Parents' Evaluations of Their Children's Dysphonia: The Mamas and the Papas

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Summary: Objectives. This study aimed to evaluate the validity and reliability of a Hebrew translation of the Pediatric Voice Handicap Index (pVHI). It also examined differences between mothers and fathers in evaluating their child's dysphonia.

Study Design. Observational design.

Methods. The pVHI was first translated and adapted to Hebrew. The translated version was, then, administered to a group of 141 parents of children aged younger than 14 years. Fifty-eight parents had a dysphonic child, and 83 had a nondysphonic child. Based on the parents' responses to the pVHI, statistical analyses were performed, evaluating validity and reliability, as well as group differences. Following, a subset of the participants, in which only cases where the responses of both parents were available, was examined for evaluating differences between the responses of mothers (n = 46) and fathers (n = 46).

Results. Statistical analyses revealed high reliability of the Hebrew version of the pVHI (Cronbach alpha = .97). Parents of the dysphonic children rated their children significantly higher than parents of the nondysphonic group ($P < 0.001$). Mothers of the dysphonic children rated their children significantly higher than the fathers, on all subscales of the questionnaire (≥ 0.001 $P < 0.047$). In contrast, no significant differences were found between mothers and fathers of the nondysphonic children ($P > 0.05$).

Conclusions. The Hebrew version of the pVHI is a reliable tool for quantifying parents' perception of their child's voice handicap. Mothers of dysphonic children evaluate their children's voice handicap more severely than fathers, whereas both parents of nondysphonic children perform this evaluation similarly.

Key Words: Voice–Pediatric–Children–pVHI–Self-evaluation–Parents–Hebrew.

INTRODUCTION

Dysphonia is a common condition in children, which may affect the child's quality of life, psychologically, socially, interpersonally, and academically.[1,2] Pediatric dysphonia is estimated to occur in 6–24% of children,[3–9] and children at the age range of 8–15 years are at greater risk for developing dysphonia.[6] Therefore, pediatric dysphonia is commonly encountered by physicians, laryngologists, and speech therapists.

Over the past years, the inclusion of subjective self-evaluation rating scales in adults' voice evaluation has become common practice. This is evident by the development of various self-assessment questionnaires, such as the Voice Symptom Scale,[10] the Voice-Related Quality of Life Measure,[11] the Vocal Performance Questionnaire,[12] and the Voice Handicap Index.[13] However, the importance of the inclusion of such standardized subjective scales in the evaluation of voice disorders in children has only recently been acknowledged. Unlike adults, children are often regarded as unreliable providers of medical information.[14] This is attributed to their limited linguistic, cognitive, and introspective capabilities. Consequently, the child's ability to complete a self-report questionnaire is questionable. Ironically, in such cases, the child's subjective perception is especially interesting. Nonetheless, because of these inherent limitations of pediatric self-reports, many voice-related questionnaires that target children are designed to be completed by their parents.[15]

After its publication, in 2007, the Pediatric Voice Handicap Index (pVHI)[16] has become the most accepted tool for quantifying the impact of dysphonia in the pediatric population. Using this tool, parents are asked about their perception of the impact of the dysphonia on their child's quality of life. Since then, the pVHI was translated and adapted from its original English version into various languages, such as Korean,[2] German,[17] Arabic,[18] and Italian,[19] maintaining high validity and reliability. Inspired by these studies, the initial motivation for the present study was to adapt the pVHI to Hebrew and to assess the reliability and validity of the Hebrew version. This was aimed to address the urgent need for a standardized clinical tool for quantifying voice handicap of Hebrew speaking children and to facilitate comparisons of local observations with global clinical findings.

Previous studies on the pVHI questionnaire combined the responses made by both mothers and fathers and did not entertain the possibility of gender differences between the responses made by the two parents. However, literature suggests that, on the one hand, abrupt changes are evident in the roles of mothers and fathers over the last few decades, resulting in an increased flexibility in the definitions of traditional parental roles. On the other hand, there are still consistent differences between the attitudes and reactions of mothers and fathers to children with disabilities, whether these are medical, physical, sensory, or cognitive disabilities.[20] For example, it was reported that having a child with cancer was experienced differently by the two parents.[21] In that study, mothers reported on stress related to caring for the child and to the need to adhere to their parental tasks,

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whereas fathers expressed more concern about the need to maintain family income. Similar results were found in a different study, where mothers of children with Autism and Asperger syndrome were more focused on child care, whereas fathers were more focused on providing for the family.[22] In addition, although both parents used similar adjustment strategies (ie, controlling and expressing emotions), mothers expressed more sadness, whereas fathers expressed more anger. Despite these differences, it appears that when parents are coping with a child with a disability, they experience similar levels of stress. However, mothers and fathers focus their stress on different facets of coping with the disability.[23]

Only a limited number of studies examined potential differences between men and women in response to speech or hearing disorders. In most cases, no gender differences were found in the attitudes exhibited by men and women toward people with disorders in fluency, language, voice, and articulation.[24] Similarly, men and women were reported to exhibit similar stereotypes toward people with various communication disorders.[25] In contrast, some studies have suggested that women rate people who stutter more positively than men and rated their stuttering as less severe.[26]

The specific attitude exhibited by listeners toward people with dysphonia was examined directly in a recent study.[27] In that study, dysphonic women were rated more negatively by listeners than dysphonic men, in most attributes. On the other hand, the listeners' gender did not affect their attitude toward speakers as men and women responded similarly to dysphonic speakers. Furthermore, our literature review failed to identify any study that examined differences between mothers and fathers, in the perception of their child's dysphonia. Therefore, the second aim of this study was to examine whether mothers and fathers evaluate their child's voice handicap differently.

METHODS

Translation and adaptation

The original version of the pVHI[16] was translated from English to Hebrew using a similar procedure to that was performed previously in related studies in Hebrew[28] and in other languages.[29,30] To that end, three native speakers of Hebrew, who are also highly proficient in written and spoken English, performed the English-to-Hebrew translation of the questionnaire. To avoid the use of professional terminology or jargon, these translators were laypersons with no professional knowledge in the fields of speech and voice. This resulted in three different Hebrew "working versions" of the pVHI. The three Hebrew versions were then translated back to English by three laypersons, native speakers of English, who are also highly proficient in written and spoken English. Following, a final version of the questionnaire was assembled by the items that translated accurately throughout this process. Finally, the assembled version was presented, along with the original version, to two English-Hebrew bilingual judges, who confirmed that the final Hebrew version (pVHI-*Heb*) is indeed clear, coherent, and comparable with the original English version. The final Hebrew version is presented in the Appendix.

Participants

After obtaining the approval of our institutional review board and a signed informed consent from all participants, a total of 141 parents of children aged younger than 14 years were included in the study. All parents were recruited in the Tel-Aviv and surrounding area, and all were fluent speakers and readers of Hebrew.

Assignment of the parents to the two study groups (dysphonic and nondysphonic) was performed based on their subjective report in response to the question: "does your child have a voice problem?" Eighty-three parents (49 mothers and 34 fathers) reported that their children has no voice problem and were assigned to the nondysphonic group (mean child age: 8.96 years, standard deviation [SD] = 2.84). In contrast, 58 parents (32 mothers and 26 fathers) reported that their child has a voice problem. These parents were assigned to the dysphonic group (mean child age: 6.80 years, SD = 3.63).

Each parent independently completed the informed consent form first and then completed the pVHI-*Heb*, followed by a short anamnesis questionnaire.

Reliability and validity

The reliability of the Hebrew version of the questionnaire was examined, first, by analyzing the internal consistency using Cronbach alpha coefficients for each subscale. Cronbach alpha coefficients were high for all three subscales. Values ranged between $.966 < \alpha < .970$ for the functional subscale, between $.966 < \alpha < .967$ for the physical subscale, and between $.965 < \alpha < .967$ for the emotional subscale.

Following, 44 participants completed the Hebrew version of the pVHI twice within a period of 10 days. Test-retest reliability was evaluated using paired sample *t* tests and a Pearson correlation between the first and repeated completion of the questionnaire. Results confirmed no statistically significant differences between the repeated completions of the questionnaire. These results were consistent for all three subscales, as well as for the total pVHI score (functional: $t_{(43)} = 1.42$, $P = 0.162$; physical: $t_{(43)} = 0.37$, $P = 0.710$; emotional: $t_{(43)} = 0.53$, $P = 0.599$; total: $t_{(43)} = 1.04$, $P = 0.305$). Pearson correlation coefficients between the two completions of the questionnaires yielded high values ($0.837 < r < 0.866$, $P < 0.001$). These results indicated that the Hebrew translation of the pVHI has a high stability and reproducibility over time.

For validation purposes, all parents responded to four general evaluation questions in addition to completing the pVHI questionnaire. The first question was "How concerned are you about your child's voice?" Parents responded to this question on a seven-point scale, in which 1 was labeled "not at all" and 7 was labeled "very much." The second question was "How concerned is your child about his/her voice?" and it was followed by a similar seven-point scale. The third question was "How much does your child speak daily?" which was followed by a seven-point scale, in which 1 was labeled "very little", and 7 was labeled "a lot." Finally, the fourth question was "How satisfied are you with your child's voice?" This question was followed by a 10-point rating scale, in which 1 was labeled "completely dissatisfied" and 10 as labeled "highly satisfied."