

VALIDATION FOR THE PORTUGUESE LANGUAGE OF THE NECK DISSECTION IMPAIRMENT INDEX (NDII) INSTRUMENT

A MEASURE OF QUALITY OF LIFE

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1. INTRODUCTION AND OBJECTIVE

The Neck Dissection Impairment Index (NDII)¹ questionnaire is a multidimensional instrument, originally developed and validated in English, used to assess the quality of life related to shoulder function in a comprehensive and detailed way after neck dissection. To be used in other cultures, questionnaires require careful translation² and psychometric validation³ into other languages.

Objective: To carry out the translation, cultural adaptation and psychometric validation for the Brazilian Portuguese language of the NDII; identify factors that affect the quality of life (QL) of patients undergoing treatment for head and neck and thyroid cancer, followed by neck dissection and correlate the range of motion of the shoulder on the side affected by neck dissection with the NDII final score.

2. MATERIAL AND METHOD

Ethics Committee

• **Project 2456/17**

Translation and Cross-Cultural Adaptation (n=20)

- **Stage I** - Translation
- **Stage II** - Translation Synthesis
- **Stage III** - Back Translation
- **Stage IV** - Expert Comittee
- **Stage V** - Pre-test of the Pre-final version

Psychometric Validation (n>100)

- **Internal Consistency:** Conbrach´s Alfa ($\geq 0,70$ and $< 0,95$)
- **Ceiling and Floor Effect:** 15%
- **Construct validity:** Correlation with Shoulder Rating Questionnaire – SRQ⁴ / The University of Washington Quality of Life Questionnaire – UW-QOL⁵ and Goniometry: Assessment of shoulder range of motion

Statistical analysis

- **SPSS**
- **Nonparametric Tests Mann-Whitney and Kruskal-Wallis**
- **Internal Consistency:** Conbrach´s Alfa ($\geq 0,70$ and $< 0,95$).
- **Construct validity:** Pearson's correlation test $\geq 0,60$ = good correlation

Sample Profile

121 patients in late postoperative period of head and neck and thyroid cancer (>11 months)

Minimum age of 26 years old and maximum of 86 years old

53.7% Male

62.8% Epidermoid Carcinoma

Translation and Cross-Cultural Adaptation (n=20)

Brazilian Portuguese version NECK DISSECTION DYSFUNCTION INDEX (NDDI)

Score 0 to 100, where how much < score < QoL

Psychometric Validation of NDDI (n=121)

- **Internal consistency:** Cronbach's alpha of 0.94 (GOOD HOMOGENEITY)
- **Ceiling and Floor Effect:** >15% of respondents reach the ceiling.
- **Construct validity:** Pearson correlation test between 0.72 and 0.76 (GOOD CORRELATION).

3. RESULTS AND DISCUSSION

Table 1 - Factors that affected QoL according to the NDDI qu

Variables (n=121)	Score average of IDEC (DP)	p Value
Gender		
Male (n=65)	82,42 (±20,07)	0,010
Feminine (n=56)	71,78 (±24,51)	
Health Insurance		
Health Insurance/Private (n=94)	79,94 (±21,72)	0,031
Did not (n=52)	68,98 (±24,69)	
Radiotherapy		
Pre Surgery (n=13)	78,46 (±21,6)	0,027
Post Surgery (n=56)	62,5 (±21,86)	
Shoulder Analgesic Use		
Yes (n=6)	80,08 (±23,10)	0,002
No (n=115)	43,33 (±25,23)	
Performed physiotherapy after surgery		
Yes (n=84)	79,28 (±21,29)	0,007
No (n=37)	74,04 (±23,47)	
Abduction Movement		
Severe Limitation MSD (n=9)	85,33 (±19,16)	0,000
Severe Limitation MSE (n=7)	41,66 (±22,0)	
	42,85 (±19,22)	

4. CONCLUSION

The Brazilian-Portuguese version of the NDII questionnaire, presented excellent results in terms of internal consistency and construct validity and can be used in clinical practice and in the academic world to assess the impact on the quality of life of patients who perform neck dissection. Strategies for early intervention are needed to improve shoulder pain and functionality during head and neck cancer treatment with neck dissection and radiotherapy.

REFERENCES

1. Taylor RJ, Chepeha JC, Teknos TN, et al. Development and validation of the neck dissection impairment index. **Arch Otolaryngol Head Neck Surg** 2007; 128:44-9
2. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. **Spine** 2000; 25:3186-91.
3. Terwee CB, Bot SDM, De Boer MR, et al. Quality criteria were proposed for measurement properties of health status questionnaires. **J Clin Epidemiol** 2007; 60:34-42.
4. Siqueira DCd, Baptistab AF, Souzaac I, Sád KN. Tradução, adaptação cultural, validade e confiabilidade do questionário de classificação do ombro para uso no Brasil. **Rev bras reumatol.** 2014;54(6):415–23.
5. Vartanian JG, Carvalho AL, Yueh B, Furia CL, Toyota J, McDowell JA, Weymuller EA Jr, Kowalski LP. Brazilian-Portuguese validation of the University of Washington Quality of Life Questionnaire for patients with head and neck cancer. **Head Neck.** 2006 Dec;28(12):1115-21. doi: 10.1002/hed.20464. PMID: 16823873.