Parents evaluating children's voice

Ofer Amir\textsuperscript{1,2}, Michael Wolf\textsuperscript{3}, Liron Mick\textsuperscript{1}, Omer Levi\textsuperscript{1}, Adi Primov-Fever\textsuperscript{3}

\textsuperscript{1}Dept. of Communication Disorders, Tel-Aviv University, Israel

\textsuperscript{2}Speech and Hearing Institute, Sheba Medical Center, Israel

\textsuperscript{3}Otolaryngology, Head & Neck Surgery, Sheba Medical Center, Israel
Voice disorders in children

- Voice disorders in children → 6-13%

- Etiology → organic / functional

- Common etiology → vocal abuse/misuse (Martins et al., 2012)

- Common laryngeal diagnosis → nodules
Multidimensional Evaluation

- Voicelaryngeal
- Acoustic
- Aerodynamic
- Self eval.

The Mamas & the Papas
Self Evaluation - Children

- Self evaluation questionnaires: VoiSS, VRQoL, VHI-10, VHI
- Missing tools for self-evaluation for children
- Children considered less reliable

- Questionnaires to be completed by parents
pVHI

- Published on 2007 (Zur, et al.)
- Based on the original VHI questionnaire
- Commonly used for estimating children’s “voice handicap”

- Includes 23 questions (score 0-4):
  - Functional score (0-28)
  - Physiological score (0-36)
  - Emotional score (0-28)
  - Overall score (0-92)
Two goals

- Translating and adapting the pVHI to Hebrew
- Examine differences in voice evaluation between mothers and fathers
Translation and Adaptation

Translation: English → Hebrew (three translators)

Back translation: Heb. → Eng. (three translators)

Converging into a single version

Adaptation - reliability
- Completed by 141 parents (age < 14)
- 83 parents of non-dysphonic children
- 58 parents of dysphonic children
- Internal consistency: Cronbach's a ≥ 0.966
- Test-retest (44 parents, 10 days):
  - no difference between runs (0.1624; p<0.710)
  - correlation between runs (0.837; r<0.866, p<0.001)

Adaptation - validity
- Validity - compared to four anamnesis questions
  - parents' concern: r=0.869, p<0.001
  - child's concern: r=0.844, p<0.001
  - amount of speech: r=-0.106, p=0.202
  - satisfy with child's voice: r=-0.903, p<0.001

Hebrew version valid and reliable...
Adaptation – validity
dysphonic vs. non-dysphonic children

* $P<0.001$
Mothers vs. Fathers

- Previous studies examined data from “parents” or “caregivers”
- Did not examine differences between mothers and fathers in evaluating children’s voice
- Differences between mothers and fathers?
- Comparing **pairs** of parents of dysphonic children (52) vs. non-dysphonic children (40)
Mothers vs. Fathers – non-dysphonic

- No differences between mother and fathers $P > 0.05$
Mothers vs. Fathers – dysphonic

- Significant differences between mothers and fathers

### Graph
- **Fathers**
- **Mothers**

<table>
<thead>
<tr>
<th>Category</th>
<th>Fathers</th>
<th>Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>p=0.047</td>
<td></td>
</tr>
<tr>
<td>Physiological</td>
<td>P&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Emotional</td>
<td>P&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>P&lt;0.001</td>
<td></td>
</tr>
</tbody>
</table>
Mothers vs. Fathers – correlations

The Mamas & the Papas
Parents evaluating Voice Disorders

- Non-dysphonic children < dysphonic

- Dysphonic children $\rightarrow$ Mothers $>$ Fathers
- Non-dysphonic children $\rightarrow$ Mothers $=$ Fathers

- Similar to other developmental disorders (Gray, 2003)
  - Emotional status: Mother $>$ Fathers
  - Basic needs: Fathers $>$ Mothers
Bottom line…

- Evaluate children’s “voice handicap”

- The $pVHI$-$Heb$ is valid and reliable

- Parents perceive their children’s voice disorder as a significant problem

- Mothers and fathers evaluate voice disorders differently

---

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

Ofer Amir, t Michael Wolf, Liron Mick, Omer Levi, and t Adi Primov-Fever, t Tel Aviv and t Tel-Hashomer, Israel

**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 ($P < 0.001$). 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-assessment, Parents, Hebrew
Translation and Adaptation

Translation: **English → Hebrew**
(three translators)

Back translation: **Heb. → Eng.**
(three translators)

Converging into a single version

Evaluating final version

The Mamas & the Papas
The Mamas & the Papas
Adaptation – reliability

- Completed by 141 parents (age < 14)
  - 83 parents of non-dysphonic children
  - 58 parents of dysphonic children

- Internal consistency: Cronbach’s $\alpha \geq 0.966$

- Test-retest (44 parents, 10 day):
  - no difference between runs ($0.162 < p < 0.710$)
  - correlation between runs ($0.837 < r < 0.866, p < 0.001$)
Adaptation – validity

- **Validity** – compared to four anamnesis questions
  - ✓ parents’ concern \( r=0.869, p<0.001 \)
  - ✓ child’s concern \( r=0.844, p<0.001 \)
  - ✗ amount of speech \( r=-0.106, p=0.202 \)
  - ✓ satisfy with child’s voice \( r=-0.903, p<0.001 \)

Hebrew version valid and reliable…