# UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL

TRANSLATION, CULTURAL ADAPTATION AND VALIDITY EVIDENCE OF THE FEEDING/SWALLOWING IMPACT SURVEY (FS-IS) INSTRUMENT TO BRAZILIAN PORTUGUESE.

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## **BACKGROUND**

- A severe feeding/ swallowing disorder not only affects the child's overall health and development, but also impacts the parent/ child relationship, and can generate emotional distress and impact on the quality of life of caregivers and family members.
- The Feeding/ Swallowing Impact Survey (FS-IS) is an instrument that can measure quality of life and identify caregiver concerns of children with feeding/ swallowing disorders.

## SPECIFIC AIM

 The purpose of this study was to translate and adapt the Feeding/Swallowing Impact Survey (FS-IS) into Brazilian Portuguese and provide a validated instrument for caregivers of children with feeding/swallowing disorders.

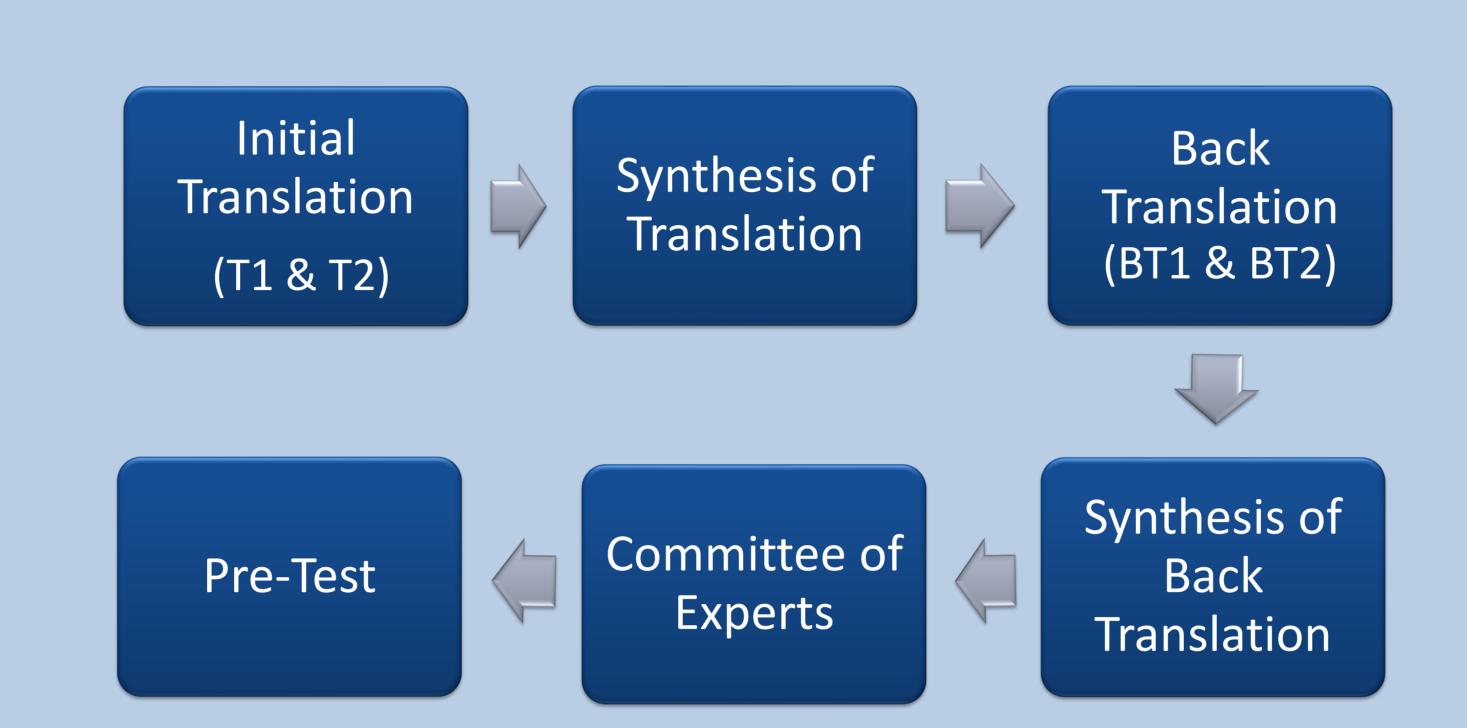
# **METHODS**

- This cross-cultural study involved: initial translation of the FS-IS, synthesis of translations, back-translation, Committee of Experts and pretest.
- Evidence of validity based on test content, response processes, internal structure and the relations to other variables was investigated. Internal consistency, test-retest, exploratory and confirmatory factor analysis were performed, in addition to the correlation with PedsQL™ FIM.
- Patients were classified according to the Pediatric Dysphagia Evaluation Protocol (PDEP) protocol in: mild, moderate-severe or profound dysphagia.<sup>5</sup>
- For discriminant validity the sample was divided into two groups: Group 1 - caregivers of children with mild and moderate-severe dysphagia (with oral feeding) and Group 2 - caregivers of children with profound dysphagia.(without oral feeding).

#### STATISTICAL ANALYSIS

- Quantitative variables were described as mean and standard deviation or median and interquartile range, according to their distributions, and qualitative variables in absolute and relative frequencies.
- To analyze internal consistency, Cronbach's Alpha coefficient analysis was performed. Test-retest Intraclass Correlation Coefficient (ICC) value with 95% confidence intervals (two-way mixed-effects model) was used.
- For the Exploratory Factor Analysis, the Promax rotation method of extraction was used.
- In the Confirmatory Factor Analysis, the adjustment indices considered were: RMSEA, CFI, TLI and the ratio between chi-square and degrees of freedom.

## RESULTS



- The translation process obtained idiomatic, semantic, experimental, and conceptual equivalences to the original version of FS-IS, which provided the evidence based on test content.
- The version translated into Brazilian Portuguese did not present any difficulties in understanding by the caregivers who participated in the pre-test, and did not change, obtaining evidence based on response processes.
- The sample consisted of 95 primary caregivers of children with feeding/swallowing disorders classified by PDEP in mild (n=9), moderate-severe (n=40) or profound (n=46) dysphagia.

#### **Total Caregivers** Gender, female, n (%) 91 (95.8) Age (years), mean (SD<sup>a</sup>) 31.99 (8.11) Settings, n (%) 45 (47.4) **Outpatient Clinic** 50 (52.6) Hospitalization **Patients** Gender, n (%) Male 62 (65.3) 33 (34.7) Female

Age (months), median [IQQb]		30 [11-76]			
Settings, n (%)	Total	Mild	Moderate- Severe	Profound	
Outpatient Clinic	45 (47.4)	8 (17.8)	23 (51.1)	14 (31.1)	
Hospitalization	50 (52.6)	1 (2)	16 (32)	33 (66)	

# RESULTS

- The evidence based on internal structure was provided by:
- The Brazilian version Pt-Br-FS-IS presented Cronbach's Alpha of 0.83.
- Exploratory Factor Analysis verified that the instrument would not be unifactorial (KMO= 0.74 and Barllet's sphericity test p<0.001) and
- Confirmatory Factor Analysis confirmed the original model in three subscales with  $\chi^2/df = 1.23$ , CFI= 0.92, TLI= 0.90, RMSEA (90% CI)= 0.049 (0.011-0.073) adjustment indexes.
- The ICC was excellent in all subscales and total score.

Group 2 = Profound dysphagia

Feeding Difficulties subscale.

 The correlation with PedsQL™ was significant in the total score and subscales for convergent construct validity.

	Average Total (SD)	GROUP 1 Mean (SD)	GROUP 2 Mean (SD)	p-value*	
Pt -Br-FS-IS	n = 95	n = 49	n = 46		
Daily activities	3.41 (1.1)	3.56 (1.1)	3.28 (1.0)	0.196	
Worry	3.82 (0.8)	3.89 (0.7)	3.77 (0.8)	0.410	
Feeding Difficulties	2.05 (1.0)	2.33 (1.0)	1.79 (0.8)	0.007*	
Total	3.12 (0.7)	3.28 (0.7)	2.97 (0.7)	0.043*	
Group 1 = Mild and Moderate-severe dysphagia					

• The Pt-Br-FS-IS was able to discriminate between the caregivers of children with and without oral feeding, with groups in Total Score and

#### CONCLUSION

 This study successfully translated and cross-culturally adapted the FS-IS instrument to the Brazilian Portuguese language and the investigation of its validity evidence suggests that the Pt-Br-FS-IS is a reliable and valid tool to measure the impact of feeding/swallowing disorders on the quality of life of caregivers of affected children.

#### REFERENCES

- 1. LEFTON-GREIF, MA. Pediatric Dysphagia. Phys Med Rehabil Clin N Am 2008 19: 837-851
- 2. GREER AJ, GULOTTA CS, MASLER EA, LAUD RB. Caregiver Stress and Outcomes of Children with Pediatric Feeding Disorders Treated in an Intensive Interdisciplinary Program. J Pediatr Psychol 2008 33(6): 612-620
- 3. LEFTON-GREIF MA, OKELO SO, WRIGHT JM, COLLACO JM, MCGRATH-MORROW AS, EAKIN MN. Impact of children's feeding/ swallowing problems: validation of a new caregiver instrument. Dysphagia 2014 DEC 29(6): 671-677
- 4. BEATON D, GUILLEMIN F, BOMBARDIER C, FERRAZ MB. Recommendations for the Cross-Cultural Adaptation of Health Status Measures. American Academy of Orthopaedic Surgeons Institute forWork & Health 2002
- 5. Flabiano-Almeida FC, Bühler K, Limongi S (2014) Protocolo de Avaliação Clínica da Disfagia Pediátrica (PAD-PED). Andrade CR & Limongi S. Barueri: Pró-Fono, 2014. 33p. (Série Fonoaudiologia na Prática Hospitalar, v. 1).

