Velopharyngeal Insufficiency Effects on Life Outcomes (VELO): Linguistic Validation of a Quality of Life Assessment

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Introduction

• The US Latino population is projected to reach approximately 25% of the population by 2050, and it is estimated that more than three quarters of the US Latino population speaks a language other than English at home.1

• Limited English proficiency has a detrimental effect on Latino patients, lowering the quality of primary care they receive and affecting the continuity of their care.2 By tackling language barriers, surgical subspecialties can also lower disparities in surgical care.3

• The Velopharyngeal Insufficiency Effects on Life Outcomes (VELO) survey is a quality of life (QOL) instrument used to assess the effects of velopharyngeal insufficiency (VPI) on the lives of young patients.4

• Because VPI can dramatically and negatively alter many aspects of life by severely limiting speech and swallowing, children with VPI are considered to have a lower quality of life.5

• However, there is no available translation of the VELO instrument for Spanish speaking families with limited English proficiency, which is a significant gap in access to healthcare.

Background

• VPI occurs due to inadequate closure of the velopharyngeal sphincter, which requires proper functioning of the velum (soft palate) and lateral and posterior walls of the pharynx.6

• The most common clinical manifestations of VPI include hypernasality of speech, nasal air emission, and nasal reflux of swallowed food and liquids.7 In addition, VPI can significantly hinder social communication.5

• VPI is most commonly associated with cleft palate. It is estimated that 20-40% of patients will exhibit residual VPI after palatal repair, requiring a second surgical procedure.6

Anatomy

Figure 1: Pharynx

Our linguistic validation method followed a standard guideline that included forward translations, a backward translation, and cognitive interviewing.5,10

Forward translations

• Two translators, both native Spanish speakers and fluent in English, independently produced a translation of the VELO assessment.

Backward translation

• The two translations were then reconciled into a single translation, the first version of the Spanish VELO.

Backward translation

• The reconciled translation was translated back into English by a third translator who did not have access to the original English VELO.

• This backward translation and the original English VELO were compared by the research team to find any translation discrepancies.

Cognitive Interviewing

• The second version of the Spanish VELO was administered to Spanish-speaking parents seen at the Department of Otolaryngology.

• Parents were asked to interpret all items and provide possible alternatives for confusing translations.

• Revisions were made based on feedback from the interview.

Linguistic Validation Process

Material

• English version of VELO

• Forward translation

• Backward translation

• Cognitive interviewing

• Translation

Procedure

1. Forward translations by two native Spanish speakers independently produced a translation of the English VELO (Figure 2). Through consensus, the two translations were reconciled to create the first version of the Spanish VELO.

2. The Spanish VELO was independently translated into English by a third translator who did not have access to the original English VELO. The translation, the first version of the Spanish VELO, was then reconciled into a second translation.

3. The reconciled translation was translated back into English by a third translator who did not have access to the original English VELO. This backward translation and the original English VELO were compared and any translation discrepancies were reconciled.

4. The reconciled translation was then translated into Spanish by a third translator who did not have access to either the original English VELO or the reconciled translation from step 3. The reconciliation of English and Spanish translations was then reviewed by the research team to use any possible alternatives for confusing translations.

5. The revised translation was then administered to Spanish-speaking parents seen at the Department of Otolaryngology.

6. Parents were asked to interpret all items and provide possible alternatives for confusing translations.

7. Revisions were made based on feedback from the interviews.

Results

The main purpose of this process was to ensure that there are no significant cultural gaps in the finalized Spanish VELO translation. Through these efforts, the Spanish VELO is both comprehensive and cognitively equivalent.

Future Directions

Multisite study for reliability and validity testing of the Spanish VELO. This project would focus on the following measures as described in previous studies.11

Criterion Validity

• Considered to be the extent to which a measure is related to an outcome. To measure: correlate VELO total score with a “gold standard”, such as VPI severity.

Construct Validity

• Determines whether the measure is associated with certain variables in theoretically predictable ways. To measure: correlate VELO score with 1) speech intelligibility deficit and 2) VP gap.

Concurrent Validity

• Determines whether two assessments testing similar measures correlate strongly. To measure: correlate VELO total score with 1) Spanish pediatric voice handicap index and 2) Spanish PedsQL.

Reliability and Internal Consistency

• Determines whether measurements are consistent between two time points, and how closely related a set of items in the VELO assessment are as a group.

References


