Transcultural Adaptation and Validation of the Spanish Version of the Early Onset Scoliosis Questionnaire-24

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INTRODUCTION


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Table 1. Possible Scenarios Where Some Form of Cross-Cultural Adaptation is Required

<table>
<thead>
<tr>
<th>Wanting to use a questionnaire in a new population described as follows:</th>
<th>Results in a Change in...</th>
<th>Adaptation Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Culture</td>
<td>Language</td>
</tr>
<tr>
<td>A Use in same population. No change in culture, language, or country from source</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>B Use in established immigrants in source country</td>
<td>✓</td>
<td>—</td>
</tr>
<tr>
<td>C Use in other country, same language</td>
<td>✓</td>
<td>—</td>
</tr>
<tr>
<td>D Use in new immigrants, not English-speaking, but in same source country</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>E Use in another country and another language</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
INTRODUCTION

Stage I: Translation
- Two translations (T1 & T2)
- into target language
- informed + uninformed translator

Stage II: Synthesis
- synthesize T1 & T2 into T-12
- resolve any discrepancies with translators' reports

Stage III: Back translation
- two English first-language
- naive to outcome measurement
- work from T-12 version
- create 2 back translations BT1 & BT2

Stage IV: Expert committee review
- review all reports
- methodologist, developer, language professional, translators
- reach consensus on discrepancies
- produce Pre-final version

Stage V: Pretesting
- n=30-40
- complete questionnaire
- probe to get at understanding of item

Written report for each version (T1 & T2)

Written report

Written report for each version (BT1 & BT2)

Written report

written report

Stage VI: Submission and Appraisal of all written reports by developers/committee
GOALS

1. Translation & transcultural adaptation of the EOSQ to Spanish.

2. Validation of the Spanish versión of the EOSQ.
METHODS

IRB APPROVAL

STAGES 1, 2 & 3 (TRANSLATION, SYNTHESIS & BACK TRANSLATION)

↓

OK

STAGES 4 & 5 (EXPERT COMMITTEE REVIEW & PRETESTING)

↓

DEBATE CONCERNING ITEM 5

INTERVIEWS & PRETESTING → ITEM 5 IS MODIFIED
METHODS
METHODS

TARGET POPULATION → 65 PATIENTS

RECRUITED POPULATION → 41 PATIENTS

FINAL POPULATION → 38 PATIENTS

TESTING

EACH SUBSCALE

Item internal consistency
Discriminant validity
Internal consistency reliability
Floor and ceiling effects
METHODS

38 PATIENTS

17 CONGENITAL

8 IDIOPATHIC

6 NEUROMUSCULAR

7 SYNDROMIC

<table>
<thead>
<tr>
<th>EOS Etiology</th>
<th>No. and Percentage of Total Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congenital</td>
<td>(15/34) = 44%</td>
</tr>
<tr>
<td>Neuromuscular</td>
<td>(10/34) = 29%</td>
</tr>
<tr>
<td>Spinal cord</td>
<td>(5/34) = 15%</td>
</tr>
<tr>
<td>Idiopathic</td>
<td>(4/34) = 12%</td>
</tr>
</tbody>
</table>
## RESULTS

<table>
<thead>
<tr>
<th>Item-scaled Correlations</th>
<th>Item-scale Correlations</th>
<th>Internal Consistency Reliability (Cronbach’s α)</th>
<th>Test-retest</th>
<th>Floor %</th>
<th>Ceiling %</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Health</td>
<td>Median: 0.94, Range: 0.93-0.95</td>
<td>Median: 0.21, Range: 0.03-0.45</td>
<td>0.85</td>
<td>2.6</td>
<td>13.2</td>
</tr>
<tr>
<td>Pain/Discomfort</td>
<td>Median: 0.96, Range: 0.95-0.97</td>
<td>Median: 0.24, Range: 0.03-0.57</td>
<td>0.91</td>
<td>5.3</td>
<td>36.8</td>
</tr>
<tr>
<td>Pulmonary Function</td>
<td>Median: 0.9, Range: 0.85-0.97</td>
<td>Median: 0.21, Range: 0.00-0.50</td>
<td>0.73</td>
<td>7.9</td>
<td>63.2</td>
</tr>
<tr>
<td>Transfer</td>
<td>Median: 1, Range: 1</td>
<td>Median: 0.19, Range: 0.02-0.51</td>
<td>NA</td>
<td>7.9</td>
<td>76.3</td>
</tr>
<tr>
<td>Physical function</td>
<td>Median: 0.77, Range: 0.74-0.77</td>
<td>Median: 0.29, Range: 0.07-0.67</td>
<td>0.81</td>
<td>5.3</td>
<td>36.8</td>
</tr>
<tr>
<td>Daily Living</td>
<td>Median: 0.89, Range: 0.87-0.90</td>
<td>Median: 0.34, Range: 0.09-0.70</td>
<td>0.73</td>
<td>15.8</td>
<td>26.3</td>
</tr>
<tr>
<td>Fatigue/Energy</td>
<td>Median: 0.92, Range: 0.89-0.94</td>
<td>Median: 0.23, Range: 0.09-0.50</td>
<td>0.79</td>
<td>2.6</td>
<td>34.2</td>
</tr>
<tr>
<td>Emotion</td>
<td>Median: 0.89, Range: 0.85-0.92</td>
<td>Median: 0.28, Range: 0.02-0.61</td>
<td>0.72</td>
<td>2.6</td>
<td>36.8</td>
</tr>
<tr>
<td>Parental Burden</td>
<td>Median: 0.67, Range: 0.49-0.841</td>
<td>Median: 0.34, Range: 0.02-0.56</td>
<td>0.73</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Financial Burden</td>
<td>Median: 1, Range: 1</td>
<td>Median: 0.19, Range: 0.01-0.42</td>
<td>NA</td>
<td>7.9</td>
<td>47.4</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Median: 0.94, Range: 0.93-0.95</td>
<td>Median: 0.27, Range: 0.01-0.56</td>
<td>0.87</td>
<td>2.6</td>
<td>39.5</td>
</tr>
</tbody>
</table>
RESULTS

EXCELLENT PSYCHOMETRIC PERFORMANCE

EQUIVALENT TO THE ORIGINAL EOSQ

ALL SUBSCALES SHOWED SUFFICIENT INTERNAL CONSISTENCIES

ITEM-SCALE CORRELATIONS GENERALLY HIGH

CEILING AND FLOOR EFFECTS QUITE LIMITED
CONCLUSIONS

THE SPANISH VERSION OF EOSQ CAN BE USED TO ASSESS DISEASE SPECIFIC HEALTH RELATED QUALITY OF LIFE IN SPANISH-SPEAKING FAMILIES OF PATIENTS WITH EOS