in Spanish [8–11].

The fact that these assessment tools rely on the child's parents as the source of information may be considered a drawback, as the parents may not necessarily reflect their offspring's opinions regarding their voice or vocal impairment. For this reason, the "Children's Voice Handicap Index-10" (C-VHI-10) test was developed and validated in 2013 [12]. This is an Italian reduced version that consists of 10 items from the pediatric speech disability index that is answered by the children themselves.

Since the Voice Handicap Index (VHI) was initially described to assess the degree of disability in patients with dysphonia [13], other voice quality tests have become widely used in clinical settings and reduced versions of these with 10 items have been developed (VHI-10, SHI-10). In all these cases these shorter versions have the same value and reliability as their extended versions but they are suitable to be completed by the patients [14,15].

Accordingly, the aim of this study was to develop a reduced version of the Spanish P-VHI (P-VHI-10) and to assess the internal consistency, reliability and clinical validity of this test. In addition, whether the P-VHI-10 was comparable to the C-VHI-10 was evaluated.

2. Materials and methods

2.1. Development of the Spanish version of the P-VHI-10, C-VHI-10 and C*-VHI-10

The results of the Spanish version of the P-VHI were studied and based on the item-total correlation of the ten claims that reached the highest test (nine statements from the physical component and one functional assertion), a reduced form of the survey was established (P-VHI-10, as presented in Fig. 1). This test was to be answered by the parents of children with dysphonia.

Subsequently, the English version of the original Italian C-VHI-10 was translated into Spanish and validated after translation back into English. The versions were assessed independently by three

P-VHI 10

1.- La voz de mi hijo suena seca, áspera y ronca (P4) <i>My child's voice sounds dry, raspy, and/or hoarse</i>	0 1 2 3 4
2.- Mi hijo hace mucho esfuerzo para hablar (P6) <i>My child uses a great deal of effort to speak</i>	0 1 2 3 4
3.- La voz de mi hijo empeora por la tarde (P7) <i>My child's voice is worse in the evening</i>	0 1 2 3 4
4.- La voz de mi hijo suena distinta a lo largo del día (P2) <i>The sound of my child's voice changes throughout the day</i>	0 1 2 3 4
5.- La calidad de la voz de mi hijo es impredecible (P5) <i>The quality of my child's voice is unpredictable</i>	0 1 2 3 4
6.- La gente me pregunta: ¿qué le pasa a la voz de tu hijo? (P3) <i>People ask 'what's wrong with your child's voice?'</i>	0 1 2 3 4
7.- Mi hijo se queda sin aire al hablar (P1) <i>My child runs out of air when talking</i>	0 1 2 3 4
8.- La voz de mi hijo falla cuando habla (P8) <i>My child's voice 'gives out' when speaking</i>	0 1 2 3 4
9.- La gente no entiende la voz de mi hijo en sitios ruidosos (F2) <i>People have difficulty understanding my child in a noisy room</i>	0 1 2 3 4
10.- Mi hijo tiene que gritar para ser escuchado por los demás (P9) <i>My child has to yell in order for others to hear him/her</i>	0 1 2 3 4

Fig. 1. P-VHI 10: Spanish short version extracted from the "pediatric voice handicap index". Parents of patients included in the study completed the questionnaire by indicating the statements that most accurately describe the voices of their children and the effects that their vocal problems have on their lives: never = 0, rarely = 1, sometimes = 2, almost always = 3 and always = 4. The test consists of ten statements that produce the highest scores in the extended version of the P-VHI (nine statements from the physical component, P, and one from the functional component, F).

specialists in Otolaryngology in order to adapt the Spanish vocabulary to ensure it was consistent, and that it could be readily understood and completed by children with dysphonia. Likewise, we developed an adapted version of the questionnaire to be applied to parents of children with voice disorders (C*-VHI-10). The final versions of these questionnaires are presented in Appendix 1.

The three questionnaires, P-VHI-10, C-VHI-10 and C*-VHI-10, consist of 10 statements and they are expected to be answered by choosing a response based on how often each statement is experienced. Each response is scored individually on a Likert scale of 5 points, ranging from "never" (score 0) to "always" (score 4), the total score ranging from 0 to 40 [16].

2.2. Methods

A cross-sectional study was carried out on the parents of 27 patients with a hoarse voice. The patients were aged between 6 and 15 years of age, and they were evaluated at our hospital between October 2014 and April 2015. All the patients included in the study were born in Spain and therefore, they were native Spanish speakers. The parents were invited to participate in the study freely and they signed an informed consent form prior to their enrollment that explained the objectives of our work. The study was previously approved by the Clinical Research Ethics Committee at our hospital.

The parents that participated in the study are a random sample of the group of patients who participated in the validation study of the Spanish P-VHI. They were parents of children with speech disorders who were recruited directly from the Otolaryngology voice inventory established at diagnosis of the child's dysphonia, and from the vocal rehabilitation consultations when the patients were already engaged in speech therapy. The control group were parents of currently healthy children without any acute disease (inflammatory or upper airway infections), and with no present or past history of conditions or voice pathologies, no history of language delay or speech problems, or of hearing loss, neurological diseases or psychomotor retardation [11].

In this study, each parent answered both the P-VHI-10 and C*-VHI-10 questionnaires. Of the patients included, a total of 21 children between 8 and 15 years old were selected to answer the C-VHI-10, an age range matching that in the original article [12], and that was established in function of the reading skills and capacity to understand the questionnaire.

2.3. Statistical evaluation

All the statistical analyses were performed using the Epidat 4.1 program and the internal consistency of the questionnaire was determined using Cronbach's alpha coefficient. An alpha value greater than 0.8 was considered "good" and a value greater than 0.9 was considered "excellent", with any value above 0.7 considered as "satisfactory". A Student's t-test was used to measure the clinical validity of the surveys used.

3. Results

3.1. Clinical validity

The parents and children that participated in our study completed the P-VHI-10 questionnaire without any help and within 10 min. The patient cohort represented 61.3% of the children in the study group that validated the Spanish version of the full P-VHI. The average age of our patients was 10.3 years, with 77.8% males and 22.2% females. The main pathological causes of dysphonia in the children were vocal nodules, polyps, inclusion cysts, intracordal edema and recurrent paralysis (Table 1). The most common

Download English Version:

<https://daneshyari.com/en/article/4111397>

Download Persian Version:

<https://daneshyari.com/article/4111397>

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