CHEMOTHERAPY IN THE ELDERLY: TRANSLATION OF HURRIA’S TOXICITY SCORE TO PORTUGUESE

Quimioterapia em idosos: tradução do escore de toxicidade de Hurria para o português

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OBJECTIVE: To describe the translation and transcultural adaptation of Hurria’s chemotherapy toxicity score, a prediction tool to estimate chemotherapy toxicity in the elderly. METHODS: The original English version of the score was translated to Portuguese using the forward and backward translation technique, as described by Guilemin. RESULTS: The translation was performed by two Brazilians (a physician and a professional translator), both fluent in English. Two professionals from a specialized linguistic service, not related to the study, then carried out the backward translation. Finally, a medical committee composed of oncologists, geriatricians, and hematologists discussed the consistency of the score, choosing a final version of the instrument in Portuguese. This version was piloted-tested in medical charts in an Oncogeriatric service, with high reliability as tested by Kappa statistic test. CONCLUSION: The final version of Hurria’s chemotherapy toxicity score in Portuguese proved to be an easy, clear, and quick tool, suitable for use in clinical practice.

KEYWORDS: oncology; geriatrics, chemotherapy; toxicity.
INTRODUCTION

Aging is a global phenomenon. According to projections by the World Health Organization (WHO), the number of individuals aged more than 60 in the world will grow: from the current 851 million to 2 billion in 2050.1 Brazil has a population of 14 million individuals aged more than 65 years, and projections show it will reach 39 million by 2040.2 This new epidemiological reality transforms chronic diseases and the well-being of the elderly into new global public health challenges. In this context, cancer appears as a protagonist: the incidence of neoplasia is about 11 times higher in individuals aged over 65 years than among the younger people, and 70% of cancer-related deaths also occur in this age group.3

The elderly population is heterogeneous and complex, posing challenges both when choosing a cancer treatment and during its course. One of the great challenges is to predict the toxicity of chemotherapy in an elderly individual. In this context, in 2005, Hurria et al.4 developed a predictive scale of toxicity risk, incorporating geriatric, oncological, and laboratory aspects. Hurria’s toxicity score proved to be an easy to apply and effective tool, capable of stratifying patients as low, moderate and high risk for hematological and non-hematological toxicity during the course of chemotherapy. This score is one of the risk assessment tools recommended by the National Comprehensive Cancer Network5 (NCCN) to evaluate the elderly prior to the beginning of systemic treatment.

Thus, this study aimed to translate and perform the transcultural adaptation of the Portuguese version of Hurria’s toxicity score, to allow its use both in clinical practice and as a research instrument.

METHODS

After the written authorization of the author, the score was translated from the original English version,6 using the technique proposed by Guilemin6 for forward/backward translation, as follows:

1. Translation of the score: performed by two independent and qualified translators (Brazilians, fluent in English), aware of the purpose of the translation. The two translations were compared by the translators and the study coordinator, and modifications were made until a consensus was reached in Portuguese about the first translation.

2. Backwards translation of the score: the Portuguese version of the score was translated back into the original language (English) and the result was compared to the original instrument. This stage was performed by two other native English speaking translators, with good knowledge in both languages. At this stage, the translation staff of the American Journal Experts service was hired, and the translators had no previous knowledge of the original score;

3. Revision by a committee and cultural adaptation: geriatricians, oncologists, and hematologists, with knowledge of the purpose of the score and of the concepts to be analyzed, performed the revision of the Portuguese version. The versions obtained by the team were perfected until they formed a comprehensive version, reaching at least 80% of agreement among the members of the committee. At this stage, we sought to identify the equivalence of the final version of the score, evaluating errors and deviations in the translation, as well as the evaluation of cultural equivalence.

4. Practical evaluation of the translated version: in clinical practice, the toxicity score is applied by health professionals themselves, scoring the data obtained in the geriatric anamnesis; it is not filled by the patient and/or their companion. Thus, the Portuguese score was tested at the Oncogeriatrics Outpatient Clinic of the Brazilian Institute for Cancer Control (IBCC), retrospectively, in 50 medical records of elderly patients who were referred to start chemotherapy in the first half of 2016. This phase of the study was conducted by an oncologist and a geriatrician, and, for each case, the original and translated scores were applied, and the equivalence was verified in the patient’s risk stratification in both (inter-observer assessment). Subsequently, the same analysis was conducted again by only one of the professionals (intra-observer evaluation). To analyze the reliability of the instrument, the Kappa test was applied using the Statistical Analysis System (SAS);

Since there was neither the exposure of the clinical data of the research subjects involved nor their physical participation, thus preserving the confidentiality of individual data, this study was not submitted to the Research Ethics Committee.

RESULTS

After the forward/backward translation process, the final Portuguese version of the score was obtained (Chart 1). The application of the translated score faced no difficulties during the validation step. The Portuguese version of the instrument showed high level of agreement. The Kappa...
test demonstrated inter-observer reproducibility, with intra-class correlation coefficient (ICC) of 0.824 and a 95% confidence interval (95%CI) of 0.585–0.977; also, the intra-observer reproducibility (ICC = 0.954; 95%CI 0.836–1.000) was close to one.

**DISCUSSION**

Elderly patients are more prone to toxicity from chemotherapy. Several factors contribute with this fact, including reduced spinal reserve, kidney failure and other comorbidities, as well as reduced functional capacity. Oncologists have few useful tools for assessing this risk, often relying on less informative aspects such as chronological age and performance status.

Hurria’s score is a predictive instrument for the assessment of toxicity risk, encompassing 11 variables, including characteristics of the geriatric evaluation, aspects related to the tumor and type of treatment to be administered, and simple laboratory evaluation. Virtually, all elders undergoing basic anamnesis and geriatric evaluation have the necessary data for the calculation of the score. In the study by Hurria et al., 53% of the study population developed grade 3 to 5 for toxicity, with the score being more effective in predicting this risk than the oncologist’s assessment based on a case-by-case judgment and the Karnofsky scale.

For this reason, the Hurria score was chosen to be translated to Portuguese and used in the Oncogeriatric practice. The translated score proved to be loyal to the original in English during the pre-test phase performed in an Oncogeriatric outpatient clinic, being fast to apply and showing high level of reliability.

The main limitations of this study include the small number of records used to test the translated score and the retrospective nature of the evaluation. However, even with this reduced sample, the Kappa statistical test showed values close to one, inferring good concordance among the researchers who answered the questionnaire. It should be emphasized that this study aimed at creating a reliable translated version of the Hurria score to diffuse its use among professionals involved in elderly care. Future perspectives include the use of this translated score to study its real value in the Brazilian population, verifying whether it is reliable to extrapolate the risk prediction of the North American population to the Brazilian population, or if a new, personalized score should be created.

**CONCLUSION**

The final version of the Hurria’s toxicity score in Portuguese was clear, simple and quick to use, and is suitable for clinical practice. It is suggested that, according to the NCCN recommendations, this tool be used as routine in the therapeutic planning for elderly people with cancer.

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**CONFLICT OF INTEREST**

The authors report no conflict of interest.
REFERENCES


